Business Valuation Discounts and Premiums

SECOND EDITION

Shannon P. Pratt

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Second Edition

SHANNON P. PRATT

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in the appraisal profession.

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Foreword

Jay E. Fishman

I can't think of a more propitious time for Shannon Pratt to update his 2001 work on discounts and premiums. The confluence of difficult economic times, Congressional inquiry into the use of discounts in family limited partnerships, and the progression continuing toward fair value accounting for financial reporting has made a careful and comprehensive study of discounts and premiums more relevant than ever.

We all know that the application of discounts and premiums depends upon the base from which the value has been developed. In other words, for discounts and premiums to be relevant, one must consider the characteristics of the property that is the subject of the valuation and the base from which discounts and premiums are applied. This invaluable resource provides valuation practitioners and users of appraisal services alike with a thorough understanding of the basis for the various discounts and premium. This update builds upon the 2001 work and provides the reader with a rigorously researched baseline of knowledge from which to apply relevant discounts and premiums in a defensible manner.

One cannot discuss discounts and premiums without addressing the commonly accepted concept of ''Levels of Value.'' As an early developer of this concept, I have been pleased by its reception and the debate it has sparked. Its critics may be surprised to learn that it was never intended to be the sole prism from which the applications of discounts and premiums should be viewed. As readers may remember from the first edition of this book, the work of Nath, Bolotsky, Lee, and Matthews is discussed and their points of view explained. Each point of view has merit, but it should be noted that the traditional view is not static and the reader will see how it has changed over the years.

But this edition contains so much more! Not only have the tables and references been updated but there is a considerable amount of new material. A plethora of new court cases have been added, changes to Rule 144 and 144A are discussed, and Chris Mercer and Travis Harms have completely rewritten the chapter on Quantitative Marketability Discount Model (QMDM). Most importantly, Shannon has added seven new chapters. New chapters such as ''Discounts and Premiums in Fair Value for Financial Reporting,'' ''The LiquiStat Database (Restricted Stock, Warrants and Convertibles),'' and ''Discounts and Premiums in ESOP Valuations'' are particularly timely.

Like me, the reader may not agree with every position taken but will be impressed with the breadth and depth of the discussions on these various issues. One of the things that I admire most about Shannon is his boundless energy and steely determination to continue to add to the foundation of the body of knowledge that is the business valuation profession. This book is no exception.

Shannon and I have taught, written, and lectured many times over the years, and I truly was honored when he asked me to write this foreword. Like me, all practitioners owe him a debt of gratitude for his continuing efforts. It has been said of Alexander the Great that upon learning he had conquered what he knew as the world, he cried as there were no new worlds to conquer. It will be interesting to see where Shannon directs his efforts in the future.

Jay E. Fishman
February 2009

Jay E. Fishman, FASA, is a Managing Director of Financial Research Associates and has been actively engaged in the appraisal profession since 1974. He specializes in the valuations of business enterprises and their intangible. Mr. Fishman has co-authored several books, including the recently released Standards of Value: Theory and Applications *and the highly acclaimed* Guide to Business Valuations *(both with Shannon Pratt), and written numerous articles on business valuation as well as qualifying as an expert witness and providing testimony in twelve states. He has taught courses on business valuation to the Internal Revenue Service, the National Judicial College, and the Hong Kong Society of Accountants, on behalf of the World Bank in St. Petersburg, Russia, and most recently in Moscow, Russia.*

He holds a bachelor's and master's degree from Temple University, as well as an M. B.A. from LaSalle University. Mr. Fishman is a Fellow of the American Society of Appraisers, a former Chairman of the Business Valuation Committee of the American Society of Appraisers, Editor of the Business Valuation Review, *Chair of ASA's Government Relations Committee, a former Trustee of the Appraisal Foundation, Chair of its Task Force on Best Practices for Financial Reporting, and was appointed to the Internal Revenue Service Advisory Committee in 2008. He was recently appointed to the Appraisal Standards Board of the Appraisal Foundation, publishers of the Uniform Standards of Professional Appraisal Practice (USPAP).*

Preface

In most business valuation disputes, the largest differences between the parties involve discounts and/or premiums. That is why this book is so important.

The focus of this book is on:

- Understanding the basis for the various discounts and premiums
- Understanding when each of the discounts and/or premiums is or is not applicable under the facts and circumstances at hand
- How to defensibly quantify the magnitudes of the various discounts and premiums
- Courts' treatments of the various discounts and premiums in various contexts.

This knowledge will assist the preparer of the valuation to document a defensible conclusion the first time.

Perhaps even more importantly, it will assist the reviewers of appraisal reports to identify errors, shortcomings, and strengths both in appraisals commissioned by them and also in appraisal reports prepared on behalf of the opposition.

The book addresses discounts and premiums in the following contexts:

- Gift, estate, and income taxes
- Marital dissolutions
- Corporate and partnership dissenting stockholder (partner) and oppression suits
- Fair value for financial reporting
- Undivided interest valuations
- ESOP valuations
- Bankruptcy reorganizations

The outcome of valuation disputes usually is determined on the quality of evidence submitted by experts. In the hundreds of reports reviewed by me and my company, rarely does the report submitted for any of the above purposes thoroughly cover the issues of discounts and premiums. Moreover, in most of the cases that do end up in court, rebuttal evidence is weak on one or both sides.

Discounts and premiums addressed in this book fall into two categories:

- Company level (those that apply to *all* owners):
    - Key person
    - Contingent liability or asset (e.g., environmental or lawsuit)
    - "Portfolio" (nonhomogeneous assets)
    - Trapped-in capital gains
- Shareholder level (those that apply to *one or a specified group* of owners):
    - Lack of marketability
    - Minority (lack of control)
    - Voting versus nonvoting interests
    - Blockage

The first edition of this book was published in 2001. A lot has changed since then! We have updated all the tables and references. We have included many illustrative court cases decided in the last eight years. Other updates include:

- Rule 144 and 144A through October 2008
- Chris Mercer and Travis Harms have completely rewritten the chapter on the Quantitative Marketability Discount Model (QMDM)

We have added seven completely new chapters:

- Discounts and Premiums in Fair Value for Financial Reporting
- Adjusting the Values for Differences in Size
- The LiquiStat Database (Restricted Stock, Warrants, and Convertibles)
- Valuation Advisors Discount for Lack of Marketability Database
- Discounts and Premiums in Divorce Disputes
- Discounts and Premiums in Corporate and Partnership Dissolutions
- Discounts and Premiums in ESOP Valuations

We have written this book both as a primer for those unfamiliar with business valuation discounts and premiums and as a well-indexed reference for the experienced. We believe that it will be useful to the following audiences:

- Business appraisers
- Attorneys dealing with business valuations
- Judges
- Corporate officers, especially CEOs and CFOs
- Fiduciaries, such as trustees and directors
- Government appraisers and reviewers of appraisals
- CPAs
- Investors
- Academicians and students of finance

My staff at Shannon Pratt Valuations and I sincerely hope that this book will contribute to sounder and more thoroughly documented valuations that will stand up to critical scrutiny and ultimately carry the day.

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Alina Niculita, President and COO, conducted research and edited and proofread the manuscript.

Frances Fan, Financial Analyst, assisted with tracking the multiple iterations of the manuscript and conducting research. Along with Frances, Angelina McKedy, Senior Financial Analyst, and Kim Linebarger, Financial Analyst, also assisted with research.

I also wish to thank the enthusiastic cooperation of the professionals at John Wiley & Sons, including John DeRemigis, Executive Editor, Judy Howarth, Development Editor, and Chris Gage, Senior Production Editor.

Finally, I am grateful to those who have written letters and had discussions with me about many conceptual and technical points since the last edition. As always, final responsibility for all content and judgment rests with me.

Shannon Pratt
Portland, Oregon

Chapter 1

Overview of Business Valuation Discounts and Premiums and the Bases to Which They Are Applied

Discounts and Premiums Are Big-Money Issues
"Entity Level" versus "Shareholder Level" Discounts and Premiums
    Entity Level Discounts
    Discounts and Premiums Reflecting Shareholder Characteristics of Ownership
        Degree of Control or Minority
        Degree of Marketability
How the Valuation Approaches Used Affect the Level of Value
    Income Approach
    Market Approach
        Guideline Publicly Traded Company Method
        Guideline Merged and Acquired Company Method
    Asset-Based Approach
Use of Public Company Data to Quantify Discounts and Premiums
How the Standard of Value Affects Discounts and Premiums
    Fair Market Value
    Investment Value
    Fair Value for Shareholder Disputes
    Fair Value for Financial Reporting
American Society of Appraisers Business Valuation Standard VII: Valuation Discounts and Premiums
Summary

This chapter calls attention to the high degree of significance of the topic of discounts and premiums in business valuation. In fact, the existence and/or amount of discount or premium is often the largest money issue in disputed business valuations. This chapter provides an overview of various discounts and premiums and the bases of value to which they may be applied.

In general, we will refer to stock when talking about any type of equity interest unless talking specifically about partnerships or some other specific ownership form. However,

the same concepts as applied to stock are usually applicable to partnership interests as well as other forms of ownership.

The purpose of a discount or premium is to make an adjustment from some base value. The adjustment should reflect the differences between the characteristics of the subject interest (the interest being valued) and those of the base group on which indications of value are based.

After all discounts and premiums have been applied, it is often a very good idea as a reasonableness or sanity check to compute the implied expected rate of return on the final concluded value to see if it appears reasonable.

Discounts and premiums generally fall into one of two categories. *Entity level discounts* are those that affect *all* shareholders; in other words, entity level discounts are those that affect the value of the entity as a whole, such as environmental issues or dependence on a key person. *Shareholder level discounts* are those that affect one or a specified group of shareholders, such as minority interests or lack of voting rights.

Entity level discounts or premiums should be applied *before* shareholder level discounts or premiums.

Most often, discounts and/or premiums are applied individually toward the end of the analysis. They usually are specified as a percentage of the otherwise estimated value, but sometimes are specified as a dollar amount.

On the other hand, since most discounts or premiums reflect risk factors, they are sometimes reflected as an adjustment to the discount rate, capitalization rate, or multiple that otherwise would be used. If this procedure is used, it is generally part of the ''specific company risk factor adjustment,'' accounting for characteristics of the company or interest that differ from the characteristics of the companies or interests used to derive the base values.

DISCOUNTS AND PREMIUMS ARE BIG-MONEY ISSUES

Often there is more money at stake in determining what discounts or premiums are applicable to some business valuations than there is in arriving at the base value (prediscount valuation) itself. A thorough understanding of (1) the types of discounts and premiums, (2) situations in which each may or may not be applicable, and (3) how to quantify them is a major and indispensable part of the tool kit of any business appraiser or reviewer of business appraisals.

In the dissenting stockholder action of *Swope v. Siegel-Robert, Inc.,* for example, one appraiser testified to a value of $98.40 per share and another testified to a value of $30.90 per share, a difference of well over three to one between the two appraisers' values. However, their base level values were $72.90 and $46.20 per share, respectively, both on a marketable minority basis. The rest of the difference came from the fact that the first appraiser applied a 35 percent control premium, which the second did not, and the second appraiser applied a 35 percent discount for lack of marketability, which the first did not.[1]

There have been many cases in which the parties reached agreement on base values, and the only disputes remaining involved premiums and/or discounts.

In *Estate of Weinberg v. Commissioner*,[2] the parties agreed that the fair market value of an apartment building, the sole asset of a limited partnership, was $10,050,000. The points of disagreement centered on the magnitudes of lack of control and marketability discounts for a 25.32 percent limited partnership interest. The differences in the experts'

Exhibit 1.1 *Estate of Weinberg v. Commissioner:* Experts’ and Court’s Discounts from Net Asset Value

Minority & Marketability Discounts	Taxpayer’s Expert	IRS Expert	Tax Court
Minority Interest Discount	43%	20%	37%
Marketability Discount	35%	15%	20%
Combined Discount	63%	32%	50%

Source: Robert M. Siwicki of Fleet M&A Advisors. “Tax Court Rejects QMDM and Use of Single Comparable,” *Shannon Pratt’s Business Valuation Update* (April 2000): 10.

positions on the discounts and the court’s conclusion are shown in Exhibit 1.1. If the court had accepted the taxpayer’s expert’s discounts, the concluded value would have been $971,838. If the court had accepted the Internal Revenue Service (IRS) expert’s discounts, the concluded value would have been $1,770,103. This magnitude of difference based on combined discounts for lack of control and lack of marketability is not uncommon.

The most famous case dealing solely with the issue of discounts is *Mandelbaum v. Commissioner*.[3] The parties stipulated to freely traded minority interest values, so the only issue was the discount for lack of marketability. After hearing testimony from experts for both the IRS and the taxpayer, the court concluded a discount of 30 percent for lack of marketability. Some of the court’s criteria for reaching its decision are still controversial in the financial community. This case is discussed more fully in Chapter 14.

“ENTITY LEVEL” VERSUS “SHAREHOLDER LEVEL” DISCOUNTS AND PREMIUMS

Some categories of discounts apply to the entity as a whole, such as a key person or environmental liability discount; others reflect the characteristics of ownership, such as control versus minority and lack of marketability. These are often distinguished as “entity level discounts” or “company level discounts,” because they apply to the company as a whole, as opposed to “shareholder level discounts,” which apply to a specific block of stock.

ENTITY LEVEL DISCOUNTS

Certain discounts apply to the entity as a whole or to all shareholders, individually or as a group, regardless of any individual shareholder’s characteristics or attributes. These include, for example:

- Discount for trapped-in capital gains
- Key person discount
- Discount for known or potential environmental liability
- Discount for pending litigation
- “Portfolio,” “conglomerate,” or “nonhomogeneous assets” discount (for an unattractive assemblage of assets)

- Concentration of customer or supplier base (risk of loss/nonrenewal of significant customers or vendors normally is factored into the multiples in the market approach or the discount rates in the income approach)

These entity discounts usually are applied *before* shareholder discounts, that is, discounts affecting the entity as a whole as opposed to those characteristics affecting the particular share ownership. These entity level discounts normally are applied to a control level value. However, in some cases, such as the guideline public company method and sometimes in an income approach, the analysis may lead directly to a minority level value without ever estimating a control value. In these cases, the entity level discounts can be applied to those minority values before any shareholder level adjustments. (The percentage would be the same since entity level adjustments apply equally to all shareholders.)

Also, in some instances, these "discounts" can be factored into discount or capitalization rates in the income approach or valuation multiples in the market approach to reflect the additional risk that they imply. If this procedure is used, the adjustments to the discount or capitalization rates or market multiples should be clearly explained.

Estate of Mitchell v. Commissioner[4] is a good example of an entity level discount. The Tax Court first applied a 10 percent key person discount (for the death of Paul Mitchell) to the $150,000,000 control value for the entity that the court had determined. The court then took the percentage owned by the estate times the remaining $135,000,000 value and applied discounts for lack of control and lack of marketability.

These entity level discounts usually are applied as a percentage to some measure of value, as in the previous example. In some cases, for example, the application of a trapped-in capital gains adjustment, the discount may be quantified as a dollar amount rather than a percentage.

DISCOUNTS AND PREMIUMS REFLECTING SHAREHOLDER CHARACTERISTICS OF OWNERSHIP

The starting point for any discount or premium has to be a well-defined base to which it is applied. This is especially true of shareholder level discounts or premiums.

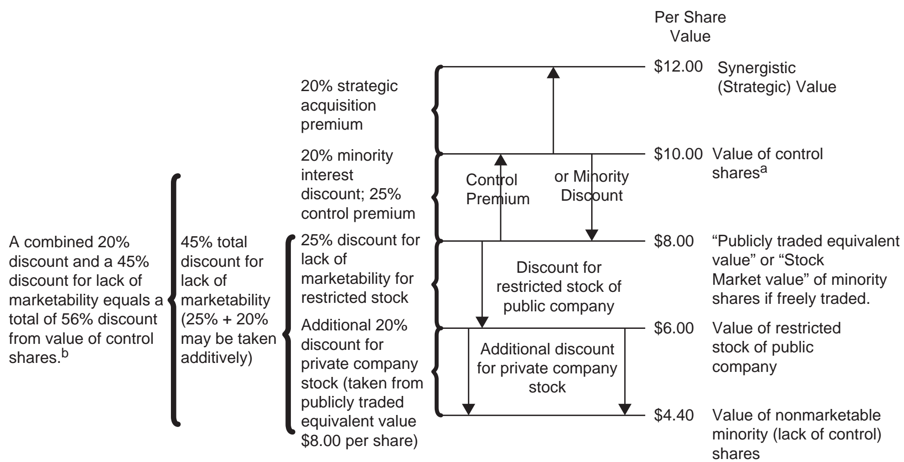
The starting point for discounts relating to characteristics of ownership could be one of the levels defined on the traditional levels-of-value chart (see Exhibit 1.2), such as:

1. Control value
2. Minority marketable value (also sometimes called "publicly traded equivalent value" or "stock market value")

If, on the other hand, the analyst believes that publicly traded equivalent value is equal to control value, in accordance with the alternative levels-of-value chart shown in Exhibit 1.3, discounts for both lack of control and for the relative degree of lack of marketability between a control position and a private minority position may be appropriate to derive a private minority value. Further explanation of the concepts embodied in Exhibits 1.2 and 1.3 is included in Chapter 2.

Other premiums or discounts at the shareholder level may include voting versus nonvoting stock (see Chapter 16) and blockage (an amount so large that it would depress the price if put on the market all at once, normally applied to publicly traded stocks).

Exhibit 1.2 "Levels of Value" in Terms of Characteristics of Ownership



Notes:

[a] Control shares in a privately held company may also be subject to some discount for lack of marketability, but usually not nearly as much as minority shares.

[b] Minority and marketability discounts normally are multiplicative rather than additive. That is, they are taken in sequence:

$10.00	Control Value
– 2.00	Less: Minority interest discount (.20 x $10.00)
$ 8.00	Marketable minority value
– 3.60	Less lack of Marketability discount (.45 x $8.00)
$ 4.40	Per share value of non-marketable minority shares

Source: Jay E. Fishman, Shannon P. Pratt, and J. Clifford Griffith, *PPC's Guide to Business Valuations,* 18th ed. (New York: Practitioner Pub Co., 2008), Exhibit 8-8.

The most often encountered premiums or discounts reflecting characteristics of ownership fall broadly into two major categories:

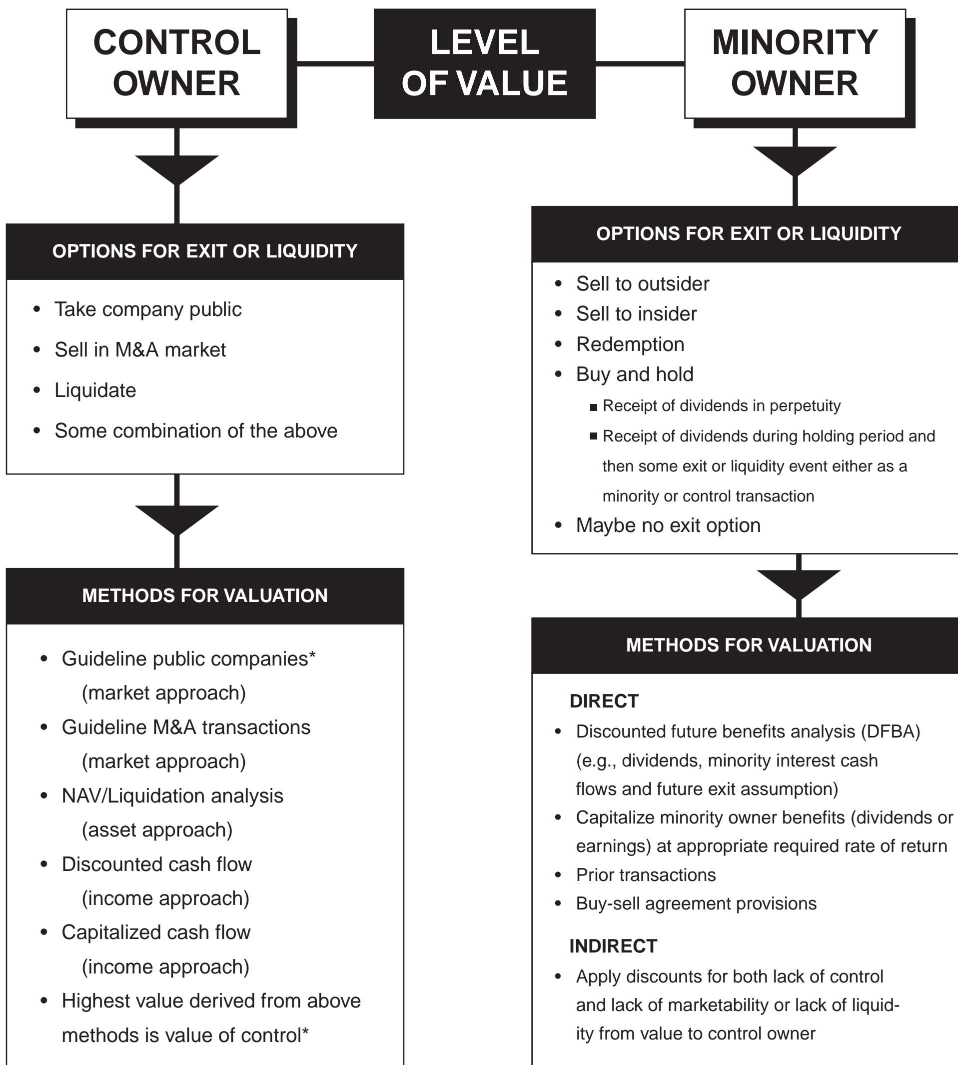
1. Degree of control or lack of control. The issue of voting versus nonvoting stock may be regarded as a subcategory of control or as a separate issue.
2. Degree of lack of marketability

Each of the above has economic bases that must be analyzed in each individual situation.

In a valuation analysis, the degree of control usually is considered before the degree of marketability. This is because, although control and marketability are separate issues, the degree of control or lack of it has a bearing on both the size of the discount for lack of marketability and the procedures that are appropriate to quantify the discount for lack of marketability.

It generally is not practical to use the minority nonmarketable level of value as a starting point because there is no database of arm's length transactions of minority nonmarketable interests and no other empirical data to lead directly to that level of value.

Exhibit 1.3 ''Levels of Value'' in Private Companies Based on Owners' Options for Exit or Liquidity



*Guideline public company method—Determine if company could go public. If so, where would it likely trade assuming it was seasoned in the market? If not, is this method applicable? If company could do an IPO, control owners usually cannot cash out, but end up with restricted stock. May need to determine the cash-equivalent value of this restricted stock if public market indicates significantly higher value than the other approaches.

Source: Chart designed by Eric W. Nath.

Note that the issue of marketability is usually distinguished from nonmarketability at the minority interest level but not at the controlling interest level. On the minority interest level, the term ''marketable,'' or ''liquid,'' reflects a stock with an active public trading market that can be sold instantly, with cash proceeds received within three days.[5] Controlling interests are far less liquid than an actively traded security, although in most

cases they are more liquid than a private minority position. Therefore, at this point we have no benchmark against which to classify a controlling interest as marketable or nonmarketable. Also, this concept does *not* apply to other types of property, such as real property, where no such liquid market for fractional interests exists.

Since we have no such benchmark at the control level, some consider it wise to avoid trying to classify controlling interests as "marketable" or "nonmarketable." (This will be discussed in greater detail in Chapter 12.)

Degree of Control or Minority

The degree of ownership control covers a wide spectrum, from 100 percent control ownership to a tiny minority with no control attributes at all. Therefore, discounts for lack of control vary in degree depending on how many and what types of control attributes are present.

It is *vital* to recognize that ownership of stock or a partnership interest does not entail any direct claim on the underlying assets. This is a fundamental concept that those not familiar with business appraisal may not at first grasp. It is the foundation of the discount for lack of control. For example, the other day I tried again to back my van up to the local brewery loading dock and swap my stock in the brewery for an equivalent value of beer. I even offered to discount the value of my stock for minority interest and lack of marketability, but still no deal. They said that the stock was not exchangeable for the underlying assets.

I think that the liquidation value of my brewery's assets is a lot greater than what the stock trades for, but I cannot force liquidation or even a partial sale of assets. The profits are good enough that they could at least pay a beer dividend (some distilleries used to pay a whiskey dividend), but they would rather pay outrageous bonuses to the semicompetent chairman of the board (who also happens to have a controlling ownership in the stock).

It is no wonder that the few trades that do take place in the brewery's stock are at a price a great deal lower than a proportionate share of what the whole thing is worth.

Degree of Marketability

Like the degree of control, the degree of marketability can cover a wide spectrum. It can range all the way from active public trading (instant sale with cash in three business days) to no trades at all and severe restrictions on any attempt to sell. For example, most stocks traded on the New York Stock Exchange (NYSE) or the NASDAQ markets have very high liquidity. Partnership interests traded on the secondary market for partnerships registered by the Securities and Exchange Commission (SEC) are marketable, but the liquidity of that market is usually much less than that of the major stock markets.

As alluded to, there can be a distinction between "marketability" and "liquidity." Dictionaries define these terms in various ways, but the general theme seems to be that "marketability" relates to the right to sell something, whereas "liquidity" refers to the speed with which an asset may be converted to cash without diminishing its value. On the other hand, financial texts tend to define these terms somewhat differently. Currently, business appraisers tend to use these terms interchangeably, and there is no consensus yet on a distinction between these terms. For the purposes of this book these terms are used interchangeably; however, analysts may wish to define these terms in their report if it is important to the analysis.

Investors cherish liquidity and abhor lack of it. When a stock is not readily marketable (that is, publicly traded), if it does finally sell, it usually will sell at a significantly discounted price from control value or from an otherwise comparable stock that is publicly traded. This is the conceptual basis for the discount for lack of marketability: one does not know when or for how much one's stock can be sold.

The amount of this discount will vary depending on the degree of liquidity attributes (for instance, occasional trades, potential for a public offering, or sale of the company) to restrictions exacerbating the lack of liquidity.

HOW THE VALUATION APPROACHES USED AFFECT THE LEVEL OF VALUE

Different valuation approaches and methods result in different levels of value. Therefore, in order to understand whether various discounts and/or premiums should be applied to the appropriate base value, the appraiser needs to understand what base value was developed by the valuation method(s) used. This section gives a broad overview, and later chapters discuss more specific detail about how the valuation method(s) impact premiums and discounts.

There is an ongoing debate about whether public stock market multiples, discount rates, and capitalization rates indicate minority or control levels of value. This debate is summarized and examined in more depth in Chapter 2.

INCOME APPROACH

Most analysts believe that the question of whether the income approach produces a minority or control value depends for the most part on whether the income or cash flows to be discounted or capitalized represent a minority basis (generally, business as usual) or are adjusted to reflect whatever policies a control owner could implement.

The discount or capitalization rate in the income approach is derived from public stock market data. There are three methods commonly used to derive discount and capitalization rates from public stock market data:

1. The Capital Asset Pricing Model (CAPM)
2. The buildup model
3. The "Discounted Cash Flow method"

(For descriptions of each of these methods, see *Cost of Capital: Applications and Examples*.[6]) Regardless of what method is used to estimate the discount rate, *the rate developed is from public market data and reflects the assumption of full marketability. Therefore, if minority interest cash flows are used, the result should be the minority, marketable level of value. If control cash flows are used, the result should be control value,* although there may be room for a modest control premium to reflect the ability to exercise the prerogatives of control and gain economic benefit from doing so. For example, most buyers believe that they can improve profitability by better management.

Since there is no market data to benchmark the discount for lack of marketability for controlling interests, it is a matter of the analyst's judgment as to whether a discount for

lack of marketability is warranted. Discounts for lack of marketability are covered in detail in future chapters.

MARKET APPROACH

Within the market approach, the level of value indicated may depend on whether the guideline publicly traded company method or the merger and acquisition method is used.

Guideline Publicly Traded Company Method

Stocks of the guideline public companies are actively traded minority interests. Therefore, the guideline publicly traded company method traditionally has been assumed to produce a marketable minority level of value. However, this assumption has been seriously challenged, and there is good reason to believe that such may not always be the case. A full discussion of the debate surrounding this issue is included in Chapter 2.

Guideline Merged and Acquired Company Method

If using merged and acquired guideline companies to derive market multiples, the transactions usually represent controlling interests, so the method is assumed to reflect a control value. Also, this method may reflect synergies, especially in acquisitions of larger companies, which would not be reflected in fair market value.

ASSET-BASED APPROACH

Whether the adjusted net asset value or the excess earnings method is used, the general assumption is that asset methods reflect control over the assets and a control value with respect to the levels-of-value chart. This is because, in both methods, individual assets or classes of assets are adjusted to fair market value (often relying on appraisals from other disciplines), and 100 percent ownership (control), typical market conditions, and no restrictions on transfer are assumed.

USE OF PUBLIC COMPANY DATA TO QUANTIFY DISCOUNTS AND PREMIUMS

The emphasis in this book is on applying discounts and/or premiums in the context of private company valuations, although most of the principles and some examples used are applicable to public companies as well. To illustrate the reality of the discounts and premiums, it is necessary to rely heavily on data from the public markets because this is the only place that actual investor behavior can be observed with respect to most discount and premium issues.

For example, there are virtually no data on the prices at which minority interests change hands in private companies compared to the price of a controlling interest in the same company. However, we have data on literally thousands of acquisitions of public companies, which relate to exactly that.

Most decision makers, analysts, and courts would rather have an empirical basis for justifying both the reality and the quantification of the premium or discount rather than just an opinion, with nothing to support the analyst's judgment. For the most part, such data are available only in the public market.

HOW THE STANDARD OF VALUE AFFECTS DISCOUNTS AND PREMIUMS

The four primary standards of value that we use for various valuation purposes are

1. Fair market value
2. Investment value
3. Fair value for shareholder disputes
4. Fair value for financial reporting

While these standards of value are well defined in the appraisal literature, they often are used much more loosely (or ambiguously) in court opinions, especially in family law courts. It is important that the analyst, the attorney, and the court agree on the relevant standard of value, because it may mandate or influence the applicability of certain discounts or premiums, especially with respect to the issue of minority/control and marketability.

FAIR MARKET VALUE

Fair market value is a concept of value in exchange. It is defined as "the net amount that a willing purchaser, whether an individual or a corporation, would pay for the interest to a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts."[7] It is assumed to be a cash value.

It is important to note that the buyer and seller are "hypothetical," as opposed to any one specific, identified buyer or seller. This is intended to eliminate the influence of one buyer's or seller's specific motivations. However, if there is an active group of competing buyers or sellers with a common set of motivations, this group could constitute the market in which the "hypothetical" buyer and seller might meet to transact, and thus the price that the group would find acceptable could constitute fair market value.

Fair market value is the statutory standard of value for all federal tax cases.[8] It often is the standard of value in bankruptcy proceedings. In some states, precedential case law has established fair market value as the standard of value in property valuations for divorce. The analyst or lawyer must be very careful, however, in the divorce context, because court opinions often use the phrase "fair market value" and then go on to actually apply a standard that is different from the one defined here. Except in Ohio, fair market value is *not* the standard of value in dissenting-stockholder or minority-oppression cases.

Under the standard of fair market value, the focus must be on the specific property (ownership interest) being valued, basically "as is," including control and marketability characteristics. Therefore, minority interests in closely held corporations or partnerships are valued to reflect lack of control and lack of marketability characteristics.

INVESTMENT VALUE

Investment value differs from fair market value as defined in the literature of appraisal in that *investment value* means the value to some *particular* buyer or seller rather than to a *hypothetical* buyer or seller.

Investment value, therefore, might incorporate the synergistic value that some particular buyer may be willing to incorporate into an *acquisition premium* over and above just a control premium that others might pay for the prerogatives of control.[9]

Investment value is often found in legal precedents, especially in the family law courts, where judges often seek ''value to the owner'' or to the marital community, as opposed to value in exchange. For example, if a company is family owned, there may be no minority discount for a minority owner because, through family attribution, that owner is assumed to be part of a control group.

The analyst and attorney must be extremely careful in studying the relevant case law, because it is quite common to find the phrase ''fair market value'' in precedential opinions, especially in the family law context, and then find that, in fact, the valuation methodology accepted by the court has actually brought in elements of investment value. Family law courts also sometimes refer to investment value as ''intrinsic value.''

FAIR VALUE FOR SHAREHOLDER DISPUTES

Fair value is a creature of state legislatures, primarily as the standard of value for dissenting stockholder suits and minority oppression suits. Until 1999 it was defined by the Model Business Corporation Act[10] as ''the value of the shares immediately before effectuation of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable.''

This definition clearly eliminates any acquisition premium that would incorporate synergistic value with an acquirer over and above the company's control value on a stand-alone basis. However, the definition does not address the questions of the lack of control or lack of marketability of the shares in question.

In 1999 the Model Business Corporation Act introduced language to the effect that fair value would not incorporate either minority discounts or discounts for lack of marketability. However, as of this writing (mid-2009), few states have yet incorporated that modification into their dissenting stockholder statutes or its shareholder dissolution (minority oppression) statutes.

As of now, there is no clear majority position among the states regarding the interpretation of fair value with respect to the issues of minority/control or lack of marketability, although the trend is toward not applying discounts for these factors in determining fair value. In fact, some treat these issues differently in the context of dissenting stockholder versus corporate dissolution statutes. In each situation, the analyst and the attorney must carefully study the relevant case law. When there is no precedential case law, states often turn to persuasive case law from other states with similar statutory law.

FAIR VALUE FOR FINANCIAL REPORTING

As is the case with many ambiguous terms in the world of finance, the phrase ''fair value'' has two different and distinct meanings in different contexts. The Financial

Accounting Standards Board (FASB) issued a definition of fair value in the context of financial reporting. Statement of Financial Accounting Standards (SFAS) 157 defines fair value as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."[11]

This sounds very much like fair market value, but it is different. The FASB stated that it did not use fair market value because it did not want to be bogged down with the nuances of court interpretations of fair market value. An example of differences from fair market value is that SEC restrictions on transfer are recognized as factors calling for discounts under SFAS 157, but discounts for blockage are not allowed.

Chapter 26 is on the subject of discounts and premiums in fair value for financial reporting. As of this writing, there have been no court cases on the subject of fair value for financial reporting.

AMERICAN SOCIETY OF APPRAISERS BUSINESS VALUATION STANDARD VII: VALUATION DISCOUNTS AND PREMIUMS

The American Society of Appraisers Business Valuation Standard VII, shown as Exhibit 1.4, summarizes business valuation discounts and premiums and their application quite succinctly. Appraisers should note Section III, the steps in the application of discounts and premiums.

Exhibit 1.4 American Society of Appraisers Business Valuation Standard VII, Valuation Discounts and Premiums

I. Preamble

A. This Standard must be followed in all valuations of businesses, business ownership interests, and securities developed by all members of the American Society of Appraisers, be they Candidates, Accredited Members (AM), Accredited Senior Appraisers (ASA), or Fellows (FASA).

B. The purpose of this Standard is to define and describe the requirements for the use of discounts and premiums whenever they are applied in the valuation of businesses, business ownership interests, and securities.

C. This Standard applies to appraisals and may not necessarily apply to limited appraisals and calculations as defined in BVS-I, Section II.B.

D. This Standard incorporates the General Preamble to the Business Valuation Standards of the American Society of Appraisers.

E. This Standard applies at any time in the valuation process, whether within a method, to the value indicated by a valuation method, or to the result of weighing or correlating methods.

II. The Concept of Discounts and Premiums

A. A discount has no meaning until the conceptual basis underlying the base value to which it is applied is defined.

B. A premium has no meaning until the conceptual basis underlying the base value to which it is applied is defined.

Exhibit 1.4 *Continued*

C. A discount or premium is warranted when characteristics affecting the value of the subject interest differ sufficiently from those inherent in the base value to which the discount or premium is applied.

D. A discount or premium quantifies an adjustment to account for differences in characteristics affecting the value of the subject interest relative to the base value to which it is compared.

III. The Application of Discounts and Premiums

A. The purpose, applicable standard of value, or other circumstances of an appraisal may indicate the need to account for differences between the base value and the value of the subject interest. If so, appropriate discounts or premiums should be applied.

B. The base value to which the discount or premium is applied must be specified and defined.

C. Each discount or premium to be applied to the base value must be defined.

D. The primary reasons why each selected discount or premium applies to the appraised interest must be stated.

E. The evidence considered in deriving the discount or premium must be specified.

F. The appraiser's reasoning in arriving at a conclusion regarding the size of any discount or premium applied must be explained.

Source: American Society of Appraisers *Business Valuation Standards*. Copyright © 2002—American Society of Appraisers.

SUMMARY

This chapter has provided a broad overview of business valuation discounts and premiums. We distinguished between those discounts and premiums that affect the whole enterprise and all its owners, called *entity level* discounts, and those that are specifically a result of ownership characteristics (control and marketability or lack of either), called *shareholder level* discounts and premiums. Since entity level discounts impact the whole enterprise, they usually are applied to a control value, derived by any valuation approach or method. However, if the guideline public company method (or some other method producing a minority value) is used without ever reaching a control value, the entity level discounts are still applicable.

Shareholder level discounts or premiums, on the other hand, are very specific to the ownership characteristics of the base to which they are applied. Therefore, when dealing with adjustments to value arising from ownership characteristics, the assumptions as to the ownership characteristics of the base to which they are applied must be very clearly defined, or the adjustments are meaningless.

We introduced the traditional levels-of-value chart, which assumes that public market data as applied to a private company, gives a "marketable minority" level of value that is less than control. We also introduced an alternative levels-of-value chart that treats public market value and control value nonlinearly such that public market value could be less than, equal to, or greater than control value. Finally, we have shown how the standard of value (for instance, fair market value, fair value, or investment value) has an effect on whether premiums or discounts apply in specific cases.

Following chapters discuss both the concepts and measurement of the various discounts and premiums in detail. They also include details of how various courts have accepted or rejected the application and quantification of these discounts and premiums in contexts such as tax, marital dissolution, dissenting and oppressed stockholder actions, and bankruptcy cases.

NOTES

1. *Swope v. Siegel-Robert, Inc.,* 74 F. Supp. 2d 876 (E.D. Mo. 1999) *aff'd in part, rev'd in part* by 243 F.3d 486 (8th Cir. 2001). In this case, the district court declined to apply either the control premium or the marketability discount and concluded a value of $63.36 per share, finding them to be discretionary. But the Eighth Circuit reversed, holding that no discounts or premiums should be applied in determining fair value as a matter of law. In this sense, it interpreted the first appraiser's application of a ''control premium'' as bringing the value up to an enterprise level, and the lower court's refection of this premium as a minority discount.
2. *Estate of Weinberg v. Commissioner,* T.C. Memo 2000-51, 79 T.C.M. (CCH) 1507 (2000).
3. *Mandelbaum v. Commissioner,* T.C. Memo 1995-255, 69 T.C.M. (CCH) 2852 (1995), *aff'd,* 91 F.3d 124 (3d Cir. 1996).
4. *Estate of Mitchell v. Commissioner,* T.C. Memo 1997-461, 74 T.C.M. (CCH) 872 (1997), *aff'd in part, vacated in part* by 2001 U.S. App. LEXIS 7990 (9th Cir. 2001).
5. Z. Christopher Mercer, *Quantifying Marketability Discounts* (Memphis: Peabody Publishing, LP, 2001), p. 7.
6. For methods to estimate discount and capitalization rates, see Shannon P. Pratt, Roger J. Grabowski, *Cost of Capital: Applications and Examples,* 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008): especially Chapter 7, ''Build-up Method''; Chapter 8, ''Capital Asset Pricing Model (CAPM)''; Chapter 15, ''Alternative Cost of Equity Capital Models''; and Chapter 16, ''Implied Cost of Equity Capital.''
7. 26 CFR 20.2031-3 valuation of interests in businesses.
8. Certain collections matters may differ from the fair market value standard.
9. Some may refer to this standard of value as a form of ''value in use,'' although the appraisal profession considers ''value in use'' to be a premise of value; that is, the condition of the company when the transaction takes place.
10. Model Business Corporation Act (Chicago: American Bar Association, 1950–2008).
11. Statement of Financial Accounting Standards No. 157: Fair Value Measurements. (FASB).

Chapter 2

Minority Discounts and Control Premiums

Relevant Definitions
Basic Minority/Control Value Relationship
Prerogatives of Control
Factors Affecting Degree of Control
- Anything Less than 100 Percent
- Supermajority Requirements
- Shareholder Oppression Statutes
- Swing Vote Potential
- Interests of 50 Percent
- Legal or Regulatory Constraints
- Minority Shareholder Ability to Elect Directors
  - Cumulative Voting
  - Contractual Appointment

How the Valuation Methodology Affects the Minority Discount or Control Premium
- Income Approach as Value Basis
- Market Approach as Value Basis
  - Guideline Merged and Acquired Company Method
  - Guideline Publicly Traded Company Method
- Asset-Based Approach as Value Basis

Do Publicly Traded Minority Stock Prices Reflect Control Value?
Treatment of Control Premiums in the Delaware Courts
How the Purpose of the Valuation Affects Minority Discounts or Control Premiums
- Gift, Estate, and Income Tax
- Dissenting Stockholder and Shareholder Dissolution Actions
- Marital Dissolutions
- Pricing for a Synergistic Buyer

Summary

Everyone recognizes that control owners have rights that minority owners do not and that the differences in those rights and, perhaps more importantly, how those rights are exercised and to what economic benefit, cause a differential in the per-share value of a control ownership block versus a minority ownership block. This chapter discusses the differences in those rights and their use or misuse and addresses how to measure the difference in per-share value arising from the ownership and use of those rights.

Exhibit 2.1 Definitions Relating to Minority Discounts and Control Premiums

Control The power to direct the management and policies of a business enterprise.

Control Premium An amount (expressed in either dollar or percentage form) by which the pro rata value of a controlling interest exceeds the pro rata value of a noncontrolling interest in a business enterprise that reflects the power of control.

Majority Control The degree of control provided by a majority position.

Majority Interest An ownership interest greater than 50 percent (50%) of the voting interest in a business enterprise.

Minority Interest An ownership interest less than 50 percent (50%) of the voting interest in a business enterprise.

Discount A reduction in value or the act of reducing value.

Discount for Lack of Control An amount or percentage deducted from the pro rata share of value of 100 percent (100%) of an equity interest in a business to reflect the absence of some or all of the powers of control.

Minority Discount A discount for lack of control applicable to a minority interest.

Source: International Glossary of Business Valuation Terms.

RELEVANT DEFINITIONS

The value of control depends not only on legal power and rights, but also on economic potential. This is overlooked by some analysts. Of what *additional* value is a control interest in an unprofitable business with no reasonable prospects for profitability? In such a situation, a control owner's rights, to the extent exercised, might produce no value difference. On the other hand, in a situation where significant benefits could be derived from exercising one prerogative (for instance, owner compensation), the value of control might be very large. For those mathematically inclined, the control premium can be conceptualized as the product of two factors: legal power and economic benefit.[1]

Exhibit 2.1 presents relevant definitions. The definitions are fairly good as far as they exist. It is what is missing that is revealing about the state of the business valuation profession. For example, the control premium definition correctly reflects the value of control, but no definition exists for *acquisition premium*, which could reflect the value of both control and synergies. There is also no definition of supermajority, which sometimes is important. Many other important nuances that business appraisers need to consider have not yet found their way into the standard lexicon of business valuation vocabulary. (We mentioned the possible distinction between "marketability" and "liquidity" in Chapter 1.)

Chapter 21 originally by Curtis Kimball and updated by Noah J. Gordon addresses minority/control differentials where adjusted net asset value is the starting point, especially in the context of family limited partnerships; and Chapter 27 originally by Daniel Van Vleet and updated by Frances Fan addresses discounts for undivided interests in assets.

BASIC MINORITY/CONTROL VALUE RELATIONSHIP

In an overly simplistic world, the control premium and the minority discount could be considered to be the same dollar amount. Stated as a percentage, this dollar amount

would be higher as a percentage of the lower minority marketable value or, conversely, lower as a percentage of the higher control value. In fact, this is exactly what the simplest form of the traditional levels-of-value chart (Exhibit 1.2) implies.

Let us assume that the average control premium observed for an industry is 35 percent, and we want to compute the amount of the minority discount this implies. The applicable formula is:

$$\text{Minority Discount} = 1 - \left(\frac{1}{1 + \text{Control Premium}}\right)$$

Substituting the 35 percent control premium in this formula:

$$\begin{aligned}\text{Minority Discount} &= 1 - \left(\frac{1}{1 + .35}\right)\\ &= 1 - \left(\frac{1}{1.35}\right)\\ &= 1 - .74\\ &= .26 \text{ or } 26\%\end{aligned}$$

Thus, a 35 percent control premium in the context of the levels-of-value chart implies a 26 percent minority discount.

Unfortunately, as we shall see, the measurement and application of this concept is not as simple as it may appear at first blush. David Simpson sent a warning flag up the pole on this issue in 1991:

> [I]t would seem at first glance that control premiums paid in buyouts of public companies would be ideal indicators of the magnitude of discount necessary for proper valuation of a minority interest. Yet it becomes apparent that such data is compiled from such a diverse field that its usefulness is limited. This diversity is caused by differences in the degree of control obtained, the industry of the acquired company, the timing of the buyout, the concentration of control among selling shareholders, the perceived benefits or synergies to be obtained by buyers, the receptiveness of management to the offer, and the presence or absence of competitive bids. Finding enough examples from which to draw a valid discount conclusion for a specific degree of control in a specific industry during a given time period is rarely, if ever, possible.[2]

PREROGATIVES OF CONTROL

There are many things a control owner may be able to do that a minority cannot. These include, for example, the abilities to:

- Decide on levels of compensation for officers, directors, and employees
- Decide with whom to do business and enter into binding contracts, including contracts with related parties
- Decide whether to pay dividends and, if so, how much
- Register the stock with the Securities and Exchange Commission for a public offering

- Repurchase outstanding stock or issue new shares
- Make acquisitions or divest subsidiaries or divisions
- Buy, sell, or hypothecate any or all company assets
- Determine capital expenditures
- Change the capital structure
- Amend the articles of incorporation or bylaws
- Sell a controlling interest in the company with or without participation by minority shareholders
- Select directors, officers, and employees
- Determine policy, including changing the direction of the business
- Block any of the above

Depending on state laws, the company's articles of incorporation and bylaws, and agreements with lenders, any of the above prerogatives of control may be exercised by a simple majority control, or they may require some level of supermajority. About half the states require some degree of supermajority, most often two-thirds, for certain major corporate actions such as selling out, merging, or liquidating the company's major assets. If the stock is widely distributed, or if certain contractual rights exist, a block of stock constituting less than a majority may have effective control over some of the above prerogatives.

On the other hand, many states have laws that limit or curb these prerogatives, such as dissenting stockholder and/or minority oppression statutes. State statutes, as well as state court cases, must be studied carefully.

FACTORS AFFECTING DEGREE OF CONTROL

Many factors can affect the degree of control and, consequently, the magnitude of the discount for lack of control (if starting with a controlling interest value) or some premium for elements of control (if starting with a minority interest value).

ANYTHING LESS THAN 100 PERCENT

Any proportion of ownership less than 100 percent leaves room for attacks by minority shareholders on some prerogatives of control. For example, if the company were to sell out or take certain other corporate actions, any minority stockholder might be able to exercise dissenting stockholder rights. There are many ways in which a minority stockholder can create a nuisance for the control stockholder, which could reduce the control premium and the discount for lack of control, thus increasing the minority owner's interest's value.

SUPERMAJORITY REQUIREMENTS

About a quarter of the states require something more than a mere 50%-plus-1-share vote to approve certain major corporate actions, such as selling out or merging. Exhibits 2.2A

Exhibit 2.2A Summary of State Voting Requirements for Approval of Sale of Assets as Business Combination

States	Statute Number	Statute Voting Requirements for Approval of Sale of Assets as Business Combination
Alabama	Ala. Code § 10-2B-12.02	Two-thirds of outstanding shares entitled to vote (articles or bylaws may not set requirement at less than a majority)
Alaska	Alaska Stat. § 10.06.568	Two-thirds of the outstanding shares[1]
Arizona	Ariz. Rev. Stat. Ann. § 10-727	Majority of all votes entitled to be cast
Arkansas	Ark. Stat. Ann. §§ 4-27-1202, 4-26-903	Two-thirds of the shares entitled to vote[1]
California	Cal. Corp. Code §§ 152, 1001	Majority of the outstanding shares entitled to vote
Colorado	Colo. Rev. Stat. § 7-112-102	Majority of all votes entitled to be cast
Connecticut	Conn. Gen. Stat. § 33-831	Majority of the outstanding stock entitled to vote
Delaware	8 Del. C. §§ 271	Majority of all votes entitled to be cast
District of Columbia	D.C. Code § 29-375	Two-thirds of the outstanding shares (but articles may specify a lesser voting requirement but not less than a majority)
Florida	Fla. Stat. § 607.1202	Majority of all votes entitled to be cast
Georgia	Ga. Code Ann. § 14-2-1202	Majority of all votes entitled to be cast
Hawaii	Hawaii Rev. Stat. § 415-79	A simple majority may approve plan of sale of assets for corporations organized after July 1, 1987. For corporations organized before July 1, 1987, at least three-fourths of all the issued and outstanding stock having voting power is required (articles may provide for a lesser voting requirement but not less than a majority)[2]
Idaho	Idaho Code § 30-1-1202	Majority of all votes entitled to be cast
Illinois	805 ILCS 5/11.60	Two-thirds of the votes of the shares entitled to vote[1]
Indiana	Ind. Stat. Code § 23-1-41-2	Majority of all votes entitled to be cast
Iowa	Iowa Code Ann. § 490.1202	Majority of all votes entitled to be cast
Kansas	Kan. Stat. Ann. § 17-6801	Majority of all outstanding stock entitled to vote
Kentucky	Ky. Rev. Stat. Ann. §§ 271B.12-020	Majority of all votes entitled to be cast
Louisiana	La. Rev. Stat. Ann. § 12:121	Two-thirds of the voting power (but articles may provide for a lesser voting requirement but not less than a majority)[1]
Maine	13-A.M.R.S. § 1003	Majority of all the outstanding shares entitled to vote[3]
Maryland	Md. Corps. & Ass'ns Code Ann. §§ 3-105, 3-602, 3-603	Two-thirds of all votes entitled to be cast[4]
Massachusetts	Mass. Laws Ann. Ch. 156, §§ 42, 75	Two-thirds of each class of stock outstanding entitled to vote
Michigan	MCL § 450.1753	Majority of the outstanding shares entitled to vote[3]
Minnesota	Minn. Stat. Ann. § 302A.661	Majority of the voting power of all shares entitled to vote
Mississippi	Miss. Code Ann. § 79-4-12.02	Majority of the votes entitled to be cast
Missouri	Mo. Ann. Stat. § 351.400	Two-thirds of outstanding shares entitled to vote

(*continued*)

Exhibit 2.2A *Continued*

States	Statute Number	Statute Voting Requirements for Approval of Sale of Assets as Business Combination
Montana	Mont. Code Ann. §§ 35-1-823	Two-thirds of the votes entitled to be cast (but articles may provide for a majority vote)
Nebraska	Neb. Rev. Stat. §§ 21-20, 136	Two-thirds majority of all votes entitled to be cast
Nevada	Nev. Rev. Stat. §§ 78.565, 78A.130, 82.436	Majority of the voting power
New Hampshire	N.H. Rev. Stat. Ann. § 293-A:12.02	Majority of all votes entitled to be cast
New Jersey	N.J. Stat. Ann. § 14A:10-11	Majority of the votes entitled to be cast.[3] If the corporation was organized before Jan. 1, 1989, then a two-thirds vote is required, however, majority voting requirements may be adopted with a two-thirds vote
New Mexico	N.M. Stat. Ann. § 53-15-2	Majority of the shares entitled to vote[3]
New York	N.Y. Bus. Corp. Law § 903	For corporations organized on or before February 22, 1998, a majority of the votes of all outstanding shares entitled to vote is required. For corporations formed after that date, unless such a corporation amends its articles to provide for a simple majority vote, two-thirds of the votes of all outstanding shares entitled to vote is required
North Carolina	N.C. Gen. Stat. § 55-12-02	Majority of all votes entitled to be cast
North Dakota	N.D. Cent. Code § 10-19.1-104	Majority of the voting power of the shares entitled to vote
Ohio	Ohio Rev. Code Ann. § 1701.76	Two-thirds of the voting power (articles may specify a lesser voting requirement but not less than a majority)
Oklahoma	Okla. Stat. Ann. Tit. 18, § 1092	Majority of the outstanding stock entitled to vote
Oregon	Or. Rev. Stat. § 60.534	Majority of all votes entitled to be cast
Pennsylvania	15 Pa. Cons. Stat. Ann. §§ 1924, 1932	Majority of the votes cast by all shareholders entitled to vote
Puerto Rico	14 L.P.R.A. § 3001	Majority of the outstanding stock entitled to vote
Rhode Island	R.I. Gen. Laws § 7-1.1-72	Majority of the shares entitled to vote[3]
South Carolina	S.C. Code Ann. § 33-12-102	Two-thirds of all votes entitled to be cast (articles may specify a lesser voting requirement but not less than a majority)
South Dakota	S.D. Codified Law § 47-6-21	Majority of the shares entitled to vote[3]
Tennessee	Tenn. Code Ann. § 48-22-102	Majority of all votes entitled to be cast
Texas	Tex. Bus. Corp. Act Ann. Art. § 5.10	Two-thirds of outstanding shares entitled to vote[1]
Utah	Utah Code § 16-10a-1202	Majority of all votes entitled to be cast
Vermont	Vt. Stat. Ann. tit. 11A, § 12.02	Majority of all votes entitled to be cast
Virginia	Va. Code § 13.1-724, 13.1-900	More than two-thirds of all votes entitled to be cast (articles may provide for a lesser voting requirement but not less than a majority)[1]
Virgin Islands	13 V.I.C. § 281	A majority of the stock issued and outstanding having voting power (the articles of incorporation may require the vote or written consent of the holders of a larger proportion of the stock issued and outstanding but in no event more than three-fourths thereof)

Exhibit 2.2A *Continued*

States	Statute Number	Statute Voting Requirements for Approval of Sale of Assets as Business Combination
Washington	Wash. Rev. Code Ann. § 23B.12.020	Two-thirds of all votes entitled to be cast (lesser vote may be provided by each voting class and by total votes)
West Virginia	W. Va. Code § 31-1-121	Majority of the shares entitled to vote[1]
Wisconsin	Wis. Stat. Ann. § 180.1131	Majority of all votes entitled to be cast
Wyoming	Wyo. Stat. § 17-16-1202	Majority of all votes entitled to be cast

Source: Business Valuation Resources, 2001.

[1] If there is voting by class, two-thirds of each class and of total shares outstanding is required.

[2] If there is voting by class, three-fourths of each class and of total shares outstanding is required.

[3] If there is voting by class, a majority of each class and of total shares outstanding is required.

[4] Special voting requirements required in certain circumstances.

and 2.2B provide tables of the various states' statutory provisions with respect to this issue.

Even in states that do not have statutory requirements of supermajority votes for major corporate actions, any individual company may require supermajority votes for given corporate actions through its articles of incorporation or bylaws.

If a block of stock constitutes control for certain actions but is not large enough to be able to cause other corporate actions, it falls in between a control value and a pure

Exhibit 2.2B Summary of State Voting Requirements for Approval of Merger and Share Exchange

States	Code Sections	Statute Voting Requirements for Approval of Merger and Share Exchange
Alabama	Ala. Code § 10-2B-11.03	Two-thirds of the shares entitled to vote (articles or bylaws may not set requirement at less than a majority)
Alaska	Alaska Stat. § 10.06.546	Two-thirds of the outstanding shares[1]
Arizona	Ariz. Rev. Stat. Ann. § 10-1103	Majority of all shares entitled to vote
Arkansas	Ark. Code § 4-27-1103	Majority of all votes entitled to be cast
California	Cal. Corp. Code §§ 152, 1101, 1201	Majority of the outstanding shares entitled to vote
Colorado	Colo. Rev. Stat. § 7-111-103	Majority of all votes entitled to be cast
Connecticut	Conn. Gen. Stat. § 33-817	Majority of the outstanding stock entitled to vote
Delaware	8 Del. C. §§ 251, 255	Majority of all votes entitled to be cast
District of Columbia	D.C. Code § 29-367	Two-thirds of the outstanding shares (articles may not set requirement of less than a majority)
Florida	Fla. Stat. § 607.1103	Majority of all votes entitled to be cast
Georgia	Ga. Code Ann. § 14-2-1103	Majority of all votes entitled to be cast
Hawaii	Hawaii Rev. Stat. § 415-73	A simple majority approval plan of mergers for corporations organized after July 1, 1987. For corporations organized before July 1, 1987, "at least three-fourths of all the issued and outstanding stock having voting power" is required (articles may provide for a lesser voting requirement but not less than a majority)[2]

(*continued*)

Exhibit 2.2B *Continued*

States	Code Sections	Statute Voting Requirements for Approval of Merger and Share Exchange
Idaho	Idaho Code § 30-1-1103	Majority of all votes entitled to be cast
Illinois	805 ILCS 5/11.20	Two-thirds of the votes of the shares entitled to vote[1]
Indiana	Ind. Stat. Ann. § 23-1-40-3	Majority of all votes entitled to be cast
Iowa	Iowa Code Ann. § 490.1103	Majority of all votes entitled to be cast
Kansas	Kan. Stat. Ann. §§ 17-6701, 17-6705	Majority of the outstanding stock entitled to vote[3]
Kentucky	Ky. Rev. Stat. Ann. § 271B.11-030	Majority of all votes entitled to be cast
Louisiana	La. Rev. Stat. Ann. § 12:112	Two-thirds of the voting power (articles may provide for a lesser vote requirement but not less than majority)[1]
Maine	13-A.M.R.S. § 611	Majority of the outstanding shares entitled to vote[4]
Maryland	Md. Corps. & Ass'ns Code Ann. §§ 3-105, 3-106, 3-602, 3-603	Two-thirds of all votes entitled to be cast[5]
Massachusetts	Mass. Law Ann. ch. 156B, §§ 46B, 78	Two-thirds of each class of stock outstanding and entitled to vote
Michigan	MCL § 450.2703	Majority of the outstanding shares entitled to vote[4]
Minnesota	Minn. Stat. Ann. § 302A.613	Majority of the voting power of all shares entitled to vote[4]
Mississippi	Miss. Code § 79-4-11.04	Majority of the votes entitled to be cast
Missouri	Mo. Ann. Stat. § 351.425	Two-thirds of outstanding shares entitled to vote
Montana	Mont. Code Ann. §§ 35-1-815	Two-thirds of votes entitled to be cast (articles may provide for a majority)[1]
Nebraska	Neb. Rev. Stat. §§ 21-20, 130	Two-thirds majority of all votes entitled to be cast
Nevada	Nev. Rev. Stat. §§ 78A.130, 92A.120, 92A.130, 92A.140, 92A.150, 92A.160, 92A.165	Majority of the voting power[3]
New Hampshire	N.H. Rev. Stat. Ann. § 293-A:11.03	Majority of all votes entitled to be cast
New Jersey	N.J. Stat. Ann. § 14A:10-3	Majority of the votes entitled to be cast.[4] If the corporation was organized before Jan. 1, 1989, then a two-thirds vote is required. A corporation organized before Jan. 1, 1989, may adopt the majority voting requirements with a two-thirds vote
New Mexico	N.M. Stat. Ann. § 53-15-2	Majority of the shares entitled to vote[4]
New York	N.Y. Bus. Corp. Law § 903	For corporations organized on or before February 22, 1998, a majority of the votes of the shares entitled to vote is required. For corporations formed after that date, unless such a corporation amends its articles to provide for a simple majority vote, two-thirds of the votes of all outstanding shares entitled to vote
North Carolina	N.C. Gen. Stat. § 55-11-03	Majority of all votes entitled to be cast
North Dakota	N.D. Cent. Code § 10-19.1-98	Majority of the voting power of all ownership interests entitled to vote[4]
Ohio	Ohio Rev. Code Ann. § 1701.78	Two-thirds of the voting power[4]

Exhibit 2.2B *Continued*

States	Code Sections	Statute Voting Requirements for Approval of Merger and Share Exchange
Oklahoma	Okla. Stat. Ann. tit. 18, §§ 1081, 1082, 1083, 1084, 1086, 1090.2	Majority of the outstanding stock entitled to vote[5]
Oregon	Or. Rev. Stat. § 60.487	Majority of all votes entitled to be cast
Pennsylvania	15 Pa. Cons. Stat. Ann. §§ 1924	Majority of the votes cast by all shareholders entitled to vote[4]
Puerto Rico	14 L.P.R.A. § 3051, 3054, 3055, 3056, 3057, 3058	Two-thirds of the outstanding stock entitled to vote[3]
Rhode Island	R.I. Gen. Laws § 7-1.1-67	Majority of the shares entitled to vote[4]
South Carolina	S.C. Code Ann. § 33-11-103	Two-thirds of the votes entitled to be cast on the plan and two-thirds of the votes entitled to be cast on the plan within each voting group entitled to vote as a separate voting group on the plan (articles may provide for a greater or lesser vote but not less than majority)
South Dakota	S.D. Codified Law § 47-6-4	Majority of the shares entitled to vote[4]
Tennessee	Tenn. Code Ann. § 48-21-104	Majority of all votes entitled to be cast
Texas	Tex. Bus. Corp. Act Ann. art. § 503	Two-thirds of the outstanding shares entitled to vote[1]; shareholder vote may not be needed
Utah	Utah Code § 16-10a-1103	Majority of all votes entitled to be cast
Vermont	Vt. Stat. Ann. tit. 11A, § 11.03	Majority of all votes entitled to be cast
Virginia	Va. Code §§ 13.1-718, 13.1-895	More than two-thirds of all votes entitled to be cast (articles may provide for a greater or lesser vote but not less than a majority)[3]
Virgin Islands	13 V.I.C. §§ 251, 252	Two-thirds of the total number of shares of capital stock
Washington	Wash. Rev. Code Ann. § 23B.11.030	Two-thirds of all votes entitled to be cast (lesser vote may be provided by each voting class and by total votes)
West Virginia	W. Va. Code § 31-1-117	Majority of the shares entitled to vote[4]
Wisconsin	Wis. Stat. Ann. § 180.1103	Majority of all votes entitled to be cast
Wyoming	Wyo. Stat. § 17-16-1103	Majority of all votes entitled to be cast

Source: Business Valuation Resources, 2001.

[1] If there is voting by class, two-thirds of each class and total shares outstanding is required.

[2] If there is voting by class, three-fourths of each class and total shares outstanding is required.

[3] May require a two-thirds vote in certain circumstances.

[4] If there is voting by class, a majority of each class and total shares outstanding is required.

[5] Special voting requirements required in certain circumstances.

minority value. If starting with a control value, some discount for lack of absolute control usually is warranted. There are no empirical studies available to help quantify the amount of the discount, but such discounts usually fall in the range of 5 to 15 percent.

In the same vein, if a minority block of stock is large enough to prevent certain corporate actions, this condition is referred to as *blocking power*. Such a block normally is accorded some premium over a pure minority value for blocking power. Because such power is invoked only rarely, the premium tends to be modest, perhaps in the range of 5 to 15 percent. This premium could be applied to an actively traded minority value (before

any discount for lack of marketability) or could be reflected in a smaller discount for lack of control if control value is the base.

In any case, if the size of the block falls into the range where it may have operating but not absolute control, or in the range where it may have blocking power, the analyst should review the relevant state statutes, articles of incorporation, and bylaws to see whether a possible discount or premium for this characteristic should be considered.

SHAREHOLDER OPPRESSION STATUTES

In some states under certain circumstances, minority shareholders can institute a lawsuit to dissolve the corporation or partnership and be paid their proportionate share of the proceeds from the liquidation. In such states, the controlling stockholder can prevent the dissolution by paying the minority owners the *fair value* of their shares. About half the states now have such statutes, with California Corporation Code 2000 being one of the oldest and most frequently litigated.

The percentage of shares required and the alleged oppressive actions required to trigger such a suit vary from state to state. The presence of such a statute might reduce the minority discount slightly if there is a prospect of such an action.

SWING VOTE POTENTIAL

Depending on the distribution of the stock, a block could have the potential to gain a premium price over a pure minority value because of its potential as a *swing block*. Consider this situation, which was recently presented to the financial advisor to an employee stock ownership plan (ESOP). The ESOP in question owned about 35 percent of the stock, another stockholder owned 35 percent, and the third-largest stockholder owned about 20 percent. The financial advisor had been conducting annual valuations of the ESOP stock on a minority basis. When the 20 percent block came up for sale, both the ESOP and the other 35 percent stockholder would quickly have paid the ESOP minority price to obtain the stock, and a somewhat prolonged series of negotiations ensued. The ESOP ultimately purchased the block at about a 17 percent premium over the ESOP minority price. The opinion expressed by the financial advisor was that the ESOP did *not* pay more than fair market value for the swing block, considering that it put the ESOP in a control position and otherwise would have put the remaining stockholder in a control position.

Many scenarios could be constructed where a swing block would have the potential to command some premium over a pure minority value. Generally, they arise when a sale of the block could cause a change (for instance, strengthening or weakening) in a control position. However, not all swing vote situations deserve a premium.

INTERESTS OF 50 PERCENT

Interests of 50 percent are neither control nor minority. A 50 percent interest usually can prevent corporate actions but cannot cause them to happen. A 50 percent interest value usually lies about halfway between a controlling interest value and a pure minority value. There is no empirical data for guidance in quantifying 50 percent interest percentage discounts from control value or premiums over minority value. However, 50 percent interests sometimes are discounted at about 15 percent from control value to reflect lack of control.

In some circumstances two 50 percent interests do *not* have equal lack of control. This situation can arise when one of the 50 percent interests exercises some prerogatives of control under a contractual arrangement. In this case, the discount from control value should be less for the interest with some control prerogatives and a little greater for the interest without the control prerogatives.

LEGAL OR REGULATORY CONSTRAINTS

Legal or regulatory conditions can prevent a control owner from exercising control prerogatives to the fullest extent. These conditions narrow the gap between control and minority value and reduce the potential minority discount or control premium.

MINORITY SHAREHOLDER ABILITY TO ELECT DIRECTORS

Some minority blocks of stock have the ability to elect one or more directors. This ability can arise from either of two circumstances: cumulative voting or contractual arrangement. In either case, this right tends to reduce the minority discount. However, there is no body of empirical data to assist in quantifying this factor, so the magnitude of the discount becomes a matter of negotiation in a transaction or of the appraiser's judgment in a non-transaction-related valuation.

Cumulative Voting

In most companies, a majority of the shares can elect all the directors. However, although it is becoming less common, some companies have *cumulative voting*, which enables a minority to elect one or more directors. The concept of cumulative voting is that all the shares may vote for a single director. Thus, if 10 directors are to be elected, the owner of a block of 10 percent of the stock can cast all of its votes for each share for a single director, thus ensuring the election of one director by the block.[3]

Cumulative voting, however, does *not* automatically assure the minority of representation on the board; first, the minority must have the minimum shares necessary to elect the director desired and, second, must aggregate its cumulative votes properly.

Cumulative voting may also increase the discount applicable to a control block for lack of full control.

Contractual Appointment

For various reasons, certain blocks of stock may be granted a contractual right to appoint one or more directors. This is often the case in conjunction with venture capital financing. This may reduce the discount for lack of control.

HOW THE VALUATION METHODOLOGY AFFECTS THE MINORITY DISCOUNT OR CONTROL PREMIUM

To reiterate Chapter 1, for a premium or discount to be meaningful, it is necessary to understand the relationship of the discount or premium to the valuation basis to which it is applied. This section discusses the major valuation approaches and methods and what

the bases they produce imply regarding the appropriateness of minority discounts or control premiums. In some cases the applicability of a premium or discount is fairly straightforward. In other cases, however, there is substantial controversy about the applicability of a minority discount or a control premium.

INCOME APPROACH AS VALUE BASIS

Whether the income approach utilized is the discounted cash flow or capitalization of cash flow or earnings, the income approach can produce either a control value or a minority value. Therefore, it is necessary to understand the assumptions used in the income approach implementation to determine whether a minority discount or a control premium is warranted.

Most analysts agree that the extent to which the income approach produces a control or minority value lies primarily in the level of the cash flows or earnings being discounted or capitalized. If the projected cash flows were those that a control owner would expect to receive, a control premium already would be reflected. However, if the projected cash flows used do *not* reflect a control owner's expectation, then a control premium may be warranted.

Some analysts believe that the income approach always produces a publicly traded minority basis of value because both the Capital Asset Pricing Model (CAPM) and the buildup model develop discount and capitalization rates from minority interest transaction data in the public markets. This is a very common and highly flawed conclusion. *There is little or no difference in the rate of return that most investors require for investing in a public, freely tradable minority interest versus a controlling interest.*

As explained in *Cost of Capital*,[4] almost all the difference in the control value versus the minority value in the income approach to valuation is found in the numerator—the expected economic income available to the investor—rather than in the denominator—the discount or capitalization rate.

As Roger Ibbotson has succinctly stated the case, "When you are purchasing a company you are acquiring the ability to potentially control future cash flows. To acquire this option to exercise control, you must pay a premium. Holding all else constant, it should not impact the discount rate."[5]

Generally speaking, investors will not accept a lower expected rate of return for purchase of a controlling interest than for purchase of a minority interest. In fact, there have been many instances in recent years when public minority shareholders appear to require a significantly lower rate of return than control buyers. Control buyers pay premiums because they expect to take action to increase cash flows, not because they are willing to accept a lower expected rate of return. Actions taken to increase cash flows could range anywhere from eliminating nonperforming relatives from the payroll to drastically increasing prices for products or services of both acquirer and target as a result of absorbing a direct competitor.[6]

In adjusting a minority value upward to estimate a control value, some analysts adjust cash flows upward to what a control owner would expect to realize rather than apply a percentage control premium to a minority value. The advantage of this procedure is that it uses case-specific information to quantify the incremental present value of the cash flows that a control owner could generate. Such adjustments could logically include, for example, elimination of excess compensation, elimination of sweetheart insider deals, liquidation or utilization of excess assets, and exercise of other prerogatives of control. If

cash flows are adjusted for potential synergistic benefits, the result would be investment value or acquisition value, rather than fair market value.

Another possible fundamental adjustment sometimes used in the income approach that is often controversial in disputes over minority versus control value is adjustment of the company's capital structure. The most common such adjustment is to introduce some amount of long-term debt to substitute for an all-equity capital structure, thus lowering the overall cost of capital and raising the present value of projected cash flows. Again, capital structure adjustments are a control prerogative. Also, adjustments in capital structure can result in changes in the cost of components (debt and equity).

Notwithstanding the above, financial buyers still sometimes pay control premiums even if they do not have any opportunities for synergistic benefits or other cash flow improvements, albeit typically much lower premiums than those paid by synergistic buyers. Buyers see certain prerogatives of control as having value. For example, one control prerogative that control owners can implement that minority owners cannot is to register a public offering. Other control prerogatives are to sell interests to employees or to others, to repurchase outstanding minority interests, or to recapitalize. Some will pay a premium simply to be able to call the shots. Some perceive financial or psychological advantages to the control of certain companies. In the discounted cash flow (DCF) method, this could account for a slightly lower discount rate on the part of some buyers.

MARKET APPROACH AS VALUE BASIS

There are two clearly distinct methods within the market approach:

1. The guideline merged and acquired company method
2. The guideline publicly traded company method

Guideline Merged and Acquired Company Method

The guideline merged and acquired company method usually is based on observing transfers of ownership of an entire company or a controlling interest in a company. These transactions may be of either public or private companies. In either case, a controlling interest was transferred, so usually no control premium is warranted, because it was clearly reflected in the transaction price.

If control transactions are used as a starting point for valuing something less than a controlling interest (for instance, less than absolute control, 50 percent interest, or minority interest), then usually some discount for lack of control is warranted (and often a discount for lack of marketability as well).

When using available empirical data, the analyst must determine whether the consideration paid was a price for the common equity or a deal price, that is, total consideration paid for the entire capital structure, including debt assumed and, possibly, preferred stock. If the consideration was a deal price, then the value of the debt and/or preferred stock must be subtracted before applying a discount for lack of control, because such a discount applies only to the common equity, not to the entire capital structure. However, the percentage control premium on equity has the potential to be greater in a highly leveraged company.

If the transaction was structured as an asset sale, then the analyst must determine what assets were sold and what liabilities were assumed, and make adjustments for differences in property transacted. Also, other terms should be compared, such as the inclusion of a noncompete agreement, and the value adjusted for differences before computing multiples.

Guideline Publicly Traded Company Method

The guideline publicly traded company method is based on applying valuation multiples observed in the day-to-day public stock trading markets to the fundamental data of the subject company. Because the transactions from which the multiples are derived are minority interest transactions, conventional wisdom states that the guideline public company method produces a minority value. Following this line of reasoning, it would not be appropriate to apply a minority discount when the guideline public company method is used as the starting point for valuing a minority interest. Conversely, it often is appropriate to apply a control premium when the guideline public company method is used as a starting point for valuing a controlling interest.

The conventional wisdom prevailed virtually universally among business appraisers until 1990, when Eric Nath introduced what has come to be known as the Nath hypothesis in an article in *Business Valuation Review*.[7] Among other things, Nath suggested that many, if not most, public companies already must be trading at control value, or they would be subject to takeover attempts. This hypothesis and its implications are explored in the next major section.

ASSET-BASED APPROACH AS VALUE BASIS

Within the asset-based approach, appraisers generally recognize two methods:

1. **The asset accumulation method or net asset value method.** In this method each tangible and intangible asset is adjusted to current values, and the liabilities are subtracted.
2. **The excess earnings method.** In this method all tangible assets are adjusted to current values. The tangible asset value is then multiplied by a reasonable rate of return on tangible assets. If the company's total return is greater than this, the difference is called excess earnings. The excess earnings are capitalized at a rate that reflects the riskiness of those earnings, and the result of this calculation represents the collective value of all intangible assets. The total of the values of the tangible and intangible assets (the latter estimated by capitalization of excess earnings) equals the value of the company.

Both methods produce a control value. Therefore, if valuing a controlling interest by either of the conventional asset-based methods, it usually is not appropriate to add a control premium. If valuing something less than a controlling interest by either of the conventional asset-based methods, it usually is appropriate to apply a discount for lack of control.

DO PUBLICLY TRADED MINORITY STOCK PRICES REFLECT CONTROL VALUE?

The debate over whether publicly traded minority interests represent control or minority values has continued for over 10 years, as has the controversy over the validity of the traditional levels-of-value chart and alternative schematic diagrams to explain minority/ control relationships in the market.

In 1990 Eric Nath propounded the hypothesis that most public companies, at least during strong public market conditions, tend to trade at or near their takeover or controlling interest values. If this is true, then valuation based on an analysis of public companies should yield value that is tantamount to a controlling interest value, not a minority interest value. In that case, valuation of a private minority interest using publicly traded stock multiples will require discounts for *both* lack of control and lack of marketability.

Nath noted that takeovers typically represent only 3 to 4 percent of public equities, implying that most stocks are fully priced. Otherwise, "as blood attracts sharks, a significant difference between the current price of a stock and its value to a controlling owner should trigger some form of takeover attack."[8]

He also pointed out:

- Many takeovers are strategically motivated, calling into question the applicability of the so-called control premium data.
- Control premium statistics can be misleading and unreliable because they exclude negative premiums and because there is such a wide dispersion of premiums.
- There are also premiums paid for minority interests, which lack control.

Nath concluded that the existence of liquidity would tend to eliminate worries about lack of control for public shareholders, thereby allowing value to equilibrate at essentially a control level of value for a given company as long as the company was well-managed and management was communicating effectively with investors.

It was upon this conclusion that Nath also proposed the idea that discount rates developed from public market data should also reflect controlling interest discount rates, in essence implying that as long as there is liquidity, public investors should feel comfortable bidding the price of a company up to the point where their required return is the same as that of a control owner. As mentioned above, Roger Ibbotson agrees with this premise.

In a rejoinder to the Nath hypothesis, Mike Bolotsky recognizes that "[c]ertain public companies are priced at a level roughly equal to what a buyer of the entire company would be willing to offer." Bolotsky points out that this does not change their status as minority interests, which lack prerogatives of control. Therefore, it still is not appropriate to deduct a minority interest discount from publicly traded minority interest values.[9]

Bolotsky also suggests another category of variables that conceptually could be added to the traditional or prevailing wisdom levels-of-value chart: information access and information reliability. He notes that limited information access and reliability is "a situation that minority investors in closely held firms face every day, in addition to the lack of liquidity of their shares." Recognizing that there is no empirical basis for measuring the impact of limited information access and reliability, he suggests that, at a minimum, the

term “discount for lack of marketability” should be broadened to reflect differences in information access and reliability between public and private firms.

Bolotsky concludes his rejection of the procedure of deducting a minority interest discount from publicly traded stock values with the following elaboration:

a. The price at which a particular publicly traded stock trades represents the consensus price at which *minority blocks* of stock trade. This is true whether that price also *happens to be* the price that a buyer of a 100 percent control interest would be willing to offer, or whether the minority market price is *below* the offer price for control, or whether it is *above* the offer price for control. Regardless, the market price still represents evidence of the value of the shares to *minority interest* investors.

b. If the public minority price also *happens to be* the price that a typical buyer of a 100 percent controlling interest would be willing to offer, this obviously means that, in this case, the actively traded minority interest value and the 100 percent control interest have the same value. However, this does not alter the fact that the public price is based on evidence from minority interest transactions and is therefore a minority interest price that *happens to be* the same as a control price.

c. Yet, the public minority block and the 100 percent control block clearly have different shareholder level attributes, whether those differences are stated solely as control attribute differences in the terminology of the prevailing wisdom or as the net of four different attributes in the framework we introduced earlier. Either way, given that the shareholder level attributes differ (and we are sure no one would argue that they don’t differ), the only way the value of the two interests can be the same is if the value of the differences in shareholder level attributes is zero. In other words, the premium *must* be zero if the price at which minority blocks trade is equal to the price at which an offer to purchase control would be made, regardless of whether that premium is attributable to control only or is the net of four separate attributes.

d. If a group of public guideline companies having a zero premium is truly comparable to a particular subject company, then the subject company should have similar attributes. That is, it too should have an as-if-freely-traded value that is equal to the price that a typical buyer would be willing to offer for the entire business. If this were not the case, then there must be significant company level differences between the guideline companies and the subject, differences sufficient to justify a zero premium in one case and a positive premium in the other. If significant company level differences of this magnitude existed, then the guideline companies would not be similar enough to be usable. Therefore, by definition, if the public guideline company approach is validly used, and if the premium in the public companies is roughly zero, it must also be roughly zero in the subject company.

e. Therefore, in determining a private company minority interest value in the above scenario, the valuator has only two reasonable choices:

   i. Begin with the public *minority* price, that is, the as-if-freely-traded value, and adjust for the differences in key attributes between a public *minority* value and a private *minority* value (that is, differences in liquidity only in the framework of prevailing wisdom or differences in liquidity and information in the framework we introduced earlier).

ii. Begin with the control price, which happens to be the same as the public minority price, subtract the value of the appropriate premium between the two prices, which by definition is zero, to derive the as-if-freely-traded value, and then proceed as in "i" above.[10]

The debate continued at the Advanced Business Valuation Conference in Scottsdale in 1991, with Nath pointing out in his speech ("Reconsidering Market Data on Control Premiums") that his original article had already dealt with these potential objections. Bolotsky's theory that a control premium of zero for a public company necessarily implies a control premium of zero in a private company ignores the fact that liquidity eliminates concerns about lack of control for public shareholders. This is not the case for private minority shareholders. Furthermore, private minority shareholders have no more ability to force the controlling owner to take the company public than they do to force its sale in the merger and acquisition market. The meaning of "control" is therefore completely different in a private setting compared with a public setting. So, some additional discount for lack of control must be considered for a private minority interest if guideline public companies are trading at or near their control values.

The American Society of Appraisers' Summer 1995 meeting featured a panel comprised of Nath, Bolotsky, Wayne Jankowske, and Chris Mercer, titled "Is the Levels of Value Concept Still Viable?"

In direct response to the topic question, Mercer said: "[M]y answer is an unqualified 'Yes!' While it does not directly embrace every nuance of value (see particularly Bolotsky's article for an outline of other potential valuation considerations), the Levels of Value model more reasonably and accurately describes the economic and financial reality that I observe every day in our valuation business than any other model I have seen to date."

Michael Bolotsky stated:

> More pertinent to this panel is the issue of whether the two attributes, ownership rights and degree of liquidity, as used in the model, adequately describe the behavior of investors under most or all market conditions and time periods. It is my belief, and I believe it can be proved, that the model, as currently constituted, will adequately describe the behavior of investors only under certain market conditions and during certain time periods. The failure of the model to be more universally applicable can be attributed to many factors, including the following:
>
> 1. Treating liquidity as if it is an "on" (public companies) or "off" (private companies) factor, rather than a *continuum* from "almost absolute liquidity" (e.g., listed public companies) to "fairly high liquidity" (e.g., OTC pink-sheet companies) to "some liquidity" (e.g., 100% interests in desirable private companies) to "very low liquidity" (e.g., minority interests in most private companies), with any number of intermediate levels of liquidity along the continuum.
> 2. Treating the ownership rights that lead to *degrees of control* (or, more correctly, degrees of "power") as if they were "on" (controlling interest) or "off" (minority interest) factors, rather than a *continuum* from "absolute power" (e.g., 100% ownership of a company with no debt covenants) to "significant power" (e.g., 51% ownership of a company incorporated in a supermajority-state) to "influence power" (e.g., a 49% ownership in a company where no one else owns more than 1%) to "total lack of power" (e.g., 1% ownership in a company where one person owns the other 99%), with any number of intermediate degrees of power along the continuum.

3. As a corollary of the above two items: Treating liquidity as if it is a line that begins at the "freely-traded value" and ends at the "closely-held minority value," implying that relative degrees of liquidity are irrelevant to buyers of control.
4. Treating empirical market evidence as if it is, by definition, theoretical evidence of the attribute in question, rather than nothing more than the "fallout" of measuring the actions of investors in different types of markets. For example, the unfortunately named "control premium" (better would be "acquisition premium") is not a measure of the value of control simply because people began calling it a control premium instead of an acquisition premium. Objectively, it is nothing more than a measurement of the difference between the price paid for shares in the public market and the price paid for shares in the tender-offer "market." If it measures anything, it measures the *net* of many relevant factors, including but not limited to the perceived benefits of having significant-to-absolute power versus having little-or-no power; and the perceived drawback of having only some liquidity versus having almost absolute liquidity.

Clearly, it would be preferable to have a model that can explain the value behavior of investors in varying market conditions, including the market conditions where liquid minority interest prices are often at or above the price that a buyer of 100 percent of the shares would be willing to offer. Such a model can be created by considering the various ownership attributes as multi-dimensional factors rather than as a one-dimensional line. (See Exhibit 2.3.)

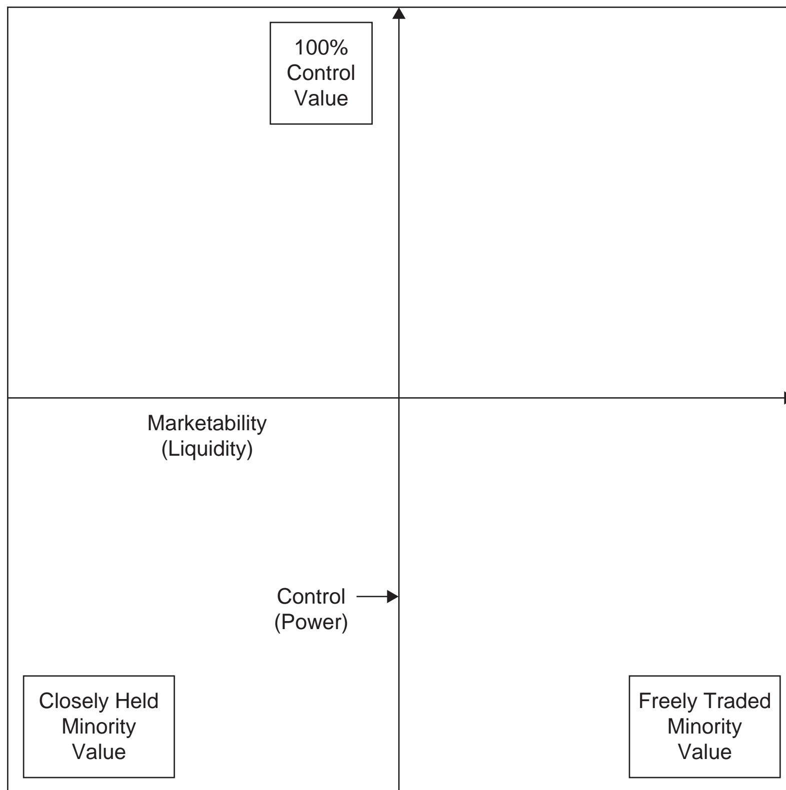
At the same time, it is critical to stress the concept that acquisition premiums are the result of the *net* of a *positive* factor (control, or power, in comparison to a freely traded minority) and a *negative* factor (the difference between low-to-moderate liquidity and very high liquidity). It is this issue, not captured in the levels-of-value model, that bridges the gap between the points of view espoused by Nath and by Mercer. It is also the reason why I stated that the term "control premium" was an unfortunate and misleading, choice of words. (The relative emphasis on these factors changes from time to time and from company to company.) (See Exhibit 2.4.)

In 1995, Mary McCarter and Carla Glass made a presentation to the Advanced Business Valuation Conference of the ASA in Boston. The essence of their presentation was an attempt to reconcile the implied required rate of return for a control owner paying a premium for a public company versus the required rate of return for the public shareholder. Their observation that it makes no sense for a control buyer to accept a lower rate of return than the public shareholder led them to formulate the idea that premiums paid for control must then relate primarily to the ability of the new owner to improve cash flows and earnings.

About the same time, Nath wrote two additional articles: "A Tale of Two Markets," *Business Valuation Review* (September 1994) and "How Public Guideline Companies Represent Control Value for a Private Company," *Business Valuation Review* (December 1997). Together, these two articles formed the basis for the two levels-of-value charts shown in Exhibit 1.3.

At this point, there is still debate over the meaning of public market data and its appropriate location in the levels of value. Nath's alternative levels-of-value chart has some appeal, especially under market conditions such as we have seen in some of the last few years where public market values have vastly exceeded what any rational buyer ought to pay. On the other hand, if we return to the market conditions of the early- and mid-1980s when financial buyers were taking over public companies at significant

Exhibit 2.3 Simple Two-Attribute Model



Closely Held Minority
- Very Low Liquidity
- Little or No Power

100% Control Value
- Low to Moderate Liquidity
- Nearly Total Power

Freely Traded Minority
- Very High Liquidity
- Little or No Power

Difference between:

Closely Held Minority and 100% Control
- Very Low vs. Low to Moderate Liquidity
- Little or No Power vs. Nearly Total Power

Freely Traded Minority and 100% Control
- Very High vs. Low to Moderate Liquidity
- Little or No Power vs. Nearly Total Power

Closely Held and Freely Traded Minority
- Very Low vs. Very High Liquidity
- No Differences in Power

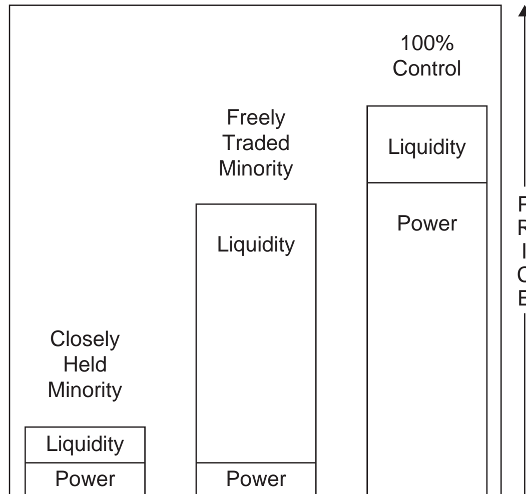
Source: Michael J. Bolotsky.

premiums and breaking them up to create additional value, the traditional levels-of-value chart would certainly apply.

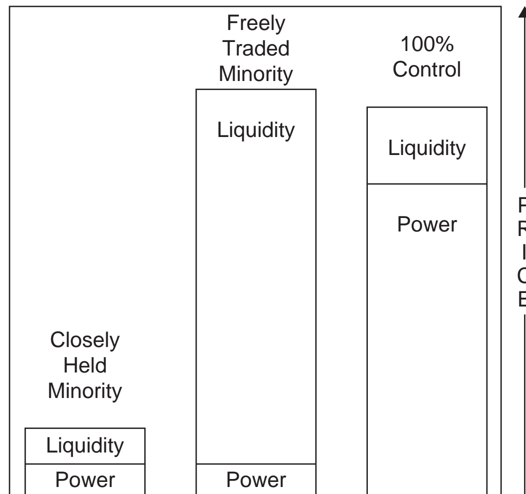
In my opinion, a strong case could be made that when the share price of a public company is wildly out of line with its intrinsic value (to a financial buyer, and even possibly to a normal strategic buyer), then perhaps the public market value is meaningless and should be disregarded entirely. On the other side of that coin, Nath does not say that the

Exhibit 2.4 Tradeoff between Liquidity and Control

1. *This is a representation of typical conditions in the 1970s and early 1980s.*
2. The fact that the perceived benefits of added power outweighed the perceived drawback of lower liquidity caused 100% interests to be perceived as more desirable and hence worthy of a premium.
3. Of course, there were some companies for which the 100% value perception was less than or equal to the freely traded value, but the graph on this page is probably representative of the norm.



4. *This is a representation of typical conditions more recently.*
5. The fact that the perceived benefits of added power do not outweigh the perceived drawback of lower liquidity causes 100% interests to be perceived as equal or even less desirable.
6. Of course, there are still many companies for which the 100% value perception is greater than the freely traded value, but the graph on this page is probably representative of the norm.



Source: Michael J. Bolotsky.

traditional levels-of-value chart never works, so if there arises a situation in which public shares are trading significantly below the mergers and acquisitions market for companies in a given industry, then a single discount for lack of marketability might be appropriate when using the guideline public company method.

In 2001, Mark Lee, a well-known business valuation analyst for over 25 years, went public with his views on the issue. Lee observed:

> The stock market is a market for minority interests in common stock. The principal buyers and sellers are individuals, mutual funds, and financial institutions. The market is highly

> liquid, individual investment horizons may be short, and risk tolerances can be greater than in illiquid markets. Financing is often readily available from banks and brokers at short-term money rates. Investors are generally passive. Individual investments are usually purchased as part of diversified portfolios, which leads to greater tolerance for risk.
>
> The [mergers and acquisitions] market is a market for whole companies. The principal buyers . . . and sellers are controlling stockholders, corporations, and [leveraged buyout] houses. The market is illiquid; as a result, individual investment horizons tend to be longer. Risk tolerances in the short term tend to be lower than in a liquid market. Transactions are financed using long-term debt from banks, insurance companies, mezzanine funds, equity of large corporations, and private equity funds. [Mergers and acquisitions] investors take an active role in managing their companies.
>
> The relationship of the two markets is not linear as shown in the single bar [of the levels of value chart]. This linearity presupposes that acquisition premiums apply in all situations; and acquisition premiums are roughly the same amount generally or in each industry.
>
> The relationship of the two markets is better shown as the two overlapping forms as shown in Exhibit 2.5.
>
> Clearly, the existence of an acquisition premium and its magnitude is a ''facts and circumstances'' test for each individual valuation.[11]

In any case, it is obvious that, given the current state of the debate, one must be extremely cautious about applying a control premium to public market values to determine a control level of value. Conversely, if guideline stocks are trading at or near control value in a given case, valuation of a minority interest by applying a discount for lack of control from the guideline indicators (in addition to a lack-of-marketability discount) might be supported since the minority owner lacks the control prerogative of taking the company public or registering his or her stock in an offering.

Exhibit 2.6 lists the main articles and conference presentations on the foregoing debate.

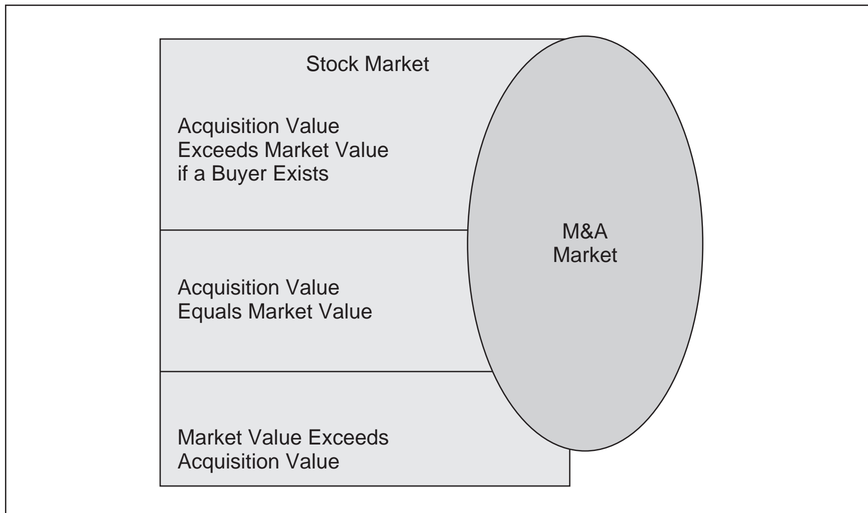
TREATMENT OF CONTROL PREMIUMS IN THE DELAWARE COURTS

Delaware is the leading state for corporate law regarding dissenting stockholder suits, and many states follow Delaware case law in their own dissenting stockholder suits. But Delaware courts have some unusual (and questionable) practices regarding control premiums.

The Delaware courts award dissenting stockholders their proportional share of the company's value as a going concern, without discounts for either minority interest nor lack of marketability. A paper in the summer 2008 issue of *Business Valuation Review* by Gil Matthews titled ''Misuse of Control Premiums in Delaware Appraisals'' raises questions as to three of the Delaware courts' practices. These are as follows:

1. The Court's adoption of the concept that market prices of shares include an inherent minority discount, thereby requiring the Court's addition of a control premium to valuations that are based on guideline companies.
2. The Court's adoption of the concept that a subsidiary of a company should be valued by adding a control premium to reflect the parent's control of its subsidiaries.

Exhibit 2.5 Schematic Relationship of Stock Market and M&A Market



1. The oval in the chart above is the M&A market. The box is the stock market. (The sizes of the two are not proportionate.)
2. If a potential acquirer believes that it can create sufficient added economic benefits, the acquisition value of the company will exceed its market value. The additional economic benefit can pay for the cost of the acquisition premium. These are the transactions reported in the *Control Premium Study* and similar publications.
3. Most publicly traded companies are not taken over in a given year. Generally, there is no market available that can create benefits large enough to justify payment of the premium required for the acquisition of these companies in view of other alternatives.

   If there is no M&A market available to sell a company at a premium to its stock market value, then there is little or no acquisition premium, much less a "theoretical" premium based on an average of acquisitions of dissimilar companies.
4. In emerging industries, such as the Internet in 1998 and 1999, the value of the common stock of a corporation as a whole often is worth less than the aggregate market value of common stock trading as minority interests. While the new industry is viewed as very attractive for investment, individual corporations are perceived as too risky. As a result, individual and institutional investors will pay more for minority interests as part of a diversified industry portfolio than individual acquirers will pay for the entire company.
5. Similarly, many companies spin off units or sell them in an IPO rather than sell the units in the M&A market because a higher price can be obtained in the market than in an M&A transaction.

Source: Mark Lee of Sutter Securities, Incorporated (now of Eisnet & Co.), ''Control Premiums and Minority Discounts: the Need for Specific Economic Analysis,'' *Shannon Pratt's Business Valuation Update* (August 2001): 1.

3. The Court's adoption of the concept that it is appropriate to take average acquisition premiums and apply them to guideline companies that are not acquisition targets, as well as to subsidiaries of subject companies.[12]

The problem with the automatic assumption that public trading prices of minority share include an inherent minority discount has already been discussed exhaustively in this chapter.

Exhibit 2.6 Articles and Conference Presentations Dealing with the Debate over the Question "Do Publicly Traded Minority Stock Prices Reflect Control Value?"

Articles

Bolotsky, Michael J., "Adjustment for Differences in Ownership Rights, Liquidity, Information Access, and Information Reliability: An Assessment of the Prevailing Wisdom Versus the Nath Hypothesis," *Business Valuation Review*, September 1991.

Lee, M. Mark, "Control Premiums and Minority Discounts: The Need for Specific Economic Analysis," *Shannon Pratt's Business Valuation Update* (August 2001).

Nath, Eric W., "Control Premiums and Minority Interest Discounts in Private Companies," *Business Valuation Review*, June 1990.

__________, "How Guideline Public Companies Represent Control Value for a Private Company," *Business Valuation Review*, December 1997.

__________, "A Tale of Two Markets," *Business Valuation Review*, September 1994.

Simpson, David W., "Minority Interest and Marketability Discounts: A Perspective, Part I," *Business Valuation Review*, March 1991.

Conference Presentations

The full texts of the following conference presentations are available to subscribers on BVLibrary.com. All conference presentations listed were at the American Society of Appraisers.

November 1991

Nath, Eric W., "Reconsidering Data on Control Premiums."

June 1995

Nath, Eric W., Z. Christopher Mercer, Michael J. Bolotsky, and Wayne C. Jankowske, "Is the 'Levels of Value' Concept Still Valid?"

November 1995

McCarter, Mary B., "Foundations for Minority and Control Adjustments."

Glass, Carla G., "Foundations for Minority and Control Adjustments, Part 2."

October 2001

Pratt, Shannon P. (moderator), M. Mark Lee, Eric W. Nath, Mary B. McCarter, and Michael J. Bolotsky, "Levels of Value."

The Delaware Supreme Court first introduced the concept of applying control premiums to subsidiaries in the case of *Rapid-American*[13] in 1992, because the trial court had valued each subsidiary solely on the basis of publicly traded guideline companies, which the court viewed as having an implied minority discount. In subsequent cases, the court has generally applied a control premium when values have been estimated using the guideline public company method, but not when using the DCF method (which the court has declared is its preferred method).

When applying a control premium, the court has sometimes applied the full average acquisition premium for the industry (usually as computed from the *Mergerstat Control Premium Study*), and has sometimes reduced this premium to account for the fact that it includes synergistic value, which is not allowed by the Delaware statutes nor by the statutes of most other states. A case-by-case analysis is included in the Matthews' paper.[14]

HOW THE PURPOSE OF THE VALUATION AFFECTS MINORITY DISCOUNTS OR CONTROL PREMIUMS

The treatment of the minority/control issue may vary considerably from one valuation purpose to another, depending on authority in the relevant legal context.

GIFT, ESTATE, AND INCOME TAX

As noted in Chapter 1, all federal tax cases adhere to the standard of *fair market value*, which focuses on the actual characteristics of the specific property being valued. Therefore, if a minority interest is being valued using a methodology that produces a control value, a minority discount usually will be applied. If a control interest is being valued using a methodology that produces a minority value, a control premium may be applied.

DISSENTING STOCKHOLDER AND SHAREHOLDER DISSOLUTION ACTIONS

As also noted in Chapter 1, the standard of value for most states' dissenting stockholder and shareholder dissolution statutes is *fair value*. Court treatment of the minority/control issue varies greatly from one state to another, and might not even be the same for dissent versus dissolution actions within the same state.

As will be seen in the dissent and dissolution cases discussed in Chapter 4 on minority/control issues in the courts, the decisions range all the way from blanket acceptance of minority discounts to blanket application of control premiums, and many shades in between. Even when it is clear that a control or a minority value is appropriate, there have been arguments about appropriate adjustments from both discounted cash flow and guideline public company methodologies.

MARITAL DISSOLUTIONS

There is no standard of value and no statutory or regulatory guidance on the issue of minority or control levels of stock or partnership values for property settlements in marital dissolution proceedings. In general, many courts have tended to avoid applying minority discounts. In a few cases, the courts have reasoned that the minority owner actually has a share of control through family or other operating owners, although this logic generally leads to bad economic decisions and should not form the basis for any valuation adjustment. Virtually no state courts have issued blanket, sweeping precedents on the issue, thus leaving it to be decided on a case-by-case basis.

PRICING FOR A SYNERGISTIC BUYER

If a synergistic buyer can be found, then the seller may be able to obtain some or even all of the synergistic value. In this case, one might apply full "acquisition premiums" as shown at the top of the levels-of-value chart shown as Exhibit 1.2. Data for such acquisition premiums paid historically can be found in the *Control Premium Study*, as described in Chapter 3.

SUMMARY

Virtually no one questions the reality that a minority position in a company lacks valuable prerogatives of control and potential economic benefits that a control owner enjoys. However, the differential in share value between minority and control shares to reflect the presence or absence of these prerogatives and attendant benefits is difficult to measure.

Exhibit 2.7 Summary of How the Valuation Methodology Affects the Resulting Value

Approach/Method	Assumptions	Resulting Value
Income Approach	Control cash flows	Control[a]
	Minority cash flows	Minority, marketable
Guideline merged & acquired company method	Control transacted	Control[a]
Guideline publicly traded company method[b]	Trading at or above control value	Control
	Trading below control value	Minority, marketable
Asset accumulation method	Control over assets	Control
Excess earnings method	Control over assets	Control

[a]If synergies involved, could be acquisition value.
[b]As discussed in Chapter 2, this can cover a wide spectrum.

Moreover, the differential varies considerably from one set of company-specific and shareholder-specific facts and circumstances to another.

The applicability of a minority discount or control premium depends on the methodology used to arrive at a base value. Both the income approach and the market approach can produce values that may be either minority or control, and the analyst must decide which level-of-value model best fits the specific case at hand in order to determine which discounts or premiums should be applied. Exhibit 2.7 summarizes the relationship between methodology used and type of value resulting.

The applicability of discounts and/or premiums often is driven by the legal context. *Fair market value* requires valuing the property in question as it is. Under the standard of *fair value* in dissenting stockholder or shareholder dissolution statutes in some states, however, precedential case law requires valuing minority interests *as if* they were worth a proportionate share of the enterprise value with no lack of control discount, but with no synergistic premium. The minority/control issue for marital dissolution property settlements usually is decided on a case-by-case basis.

NOTES

1. Concept presented by Wayne Jankowske at the 1995 American Society of Appraisers International Conference and at the 1996 Institute of Business Appraisers National Conference.
2. David W. Simpson, "Minority Interest and Marketability Discounts: A Perspective, Part I," *Business Valuation Review* (March 1991): 7.
3. For a formula for computing how many shares are required to elect one or more directors under cumulative voting, see Shannon P. Pratt, Alina V. Niculita, "Discount for Lack of Control" in *Valuing a Business*, 5th ed. (New York: McGraw-Hill, 2008), pp. 400–401.
4. Shannon P. Pratt, Roger J. Grabowski, "Minority versus Control Implications of Cost of Capital Data," Chapter 30 in *Cost of Capital: Applications and Examples,* 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 481–492.
5. *Morningstar Cost of Capital Resources:* available online at corporate.morningstar.com. (Chicago: Morningstar).
6. Shannon P. Pratt, Roger J. Grabowski, "Minority versus Control Implications of Cost of Capital Data," Chapter 30 in *Cost of Capital: Applications and Examples,* 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 482.

7. Eric W. Nath, ‘‘Control Premiums and Minority Interest Discounts in Private Companies,’’ *Business Valuation Review* (June 1990): 39–46.
8. *Id.*
9. Michael J. Bolotsky, ‘‘Adjustments for Differences in Ownership Rights, Liquidity, Information Access, and Information Reliability: An Assessment of ‘Prevailing Wisdom’ Versus the Nath Hypothesis,’’ *Business Valuation Review* (September 1991): 94–109.
10. *Id.*, pp. 106–7.
11. M. Mark Lee, ‘‘Premiums and Discounts for the Valuation of Closely Held Companies: The Need for Specific Economic Analyses’’ (presentation, 2001), available at www.bvlibrary.com.
12. Gilbert E. Matthews, ‘‘Misuse of Control Premiums in Delaware Appraisals’’ *Business Valuation Review* (Summer 2008).
13. *Rapid-American v. Harris,* 603 A.2d 796 (Del. 1992).
14. *Id.*

Chapter 3

Empirical Data Regarding Minority Discounts and Control Premiums

Premiums Paid in Acquisitions
Identifying Industries with Higher or Lower Control Premiums
Caveats Regarding Use of Control Premium Data
- Large Dispersion to the Data
- Negative Premiums
- Many Control Transactions Impound Synergies
- Control Premiums Are Specific to a Select Group of Companies
- The Hubris Factor

Are Control Premiums Too High?
Percentage Discounts from Net Asset Value
Summary

All the empirical data that we have for guidance in quantifying minority discounts and control premiums come from the public markets for stocks or partnership interests. I know of no studies yet that compare private company minority interest transaction prices with the same company's controlling interest value as measured by a sale of the entire business within a short time.

The empirical data available fall broadly into two categories:

1. Premiums paid for acquisitions of companies compared with public market minority trading prices prior to the acquisition announcement
2. Where net asset value is known or reasonably estimated, the percentage discount observed in minority interest transactions compared with the underlying net asset value

PREMIUMS PAID IN ACQUISITIONS

Prices at which controlling interests in public companies have been sold relative to their previously unaffected trading prices are published in the quarterly updated *Mergerstat/ BVR Control Premium Study*. This series has been the definitive source for such data for well over a decade.

The introduction to the *Mergerstat/BVR Control Premium Study* explains:

> A control premium is defined as the additional consideration that an investor would pay over a marketable minority equity value (i.e., current, publicly traded stock prices) in order to own a controlling interest in the common stock of a company. In this study, the premium is expressed as a percentage of the unaffected marketable minority price per share or the "Mergerstat Unaffected Price." This is the price just prior to the point of change in the representative normal pricing of a given security. [*Mergerstat/BVR Control Premium Study*] examines transactions whereby 50.1 percent or more of a company was acquired. A controlling interest is considered to have greater value than a minority interest because of the purchaser's ability to effect changes in the overall business structure and to influence business policies. Control premiums can vary greatly. Factors affecting the magnitude of a given control premium include:
>
> - The nature and magnitude of nonoperating assets
> - The nature and magnitude of discretionary expenses
> - The perceived quality of existing management
> - The nature and magnitude of business opportunities which are not currently being exploited
> - The ability to integrate the acquiree into the acquirer's business or distribution channels
>
> In order to obtain unbiased and accurate pricing information, the scope of this study has been narrowed to completed transactions where the target company was publicly traded.[1]

Exhibit 3.1 presents the definitions of the terms used in the *Mergerstat/BVR Control Premium Study*.

Exhibit 3.2 shows announcement and closing dates and equity value of a small group of transactions that is reasonably representative of the wide range of deal sizes in the database.

Exhibit 3.3 gives the purchase price in dollars per share and the "unaffected" share price and prices one day, one week, one month, and two months prior to the announcement date.

Exhibit 3.4 shows the "control premium" relative to each of the five previous dates for which prices were compiled. The industry and overall average premiums compiled by *Mergerstat/BVR Control Premium Study* are based on the "unaffected price."

Exhibit 3.1 Definitions of Terms

Terms	Definition
Premium 2 Months	Premium computed by comparing the price ultimately paid to the common stock price two months prior to the announcement date. [= (Purchase Price Per Share in Home Currency/2 Month Price)–1]
Premium 1 Month	Premium computed by comparing the price ultimately paid to the common stock price one month prior to the announcement date. [= (Purchase Price Per Share in Home Currency/1 Month Price)–1)
Premium 1 Week	Premium computed by comparing the price ultimately paid to the common stock price one week prior to the announcement date. [= (Purchase Price Per Share in Home Currency/1 Week Price)–1]
Premium 1 Day	Premium computed by comparing the price ultimately paid to the common stock price one day prior to the announcement date. [= (Purchase Price Per Share in Home Currency/1 Day Price)–1]

Exhibit 3.1 *Continued*

Terms	Definition
Mergerstat Control Premium	Premium computed by comparing the price ultimately paid to the unaffected stock price. [= (Purchase Price Per Share in Home Currency/ Unaffected Price in Home Currency)–1] (also known as the Mergerstat Unaffected Control Premium in the book version)
CUSIP	The CUSIP number is a unique identifier of securities. Mergerstat uses the first 6-digits to identify the issuer company. Target CUSIP refers to the unique identifier number for the target company being acquired.
Target Stock Ticker	The stock ticker symbol for the Target company. If the Stock Exchange of the Target company is not in the United States, the Target Stock Ticker also includes a two character code identifying the Target company's country.
Mergerstat Unaffected Price	Target company's common stock price per share unaffected by the acquisition announcement. Selected by Mergerstat after analyzing each transaction (see Transaction Information) (this price is in the Home Currency).
Announce Day Price	Target company's common stock price per share on the acquisition announcement date (this price is in the Home Currency).
1 Day Price	Target company's common stock price per share one day prior to the acquisition announcement date (this price is in the Home Currency).
1 Week Price	Target company's common stock price per share one week prior to the acquisition announcement date (this price is in the Home Currency).
1 Month Price	Target company's common stock price per share one month prior to the acquisition announcement date (this price is in the Home Currency).
2 Month Price	Target company's common stock price per share two months prior to the acquisition announcement date (this price is in the Home Currency).
LTM Net Sales	Target company's sales based on the latest reported 12-month period (LTM) prior to the transaction's announcement date. Sales are reported in millions of USD and rounded.
LTM EBITDA	Target company's earnings before interest, taxes, depreciation, and amortization (EBITDA based on the latest reported 12-month period (LTM) prior to the transaction's announcement date. EBITDA is reported in millions of USD and rounded.
LTM EBIT	Target company's earnings before interest and taxes (EBIT) based on the latest reported 12-month period (LTM) prior to the transaction's announcement date. EBIT is reported in millions of USD and rounded.
LTM Net Income	Target company's net income (loss), excluding extraordinary items, based on the latest reported 12-month period (LTM) prior to the transaction's announcement date. Income is reported in millions of USD and rounded.
BV Target Common Equity	Target company's book value (BV), sometimes referred to as shareholder's equity or net tangible assets, is based on the latest reported period prior to the transaction's closing date. Book value is reported in millions of USD and rounded.
Target Invested Capital	Target company's implied total invested capital (TIC) based on the sum of implied market value of equity plus the face value of total interest-bearing debt and the book value of preferred stock outstanding prior to the announcement date (reported in USD).
Book Value per Share	The target company's BV Target Common Equity divided by the target company's Common Shares Outstanding (reported in USD).
Common Shares Outstanding	Target company's number of common shares outstanding shown in millions and rounded.
Operating Profit Margin	LTM EBIT/LTM Net Sales
Net Profit Margin	LTM Net Income/LTM Net Sales

(*continued*)

Exhibit 3.1 *Continued*

Terms	Definition
Implied MVE ($mil)	Target market value of equity (MVE) based on the purchase price per share times total shares outstanding reported in the period prior to the transaction's announcement date. Market value of equity is reported in millions of USD and rounded.
Price/Sales	Purchase price-to-sales ratio for the target company based on the implied market value of equity divided by the latest reported 12-month net sales prior to the announcement date.
Price/Income	Purchase price-to-net income ratio for the target company based on the implied market value of equity divided by the latest reported 12-month net income prior to the announcement date.
Price/Book Value	Purchase price-to-book value ratio for the target company based on the implied market value of equity divided by book value of the target company.
Target Invested Capital/EBIT	Target TIC-to-EBIT ratio based on the target TIC divided by the latest reported 12-month earnings before interest and taxes prior to the announcement date.
Target Invested Capital/EBITDA	Target TIC-to-EBITDA ratio based on the target TIC divided by the latest reported 12-month earnings before interest, taxes, depreciation, and amortization prior to the announcement date.
Date Announced	Date that the acquisition was announced.
Date Effective	Date that the acquisition became effective.
Deal Value ($mil)	The aggregate purchase price given to shareholders of the target company's common stock by the acquiring company. Shown in millions of USD and rounded.
Deal Currency	The target company's local currency.
% of Shares Acquired	Percent of the target company's common shares purchased by the acquirer in the acquisition.
% of Shares Held at Date Announced	Percent of the target company's common shares held by the acquiring company on the date announced.
% of Shares Held after Acquisition	Percent of the target company's common shares held by the acquiring company following the transaction.
Purchase Price Per Share (USD $s)	The total consideration paid per share for the target company's shares.
Common Shares Acquired (mil)	Number of target company's common shares acquired by the acquiring company in the acquisition, shown in millions and rounded.
Deal Exchange Rate	The Deal Exchange Rate is used to convert the financial data of international deals. It is always going to be 1.00 for U.S. deals. It is expressed in U.S. dollars per unit of foreign currency. This rate is as of the closing date of the transaction.
Purchase Price/Share (Home currency)	The total consideration paid per share for the target company's shares, denominated in the home currency of the target company.
Consideration	Consideration denotes the method of payment provided to the target company. The single character codes are C = Cash, D = Debt, L = Liabilities, S = Stock, X = Other (warrants, contingent payments, etc.).
Attitude	These are only applied to tender offers. The types of attitude are: Friendly, Neutral, and Hostile.
Form	The form of the acquisition can take one of the following types: • ACQ—Applies to transactions where more than 50% of the company is being acquired and results in a change in control • Acq-GP—Applies to transactions where 100% of the company's stock is bought by a private entity and the target company ceases to exist as a public entity • Acq-MBO—Acquisition of a company where the primary buyer is the company's management

Exhibit 3.1 *Continued*

Terms	Definition
	• Acq-TO—Acquisition of a company where the buyer has announced a Tender Offer • Acq-TO-GP—Acquisition of a company where the buyer is a private group and has announced a Tender Offer • Div-UMBO—Unit Management Buy Out, management buys a greater than 50% interest in a division, business unit, or subsidiary • Div-Unit—Divestiture of a greater than 50% of a business unit, subsidiary, or division by a parent company • Merger—Merger of 2 companies into one, where neither of the former companies continues to exist as a legal entity, but one new public company is created • Merger-GP—Merger of 2 companies into one where neither of the former companies continue to exist as a legal entity, but one new private company is created
Transaction Purpose	The four types of Transaction Purpose are Conglomerate, Financial, Horizontal, and Vertical. These are defined as follows: • C = Conglomerate acquisition/merger—combining companies with none of the below relationships or similarities. For example, a steel company acquires a casino. • F = Financial acquisition—by an individual or investment group. For example, KKR buys an Internet company. Management buyouts are considered financial transactions. • H = Horizontal acquisition/merger—combining direct competitors in the same product lines and markets. For example, a commercial bank acquires another commercial bank. • V = Vertical acquisition/merger—combining customer and company or supplier and company. For example, if a publishing company buys a paper producer, it is considered a vertical acquisition/merger because the publisher buys large amounts of paper.

Source: Mergerstat/BVR Control Premium Study, available online at www.bvmarketdata.com.

Exhibit 3.2 Announce and Closing Dates, Total Deal Value

Target Name	Date Announced	Date Effective	Implied MVE (M$)	Home Currency Exchange Rate	Shares Held Date Announced	Shares Held after Acquisition
Adams Respiratory Therapeutics, Inc.	12/10/07	01/29/08	129.2	1.00	—	100%
Alabama National Bancorp	09/06/07	02/25/08	429.9	1.00	—	100
American Bank Note Holographics, Inc.	12/11/07	02/12/08	90.2	1.00	—	100
AMIS Holdings, Inc.	12/13/07	03/17/08	119.3	1.00	—	100
Aspreva Pharmaceuticals Corp.	10/17/07	01/03/08	107.9	1.00	—	100
ASV, Inc.	01/14/08	03/04/08	277.4	1.00	—	100
Audible, Inc.	01/31/08	03/19/08	212.8	1.00	—	100
Axcan Pharma, Inc.	11/29/07	02/25/08	30.0	1.00	—	100
BIW Ltd.	06/29/07	01/16/08	48.2	1.00	—	100
Boardwalk Bancorp, Inc.	07/26/07	01/31/08	624.5	1.00	—	100

(*continued*)

Exhibit 3.2 *Continued*

Target Name	Date Announced	Date Effective	Implied MVE (M$)	Home Currency Exchange Rate	Shares Held Date Announced	Shares Held after Acquisition
Bradley Pharmaceuticals, Inc.	10/30/07	02/21/08	1,764.6	1.00	—	100%
Bulldog Resources, Inc.	12/06/07	02/07/08	28.7	1.00	—	100
Canadex Resources Ltd.	11/20/07	01/28/08	314.0	1.00	—	100
Canetic Resources Trust	10/31/07	01/11/08	4,441.2	1.00	—	100
Canyon Resources Corp.	11/19/07	03/19/08	191.3	1.00	—	100
Carolina National Corp.	08/27/07	02/01/08	199.2	1.00	—	100
Carrier Access Corp.	12/17/07	02/11/08	4,883.0	1.00	—	100
Chittenden Corp.	06/27/07	01/02/08	107.1	1.00	—	100
Christiana Bank & Trust Co.	06/25/07	01/04/08	16,741.8	1.00	—	100
Claymont Steel Holdings, Inc.	12/10/07	01/25/08	358.3	1.00	—	100
Cognos ULC	11/12/07	01/31/08	492.5	1.00	—	100
Coley Pharmaceutical Group, Inc.	11/16/07	01/07/08	330.4	1.00	—	100
Collicutt Energy Services Ltd.	11/27/07	01/16/08	41.8	1.00	—	100
Commerce Bancorp, Inc. (New Jersey)	10/02/07	03/31/08	54,374.0	1.00	—	100
Document Sciences Corp.	12/27/07	03/06/08	145.2	1.00	—	100
E4 Energy, Inc.	12/04/07	02/08/08	723.9	1.00	—	100
Electronic Clearing House, Inc.	12/19/07	02/29/08	480.9	1.00	—	100
Emergis, Inc.	11/29/07	01/17/08	61.5	1.00	—	100
ExAlta Energy, Inc.	11/26/07	01/16/08	1,190.8	1.00	—	100
Extreme CCTV, Inc.	12/14/07	02/29/08	5.8	1.00	—	100
First Consulting Group, Inc.	10/31/07	01/14/08	346.3	1.00	—	100
First Indiana Corp.	07/09/07	01/02/08	2,925.4	1.00	—	100
First Mutual Bancshares, Inc.	07/02/07	02/01/08	1,608.7	1.00	—	100
FNB Corp. (Virginia)	07/26/07	02/28/08	179.7	1.00	—	100
Focus Energy Trust	12/03/07	02/13/08	838.6	1.00	—	100
Genesis Microchip, Inc.	12/11/07	01/25/08	532.1	1.00	—	100
Genlyte Group, Inc.	11/26/07	01/28/08	2,152.0	1.00	—	100
Goodman Global, Inc.	10/22/07	02/13/08	92.8	1.00	—	100
Great Lakes Bancorp, Inc.	09/10/07	02/15/08	45.4	1.00	—	100
Harrah's Entertainment, Inc.	10/02/06	01/28/08	2.3	1.00	—	100
ION Media Networks, Inc.	01/18/07	02/20/08	427.8	1.00	—	100
Kellwood Co.	09/18/07	02/20/08	484.9	1.00	9.9	100
KNBT Bancorp, Inc.	09/07/07	02/01/08	63.1	1.00	—	100
Lifecore Biomedical, Inc.	01/15/08	03/26/08	23.2	1.00	—	100
MarkWest Hydrocarbon, Inc.	09/05/07	02/21/08	98.8	1.00	—	100
Merchants & Manufacturers Bancorp, Inc.	07/10/07	03/03/08	39.8	1.00	—	100
Metal Management, Inc.	09/24/07	03/14/08	142.0	1.00	—	100
MGI PHARMA, Inc.	12/10/07	01/28/08	324.1	1.00	—	100
Midwest Air Group, Inc.	08/12/07	01/31/08	2,341.3	1.00	—	100
Mutual Community Savings Bank, Inc. SSB	08/10/07	03/31/08	1,825.3	1.00	—	100

Exhibit 3.2 *Continued*

Target Name	Date Announced	Date Effective	Implied MVE (M$)	Home Currency Exchange Rate	Shares Held Date Announced	Shares Held after Acquisition
Nextest Systems Corp.	12/12/07	01/24/08	397.4	1.00	—	100%
NSB Retail Systems PLC	12/17/07	02/07/08	283.9	1.00	—	100
NUVO Network Management, Inc.	12/11/07	02/22/08	243.9	1.00	—	100
Oglebay Norton Co.	10/12/07	02/13/08	106.8	1.00	—	100
Pacific Stratus Energy Ltd.	11/12/07	01/23/08	129.0	1.00	—	100
Pavilion Bancorp, Inc.	10/02/07	03/14/08	98.7	1.00	—	100
Peerless Energy, Inc.	11/22/07	01/28/08	63.4	1.00	—	100
Photoworks, Inc.	11/28/07	01/24/08	412.8	1.00	—	100
Pilot Energy Ltd.	10/31/07	01/16/08	214.9	1.00	—	100
PrimeWest Energy Trust	09/24/07	01/16/08	77.3	1.00	—	100
Printronix, Inc.	10/02/07	01/08/08	1,492.3	1.00	—	100
Radiation Therapy Services, Inc.	10/19/07	02/22/08	53.9	1.00	—	100
Respironics, Inc.	12/21/07	03/17/08	230.5	1.00	—	100
Rockyview Energy, Inc.	11/14/07	01/30/08	551.0	1.00	—	100
Sierra Health Services, Inc.	03/12/07	02/25/08	239.4	1.00	—	100
Slade's Ferry Bancorp	10/11/07	02/29/08	6,789.3	1.00	—	100
Suncom Wireless Holdings, Inc.	09/17/07	02/22/08	1,632.5	1.00	—	100
Taylor NGL LP	11/12/07	01/10/08	741.2	1.00	19.2	100
The Meridian Gold, Inc.	06/28/07	01/02/08	3,118.6	1.00	—	100
Traffix, Inc.	09/27/07	02/04/08	1,599.2	1.00	—	100
Tutogen Medical, Inc.	11/13/07	02/27/08	4.1	1.00	—	100
Union Bankshares Co. (Maine)	08/14/07	01/03/08	136.6	1.00	—	100
USB Holding Co., Inc.	07/27/07	01/02/08	528.8	1.00	—	100
Vantagepoint Systems, Inc.	11/29/07	01/24/08	146.8	1.00	—	100
Vault Energy Trust	09/25/07	01/10/08	56.5	1.00	—	100
Ventana Medical Systems, Inc.	06/25/07	02/19/08	744.9	1.00	—	100
Verticalnet, Inc.	10/26/07	01/28/08	759.4	1.00	—	100
Viceroy Homes Ltd.	08/28/07	02/28/08	6.0	1.00	—	100
VISICU, Inc.	12/18/07	02/20/08	59.3	1.00	—	100
VistaCare, Inc.	01/15/08	03/06/08	2,637.8	1.00	—	100
Visual Sciences, Inc.	10/25/07	01/18/08	519.2	1.00	—	100

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

Exhibit 3.3 Purchase Price/Share—Mergerstat Unaffected Price ($)

Target Name	Purchase Price per Share	Unaffected Price	1 Day Price	1 Week Price	1 Month Price	2 Month Price
Adams Respiratory Therapeutics, Inc.	60.00	43.68	43.68	43.30	43.15	41.79
Alabama National Bancorp	80.00	53.12	53.12	53.84	52.10	62.49
American Bank Note Holographics, Inc.	6.65	5.60	5.60	5.70	5.00	5.05
AMIS Holdings, Inc.	6.00	7.35	7.35	7.68	8.22	9.74

(*continued*)

Exhibit 3.3 *Continued*

Target Name	Purchase Price per Share	Unaffected Price	1 Day Price	1 Week Price	1 Month Price	2 Month Price
Aspreva Pharmaceuticals Corp.	26.08	22.40	22.40	21.97	18.90	17.98
ASV, Inc.	18.00	12.29	1,229.00	12.17	11.91	11.71
Audible, Inc.	11.50	9.33	933.00	8.59	8.92	11.53
Axcan Pharma, Inc.	23.21	18.20	18.20	16.92	20.77	20.77
BIW Ltd.	23.75	17.00	17.00	16.00	16.50	16.80
Boardwalk Bancorp, Inc.	23.00	17.50	18.10	17.25	17.10	17.00
Bradley Pharmaceuticals, Inc.	20.00	16.00	16.00	16.47	18.20	19.46
Bulldog Resources, Inc.	6.90	6.70	6.70	6.63	6.36	6.58
Canadex Resources Ltd.	5.70	5.30	5.30	5.01	5.19	5.00
Canetic Resources Trust	13.07	15.53	15.53	15.96	15.32	13.87
Canyon Resources Corp.	0.42	0.38	0.38	0.38	0.39	0.39
Carolina National Corp.	17.59	13.60	13.60	14.32	15.24	15.99
Carrier Access Corp.	2.60	2.50	2.50	2.43	2.37	3.49
Chittenden Corp.	35.97	28.24	28.24	27.97	28.97	29.27
Christiana Bank & Trust Co.	32.29	25.95	25.95	25.90	26.20	26.00
Claymont Steel Holdings, Inc.	23.50	22.00	22.00	22.71	19.61	20.03
Cognos ULC	54.15	52.98	52.98	49.98	51.90	41.99
Coley Pharmaceutical Group, Inc.	8.00	3.00	3.00	3.26	3.18	3.18
Collicutt Energy Services Ltd.	9.51	5.50	5.50	5.02	5.90	5.29
Commerce Bancorp, Inc. (New Jersey)	35.06	39.74	39.74	38.01	36.73	34.25
Document Sciences Corp.	14.75	8.24	8.24	8.39	8.56	10.24
E4 Energy, Inc.	0.75	0.67	0.67	0.63	0.65	0.68
Electronic Clearing House, Inc.	17.00	7.73	7.73	9.45	12.84	12.53
Emergis, Inc.	8.03	6.94	6.94	6.79	7.20	6.98
ExAlta Energy, Inc.	1.73	1.19	1.19	1.23	1.50	1.50
Extreme CCTV, Inc.	5.11	3.95	3.95	3.90	3.60	3.85
First Consulting Group, Inc.	13.00	9.98	9.98	9.86	10.30	9.47
First Indiana Corp.	32.00	22.05	2,205.00	22.02	21.20	20.89
First Mutual Bancshares, Inc.	26.84	22.23	2,223.00	22.30	22.15	22.06
FNB Corp. (Virginia)	27.10	31.24	31.24	32.56	34.75	31.05
Focus Energy Trust	16.94	16.12	16.12	16.92	19.04	17.08
Genesis Microchip, Inc.	8.65	5.40	5.40	4.95	5.94	8.09
Genlyte Group, Inc.	95.50	62.67	6,267.00	63.60	57.64	65.50
Goodman Global, Inc.	25.60	21.84	21.84	24.78	24.32	24.18
Great Lakes Bancorp, Inc.	13.00	12.00	12.00	11.85	12.27	13.26
Harrah's Entertainment, Inc.	90.00	66.43	66.43	67.51	62.90	61.70
ION Media Networks, Inc.	1.46	0.62	0.62	0.55	0.51	0.77
Kellwood Co.	21.00	15.96	15.96	16.85	21.34	29.40
KNBT Bancorp, Inc.	17.83	14.37	14.37	14.71	13.32	14.77
Lifecore Biomedical, Inc.	17.00	12.84	1,284.00	13.37	13.57	12.11
MarkWest Hydrocarbon, Inc.	62.07	49.73	49.73	51.32	51.00	55.78
Merchants & Manufacturers Bancorp, Inc.	37.30	28.00	28.00	27.75	28.50	29.49
Metal Management, Inc.	57.73	48.86	48.86	45.34	43.60	45.09
MGI PHARMA, Inc.	41.00	33.45	33.45	34.74	29.92	31.76
Midwest Air Group, Inc.	17.00	14.23	14.52	13.71	14.50	14.73
Mutual Community Savings Bank, Inc. SSB	6.25	9.76	9.76	9.78	11.03	8.55

Exhibit 3.3 *Continued*

Target Name	Purchase Price per Share	Unaffected Price	1 Day Price	1 Week Price	1 Month Price	2 Month Price
Nextest Systems Corp.	20.00	11.99	1,199.00	12.48	14.08	12.90
NSB Retail Systems PLC	0.77	0.24	0.34	0.24	0.25	0.24
NUVO Network Management, Inc.	0.56	0.28	0.28	0.26	0.27	0.32
Oglebay Norton Co.	36.00	34.25	34.25	33.22	30.00	29.00
Pacific Stratus Energy Ltd.	10.25	11.32	14.05	14.25	12.81	11.20
Pavilion Bancorp, Inc.	74.20	47.00	47.00	45.25	43.70	45.50
Peerless Energy, Inc.	4.91	5.24	5.25	5.25	4.20	3.35
Photoworks, Inc.	0.60	0.26	0.26	0.44	0.25	0.27
Pilot Energy Ltd.	2.86	2.45	2.45	2.19	1.75	1.50
PrimeWest Energy Trust	26.10	19.93	19.93	21.20	19.95	20.07
Printronix, Inc.	16.00	13.52	13.52	13.50	13.78	13.75
Radiation Therapy Services, Inc.	32.50	21.60	21.60	22.38	22.47	22.00
Respironics, Inc.	66.00	53.11	5,311.00	52.11	49.42	48.35
Rockyview Energy, Inc.	3.17	2.46	2.46	2.25	2.13	2.10
Sierra Health Services, Inc.	43.50	35.90	35.90	36.56	39.79	35.69
Slade's Ferry Bancorp	23.15	15.00	15.00	14.81	14.50	15.25
Suncom Wireless Holdings, Inc.	27.00	22.00	22.00	21.28	20.32	25.44
Taylor NGL LP	11.06	10.96	9.00	9.00	9.25	9.34
The Meridian Gold, Inc.	28.92	24.47	24.40	25.95	24.70	25.87
Traffix, Inc.	6.52	4.76	4.76	4.85	5.38	5.88
Tutogen Medical, Inc.	9.98	10.15	10.15	11.28	11.55	11.80
Union Bankshares Co. (Maine)	59.24	51.00	51.00	51.63	52.15	53.75
USB Holding Co., Inc.	19.60	16.56	15.29	16.74	19.50	20.22
Vantagepoint Systems, Inc.	0.68	0.40	0.40	0.43	0.47	0.48
Vault Energy Trust	3.62	3.90	3.90	4.06	3.85	4.89
Ventana Medical Systems, Inc.	89.50	51.95	5,195.00	53.15	50.92	47.49
Verticalnet, Inc.	2.56	5.61	5.61	4.76	6.40	2.85
Viceroy Homes Ltd.	5.14	3.04	3.04	3.05	3.19	3.04
VISICU, Inc.	12.00	8.86	8.86	7.87	7.91	7.90
VistaCare, Inc.	8.60	7.16	7.16	7.31	7.23	6.98
Visual Sciences, Inc.	16.54	17.37	17.37	16.98	13.98	17.62

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

Exhibit 3.4 Mergerstat Control Premium

Target Name	Mergerstat Control Premium	1 Day Premium	1 Week Premium	1 Month Premium	2 Month Premium
Adams Respiratory Therapeutics, Inc.	37.4%	37.0%	39.0%	39.0%	44.0%
Alabama National Bancorp	50.6%	51.0%	49.0%	54.0%	28.0%
American Bank Note Holographics, Inc.	18.8%	19.0%	17.0%	33.0%	32.0%
AMIS Holdings, Inc.	−18.3%*	−18.0%	−22.0%	−27.0%	−38.0%
Aspreva Pharmaceuticals Corp.	17.0%	17.0%	19.0%	39.0%	46.0%
ASV, Inc.	46.5%	46.0%	48.0%	51.0%	54.0%
Audible, Inc.	23.3%	23.0%	34.0%	29.0%	0.0%
Axcan Pharma, Inc.	27.1%	27.0%	37.0%	11.0%	11.0%

(*continued*)

Exhibit 3.4 *Continued*

Target Name	Mergerstat Control Premium	1 Day Premium	1 Week Premium	1 Month Premium	2 Month Premium
BIW Ltd.	39.7%	40.0%	48.0%	44.0%	41.0%
Boardwalk Bancorp, Inc.	31.4%	27.0%	33.0%	35.0%	35.0%
Bradley Pharmaceuticals, Inc.	25.0%	25.0%	21.0%	10.0%	3.0%
Bulldog Resources, Inc.	2.7%	3.0%	4.0%	8.0%	5.0%
Canadex Resources Ltd.	8.1%	8.0%	14.0%	10.0%	15.0%
Canetic Resources Trust	−15.4%*	−15.0%	−18.0%	−14.0%	−5.0%
Canyon Resources Corp.	11.1%	11.0%	11.0%	8.0%	8.0%
Carolina National Corp.	29.4%	29.0%	23.0%	15.0%	10.0%
Carrier Access Corp.	4.0%	4.0%	7.0%	10.0%	−26.0%
Chittenden Corp.	27.4%	27.0%	29.0%	24.0%	23.0%
Christiana Bank & Trust Co.	24.4%	24.0%	25.0%	23.0%	24.0%
Claymont Steel Holdings, Inc.	6.8%	7.0%	3.0%	20.0%	17.0%
Cognos ULC	2.7%	3.0%	9.0%	5.0%	30.0%
Coley Pharmaceutical Group, Inc.	166.7%	167.0%	145.0%	152.0%	152.0%
Collicutt Energy Services Ltd.	73.8%	74.0%	90.0%	62.0%	81.0%
Commerce Bancorp, Inc. (New Jersey)	−11.8%*	−12.0%	−8.0%	−5.0%	2.0%
Document Sciences Corp.	79.1%	79.0%	76.0%	72.0%	44.0%
E4 Energy, Inc.	11.7%	12.0%	19.0%	15.0%	10.0%
Electronic Clearing House, Inc.	119.9%	120.0%	80.0%	32.0%	36.0%
Emergis, Inc.	16.3%	16.0%	19.0%	12.0%	16.0%
ExAlta Energy, Inc.	45.7%	46.0%	41.0%	16.0%	16.0%
Extreme CCTV, Inc.	28.8%	29.0%	30.0%	41.0%	32.0%
First Consulting Group, Inc.	30.3%	30.0%	32.0%	26.0%	37.0%
First Indiana Corp.	45.1%	45.0%	45.0%	51.0%	53.0%
First Mutual Bancshares, Inc.	20.7%	21.0%	20.0%	21.0%	22.0%
FNB Corp. (Virginia)	−13.2%*	−13.0%	−17.0%	−22.0%	−13.0%
Focus Energy Trust	4.8%	5.0%	0.0%	−11.0%	−1.0%
Genesis Microchip, Inc.	60.2%	60.0%	75.0%	46.0%	7.0%
Genlyte Group, Inc.	52.4%	52.0%	50.0%	66.0%	46.0%
Goodman Global, Inc.	17.2%	17.0%	3.0%	5.0%	6.0%
Great Lakes Bancorp, Inc.	8.3%	8.0%	10.0%	6.0%	−2.0%
Harrah's Entertainment, Inc.	35.5%	35.0%	33.0%	43.0%	46.0%
ION Media Networks, Inc.	135.5%	135.0%	165.0%	186.0%	90.0%
Kellwood Co.	31.6%	32.0%	25.0%	−2.0%	−29.0%
KNBT Bancorp, Inc.	24.1%	24.0%	21.0%	34.0%	21.0%
Lifecore Biomedical, Inc.	32.4%	32.0%	27.0%	25.0%	40.0%
MarkWest Hydrocarbon, Inc.	24.8%	25.0%	21.0%	22.0%	11.0%
Merchants & Manufacturers Bancorp, Inc.	33.2%	33.0%	34.0%	31.0%	26.0%
Metal Management, Inc.	18.1%	18.0%	27.0%	32.0%	28.0%
MGI PHARMA, Inc.	22.6%	23.0%	18.0%	37.0%	29.0%
Midwest Air Group, Inc.	19.5%	17.0%	24.0%	17.0%	15.0%
Mutual Community Savings Bank, Inc. SSB	−35.9%*	−36.0%	−36.0%	−43.0%	−27.0%
Nextest Systems Corp.	66.8%	67.0%	60.0%	42.0%	55.0%
NSB Retail Systems PLC	227.5%	126.0%	224.0%	205.0%	224.0%
NUVO Network Management, Inc.	100.1%	100.0%	115.0%	108.0%	75.0%
Oglebay Norton Co.	5.1%	5.0%	8.0%	20.0%	24.0%
Pacific Stratus Energy Ltd.	−9.0%*	−27.0%	−28.0%	−20.0%	−8.0%
Pavilion Bancorp, Inc.	57.9%	58.0%	64.0%	70.0%	63.0%
Peerless Energy, Inc.	−5.9%*	−6.0%	−6.0%	17.0%	47.0%

Exhibit 3.4 *Continued*

Target Name	Mergerstat Control Premium	1 Day Premium	1 Week Premium	1 Month Premium	2 Month Premium
Photoworks, Inc.	128.8%	129.0%	35.0%	138.0%	125.0%
Pilot Energy Ltd.	17.5%	17.0%	31.0%	64.0%	92.0%
PrimeWest Energy Trust	31.6%	32.0%	24.0%	31.0%	31.0%
Printronix, Inc.	18.3%	18.0%	19.0%	16.0%	16.0%
Radiation Therapy Services, Inc.	50.5%	50.0%	45.0%	45.0%	48.0%
Respironics, Inc.	24.3%	24.0%	27.0%	34.0%	37.0%
Rockyview Energy, Inc.	29.6%	30.0%	42.0%	50.0%	52.0%
Sierra Health Services, Inc.	21.2%	21.0%	19.0%	9.0%	22.0%
Slade's Ferry Bancorp	54.3%	54.0%	56.0%	60.0%	52.0%
Suncom Wireless Holdings, Inc.	22.7%	23.0%	27.0%	33.0%	6.0%
Taylor NGL LP	1.4%	23.0%	23.0%	20.0%	19.0%
The Meridian Gold, Inc.	18.2%	19.0%	11.0%	17.0%	12.0%
Traffix, Inc.	37.0%	37.0%	34.0%	21.0%	11.0%
Tutogen Medical, Inc.	−1.7%*	−2.0%	−12.0%	−14.0%	−15.0%
Union Bankshares Co. (Maine)	16.2%	16.0%	15.0%	14.0%	10.0%
USB Holding Co., Inc.	18.3%	28.0%	17.0%	0.0%	−3.0%
Vantagepoint Systems, Inc.	7.2%	71.0%	59.0%	47.0%	44.0%
Vault Energy Trust	71.1%	−7.0%	−10.0%	−5.0%	−26.0%
Ventana Medical Systems, Inc.	72.3%	72.0%	68.0%	76.0%	88.0%
Verticalnet, Inc.	−54.4%*	−54.0%	−46.0%	−60.0%	−10.0%
Viceroy Homes Ltd.	41.9%	69.0%	68.0%	60.0%	68.0%
VISICU, Inc.	35.4%	35.0%	52.0%	52.0%	52.0%
VistaCare, Inc.	20.1%	20.0%	18.0%	19.0%	23.0%
Visual Sciences, Inc.	−4.8%*	−5.0%	−3.0%	18.0%	−6.0%

Source: *Mergerstat/BVR Control Premium Study*, Q1 2008, available online at www.bvmarketdata.com.

Note that the "negative premiums" (buyouts at *less than* the Mergerstat unaffected price) are shown with asterisks. They are not included in the *Mergerstat/BVR Control Premium Study* industry medians or averages, but the data are there so that the analyst can recompute averages or medians of any group to reflect the "negative premiums" if so desired.

Each quarter's compilation of the control premiums by industry includes data for the period, as shown in Exhibit 3.5. Although "negative premiums" are excluded from the medians and means, the analyst can easily recompute these figures to reflect the "negative premiums." Also, using the online version, the analyst is not locked into the 12 trailing months but can compile transactions and averages for any desired time period.

The online study classifies every transaction since 1998 as one of the following:

- Horizontal integration
- Vertical integration
- Conglomerate
- Financial

These classifications enable users to select any subset of type of transaction for summary and/or further analysis. By this means, for example, transactions where premiums are thought to be primarily synergistic can be eliminated.

Exhibit 3.5 Control Premiums by Industry

SIC Code General	Target SIC Codes	Date Effective	Target Name	Mergerstat Control Premium
10–14 Mining				
Range = 1.4% to 45.7%, Median = 14.6%, Average = 20.3%				
10	1041	01/02/08	The Meridian Gold, Inc.	18.2%
13	1381	02/07/08	Bulldog Resources, Inc.	2.7%
13	1381	01/11/08	Canetic Resources Trust	−15.4%*
13	1381	02/08/08	E4 Energy, Inc.	11.7%
13	1381	01/16/08	ExAlta Energy, Inc.	45.7%
13	1381	02/13/08	Focus Energy Trust	4.8%
13	1389	02/21/08	MarkWest Hydrocarbon, Inc.	24.8%
13	1381	01/23/08	Pacific Stratus Energy Ltd.	−9.0%*
13	1311	01/28/08	Peerless Energy, Inc.	−5.9%*
13	1381	01/16/08	Pilot Energy Ltd.	17.5%
13	1381	01/30/08	Rockyview Energy, Inc.	29.6%
13	1311	01/10/08	Taylor NGL LP	1.4%
13	1381	01/10/08	Vault Energy Trust	71.1%
14	1481	03/19/08	Canyon Resources Corp.	11.1%
14	1422	02/13/08	Oglebay Norton Co.	5.1%
20–39 Manufacturing				
Range = 4.0% to 166.7%, Median = 31.6%, Average = 41.6%				
23	2331	02/20/08	Kellwood Co.	31.6%
24	2452	02/28/08	Viceroy Homes Ltd.	41.9%
28	2834	01/29/08	Adams Respiratory Therapeutics, Inc.	37.4%
28	2834	01/03/08	Aspreva Pharmaceuticals Corp.	17.0%
28	2833	02/25/08	Axcan Pharma, Inc.	27.1%
28	2834	02/21/08	Bradley Pharmaceuticals, Inc.	25.0%
28	2834	01/07/08	Coley Pharmaceutical Group, Inc.	166.7%
28	2834	01/28/08	MGI PHARMA, Inc.	22.6%
33	3312	01/25/08	Claymont Steel Holdings, Inc.	6.8%
34	3433	02/13/08	Goodman Global, Inc.	17.2%
35	3531	03/04/08	ASV, Inc.	46.5%
35	3563	01/16/08	Collicutt Energy Services Ltd.	73.8%
35	3577	01/08/08	Printronix, Inc.	18.3%
36	3674	03/17/08	AMIS Holdings, Inc.	−18.3%*
36	3669	02/11/08	Carrier Access Corp.	4.0%
36	3674	01/25/08	Genesis Microchip, Inc.	60.2%
36	3641	01/28/08	Genlyte Group, Inc.	52.4%
36	3674	01/24/08	Nextest Systems Corp.	66.8%
38	3812	02/29/08	Extreme CCTV, Inc.	28.8%
38	3841	03/26/08	Lifecore Biomedical, Inc.	32.4%
38	3842	03/17/08	Respironics, Inc.	24.3%
38	3842	02/27/08	Tutogen Medical, Inc.	−1.7%*
38	3829	02/19/08	Ventana Medical Systems, Inc.	72.3%
40–49 Transportation, Communications, Electric, Gas, and Sanitary Services				
Range = 8.1% to 135.5%, Median = 22.7%, Average = 45.1%				
41	4151	01/28/08	Canadex Resources Ltd.	8.1%
45	4512	01/31/08	Midwest Air Group, Inc.	19.5%
48	4833	02/20/08	ION Media Networks, Inc.	135.5%
48	4812	02/22/08	Suncom Wireless Holdings, Inc.	22.7%
49	4941	01/16/08	BIW Ltd.	39.7%

Exhibit 3.5 *Continued*

SIC Code General	Target SIC Codes	Date Effective	Target Name	Mergerstat Control Premium
50–51 Wholesale Trade				
50	5093	03/14/08	Metal Management, Inc.	18.1%
60–67 Finance, Insurance, and Real Estate				
Range = 8.3% to 57.9%, Median = 29.4%, Average = 36.1%				
60	6021	02/25/08	Alabama National Bancorp	50.6%
60	6022	01/31/08	Boardwalk Bancorp, Inc.	31.4%
60	6021	02/01/08	Carolina National Corp.	29.4%
60	6022	01/02/08	Chittenden Corp.	27.4%
60	6022	01/04/08	Christiana Bank & Trust Co.	24.4%
60	6021	03/31/08	Commerce Bancorp, Inc. (New Jersey)	−11.8%*
60	6099	02/29/08	Electronic Clearing House, Inc.	119.9%
60	6021	01/02/08	First Indiana Corp.	45.1%
60	6021	02/01/08	First Mutual Bancshares, Inc.	20.7%
60	6021	02/28/08	FNB Corp. (Virginia)	−13.2%*
60	6036	02/15/08	Great Lakes Bancorp, Inc.	8.3%
60	6036	02/01/08	KNBT Bancorp, Inc.	24.1%
60	6022	03/03/08	Merchants & Manufacturers Bancorp, Inc.	33.2%
60	6022	03/31/08	Mutual Community Savings Bank, Inc. SSB	−35.9%*
60	6022	03/14/08	Pavilion Bancorp, Inc.	57.9%
60	6022	02/29/08	Slade's Ferry Bancorp	54.3%
60	6022	01/03/08	Union Bankshares Co. (Maine)	16.2%
60	6022	01/02/08	USB Holding Co., Inc.	18.3%
63	6321	02/25/08	Sierra Health Services, Inc.	21.2%
67	6722	01/16/08	PrimeWest Energy Trust	31.6%
70–89 Services				
Range = 2.7% to 227.5%, Median = 35.4%, Average = 54.2%				
70	7011	01/28/08	Harrah's Entertainment, Inc.	35.5%
73	7389	02/12/08	American Bank Note Holographics, Inc.	18.8%
73	7375	03/19/08	Audible, Inc.	23.3%
73	7372	01/31/08	Cognos ULC	2.7%
73	7372	03/06/08	Document Sciences Corp.	79.1%
73	7379	01/17/08	Emergis, Inc.	16.3%
73	7379	01/14/08	First Consulting Group, Inc.	30.3%
73	7372	02/07/08	NSB Retail Systems PLC	227.5%
73	7379	02/22/08	NUVO Network Management, Inc.	100.1%
73	7384	01/24/08	Photoworks, Inc.	128.8%
73	7331	02/04/08	Traffix, Inc.	37.0%
73	7372	01/24/08	Vantagepoint Systems, Inc.	7.2%
73	7372	01/28/08	Verticalnet, Inc.	−54.4%*
73	7379	02/20/08	VISICU, Inc.	35.4%
73	7372	01/18/08	Visual Sciences, Inc.	−4.8%*
80	8099	02/22/08	Radiation Therapy Services, Inc.	50.5%
80	8059	03/06/08	VistaCare, Inc.	20.1%

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

In mining the data to develop a list of transactions most specifically relevant to the subject being valued, the analyst has the option of selecting any range of SIC codes, any time frame, any size criteria, and any transaction code or codes. For example, if conditions in the merger market for the industry have been in a steady state for 18 months prior to the

valuation date and the analyst wants to eliminate synergies, the analyst might start with financial and conglomerate transactions for a given SIC range for a deal size under $300 million for six quarters prior to (and perhaps surrounding) the effective valuation date.

Descriptions of the businesses of both target and acquiring companies are provided, as shown in Exhibit 3.6. Thus, the analyst is not necessarily committed to the transaction codes but can make an independent judgment as to classification. Of course, since these companies were all public before the acquisition, one can always go to the SEC filings if more detail is desired.

Exhibit 3.6 Company Descriptions

Target Name	Target Business Description	Acquiror Business Description
Adams Respiratory Therapeutics, Inc.	Manufactures over-the-counter remedies for respiratory ailments	Manufactures household cleaning products
Alabama National Bancorp	National commercial bank	Provides banking and financial services
American Bank Note Holographics, Inc.	Produces and markets holograms	Provides fiber-optic components and modules
AMIS Holdings, Inc.	Designs and manufactures integrated analog mixed signal semiconductor products	Manufactures and develops semiconductors
Aspreva Pharmaceuticals Corp.	Manufactures pharmaceutical products	Researches, produces, and wholesales pharmaceutical products
ASV, Inc.	Designs, manufactures, and sells track-driven all-season vehicles	Designs and manufactures construction equipment
Audible, Inc.	Provides audio services for content download and playback on personal computers	Provides online retail shopping services
Axcan Pharma, Inc.	Manufactures specialty pharmaceuticals	Alternative investment manager
BIW Ltd.	Provides water utilities services	Provides water utilities
Boardwalk Bancorp, Inc.	State commercial bank	State commercial bank
Bradley Pharmaceuticals, Inc.	Manufactures and distributes pharmaceutical products	Manufactures pharmaceutical products
Bulldog Resources, Inc.	Explores for oil and gas	Produces oil and gas
Canadex Resources Ltd.	Provides transportation services	Provides school bus transportation services
Canetic Resources Trust	Produces oil and natural gas	Closed-end investment fund/investment trust
Canyon Resources Corp.	Provides mineral resource mining services	Engaged in gold exploration
Carolina National Corp.	National commercial bank	National commercial bank
Carrier Access Corp.	Develops broadband equipment solutions to communications service providers	Provides metro transport and switching solutions
Chittenden Corp.	State commercial bank	National commercial bank

Exhibit 3.6 *Continued*

Target Name	Target Business Description	Acquiror Business Description
Christiana Bank & Trust Co.	State commercial bank	National commercial bank
Claymont Steel Holdings, Inc.	Manufactures steel plates	Produces steel and steel products and provides mining services
Cognos ULC	Provides business intelligence software solutions	Develops computer solutions through the use of advanced information technology
Coley Pharmaceutical Group, Inc.	Manufactures drugs to treat chronic diseases	Develops, manufactures, and markets prescription medicines for humans and animals
Collicutt Energy Services Ltd.	Designs and manufactures compression equipment for the natural gas industry	Distributes construction, mining, and farming machinery under the Caterpillar brand
Commerce Bancorp, Inc. (New Jersey)	National commercial bank	International commercial bank
Document Sciences Corp.	Develops software for customer communications management solutions	Develops, delivers, and supports information storage
E4 Energy, Inc.	Explores for oil and gas	Produces oil and gas
Electronic Clearing House, Inc.	Provides electronic credit card authorizations, fund transfers, and deposit services for merchants	Provides software products for businesses
Emergis, Inc.	Provides information technology solutions and consulting services	Provides telecommunications products and services
ExAlta Energy, Inc.	Explores for oil and natural gas	Explores for oil and gas
Extreme CCTV, Inc.	Designs, develops, and manufactures of active-infrared surveillance equipment	Holding company with interests in investment businesses
First Consulting Group, Inc.	Provides consulting, technology, blended-shore sourcing, and applied research services	Provides services related to information technology and software development
First Indiana Corp.	National commercial bank	National commercial bank
First Mutual Bancshares, Inc.	National commercial bank	National commercial bank
FNB Corp. (Virginia)	National commercial bank	State commercial bank
Focus Energy Trust	Explores for oil and gas	Closed-end investment fund/ investment trust
Genesis Microchip, Inc.	Designs, develops, and markets digital image manipulation integrated circuit solutions	Designs, develops, makes, and markets a broad range of semiconductor integrated circuits
Genlyte Group, Inc.	Designs and manufactures lighting fixtures in the commercial, industrial, and residential markets	Manufactures consumer electronics, telephones, computer equipment, and peripherals, appliances, lighting fixtures, and medical supplies

(*continued*)

Exhibit 3.6 *Continued*

Target Name	Target Business Description	Acquiror Business Description
Goodman Global, Inc.	Manufactures domestic heating, ventilation, and air-conditioning products	Alternative investment manager
Great Lakes Bancorp, Inc.	Non-federally chartered savings institution	State commercial bank
Harrah's Entertainment, Inc.	Owns and operates casinos and hotels	Alternative investment manager
ION Media Networks, Inc.	Operates cable and television stations	Develops and manufactures products for the generation, transmission, distribution, control, and utilization of electricity and manufactures aircraft engines
Kellwood Co.	Manufactures and markets apparel and related soft goods	Alternative investment manager
KNBT Bancorp, Inc.	Non-federally chartered savings institution	National commercial bank
Lifecore Biomedical, Inc.	Develops, manufactures, and markets medical and surgical devices	Private equity firm
MarkWest Hydrocarbon, Inc.	Provides natural gas processing services	Processes, transports, and stores natural gas
Merchants & Manufacturers Bancorp, Inc.	State commercial bank	International commercial bank
Metal Management, Inc.	Provides scrap metal recycling services	Provides global metal recycling resource recovery and industrial services
MGI PHARMA, Inc.	Develops. manufactures, and markets pharmaceutical and medical products for therapeutic markets	Manufactures and markets pharmaceuticals
Midwest Air Group, Inc.	Provides air transportation services	Provides air transportation services
Mutual Community Savings Bank, Inc. SSB	State commercial bank	State commercial bank
Nextest Systems Corp.	Designs and manufactures ATE for non-volatile memory, microcontrollers, ASIC, and System-On-a-Chip (SOC) semiconductors	Designs, manufactures, markets, and services electronic test systems
NSB Retail Systems PLC	Develops software products	Develops software products
NUVO Network Management, Inc.	Provides information technology management services	Designs computer software for e-commerce companies
Oglebay Norton Co.	Mines, processes, and distributes industrial minerals and aggregates	Holding company with interests in limestone manufacturing
Pacific Stratus Energy Ltd.	Explores for oil and gas	Explores for oil and gas
Pavilion Bancorp, Inc.	State commercial bank	State commercial bank
Peerless Energy, Inc.	Produces and drills for oil and natural gas	Explores for, produces, and develops oil and gas properties

Exhibit 3.6 *Continued*

Target Name	Target Business Description	Acquiror Business Description
Photoworks, Inc.	Provides photo processing, printing, and finishing services	Designs and publishes greeting cards and distributes them through the Internet
Pilot Energy Ltd.	Explores for oil and natural gas	Closed-end investment fund/ investment trust
PrimeWest Energy Trust	Closed-end investment fund/investment trust	Invests in companies engaged in power generation, water desalination, oil, gas, and metal
Printronix, Inc.	Manufactures integrated enterprise printing solutions	Alternative investment manager
Radiation Therapy Services, Inc.	Provides radiation therapy services	Alternative investment manager
Respironics, Inc.	Designs, manufactures, and markets sleep and respiratory medical devices	Manufactures consumer electronics, telephones, computer equipment and peripherals, appliances, lighting fixtures, and medical supplies
Rockyview Energy, Inc.	Explores for oil and gas	Distributes natural gas and electricity and provides fixed, mobile, and Internet telecommunications services
Sierra Health Services, Inc.	Provides health care insurance	Provides health care coverage and operates and manages organized health systems
Slade's Ferry Bancorp	State commercial bank	State commercial bank
Suncom Wireless Holdings, Inc.	Provides wireless communications services	Provides a variety of telecommunications services
Taylor NGL LP	Explores, produces, and develops oil and gas properties	Closed-end investment fund/investment trust
The Meridian Gold, Inc.	Provides metal mining services	Mines for gold and silver
Traffix, Inc.	Provides consumer targeted direct marketing and customer acquisition services off-line and online	Provides digital entertainment products and services
Tutogen Medical, Inc.	Manufactures and markets bio-implants and medical devices	Processes allograft tissue for use in orthopedic and other surgeries
Union Bankshares Co. (Maine)	State commercial bank	National commercial bank
USB Holding Co., Inc.	State commercial bank	National commercial bank
Vantagepoint Systems, Inc.	Develops application software solutions	Private acquisition vehicle
Vault Energy Trust	Explores for oil and gas	Closed-end investment fund/ investment trust
Ventana Medical Systems, Inc.	Develops and sells proprietary instrument and reagents systems	Manufactures and distributes pharmaceutical and vitamin products

(*continued*)

Exhibit 3.6 *Continued*

Target Name	Target Business Description	Acquiror Business Description
Verticalnet, Inc.	Develops sourcing and supply management solutions	Manufactures cement and related products
Viceroy Homes Ltd.	Manufactures custom home packages	Provides investment services
VISICU, Inc.	Provides information technology solutions for health care	Manufactures consumer electronics, telephones, computer equipment and peripherals, appliances, lighting fixtures, and medical supplies
VistaCare, Inc.	Provides hospice care services	Provides health care services
Visual Sciences, Inc.	Provides data analysis and visualization software	Provides online business optimization software

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

While this chapter focuses primarily on the *Mergerstat/BVR Control Premium Study* for data on minority discounts and control premiums, the studies also contain five fundamental financial figures and the related market value multiples for each transaction:

- Equity multiples
  - Price/sales
  - Price/earnings (net income)
  - Price/book value
- Invested capital multiples
  - Target invested capital/Earnings Before Interest and Taxes (EBIT)
  - Target invested capital/Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA)

Examples of these are shown in Exhibits 3.7 and 3.8, respectively.

Exhibit 3.7 Target Financials (M$)

Target Name	TIC	Net Sales LTM	Net Income LTM	BV Target Common Equity	EBIT Operating Income LTM	EBITDA Cash Flow LTM
Adams Respiratory Therapeutics, Inc.	2,152.0	351.4	46.3	181.8	71.1	75.7
Alabama National Bancorp	2,819.6	578.4	83.6	540.0	371.5	386.4
American Bank Note Holographics, Inc.	129.2	31.3	5.2	30,068.0	7.4	8.3
AMIS Holdings, Inc.	809.6	619.0	69.8	249.9	84.7	155.7
Aspreva Pharmaceuticals Corp.	918.7	123.9	237.8	385.4	139.7	143.7

Exhibit 3.7 *Continued*

Target Name	TIC	Net Sales LTM	Net Income LTM	BV Target Common Equity	EBIT Operating Income LTM	EBITDA Cash Flow LTM
ASV, Inc.	480.9	199.9	11.3	168.7	17.5	20.7
Audible, Inc.	277.4	102.0	(3.1)	53.5	(2.9)	2.3
Axcan Pharma, Inc.	1,285.6	81.5	348.9	295.5	121.9	144.4
BIW Ltd.	57.3	9.5	0.8	11.2	2.0	3.1
Boardwalk Bancorp, Inc.	182.3	29.5	1.8	39.2	19.3	19.3
Bradley Pharmaceuticals, Inc.	330.4	141.2	4.0	7.1	12,108.0	25.4
Bulldog Resources, Inc.	194.6	12.1	39.6	44.1	18.0	29.0
Canadex Resources Ltd.	33.7	0.5	23.7	28.3	4.9	10.3
Canetic Resources Trust	4,644.0	(345.3)	1,351.1	1,978.1	84.0	752.6
Canyon Resources Corp.	24.1	(759.2)	(5.8)	11.8	(5.7)	(5.7)
Carolina National Corp.	46.9	15.9	1.9	31.6	10.1	10.4
Carrier Access Corp.	90.2	36.2	(40.8)	100.2	(40.8)	(36.5)
Chittenden Corp.	1,870.3	452.8	85.3	419.6	258.6	276.8
Christiana Bank & Trust Co.	48.9	17.5	2.7	19.8	8.7	8.7
Claymont Steel Holdings, Inc.	576.7	332.7	3.2	(43.5)	53.8	70.2
Cognos ULC	4,441.2	126.3	1,021.4	306.0	159.3	190.0
Coley Pharmaceutical Group, Inc.	228.5	31.2	(33.0)	48.4	(32.1)	(30.4)
Collicutt Energy Services Ltd.	136.3	1.6	130.2	55.6	4.1	7.2
Commerce Bancorp, Inc. (New Jersey)	6,993.4	3,085.7	169.8	2,792.5	1,508.7	1,688.7
Document Sciences Corp.	59.3	38.7	(1.8)	(1.5)	(1.5)	(1.1)
E4 Energy, Inc.	47.3	(1.9)	18.0	35.9	(2.0)	9.2
Electronic Clearing House, Inc.	120.6	76.9	2.8	11.7	0.5	5.0
Emergis, Inc.	731.3	26.7	176.1	101.9	27.6	43.6
ExAlta Energy, Inc.	103.1	(9.7)	39.3	65.7	(10.1)	19.7
Extreme CCTV, Inc.	87.2	2.5	42.8	13.7	3.3	4.8
First Consulting Group, Inc.	352.9	282.7	23.1	125.8	24.8	31.9
First Indiana Corp.	879.6	163.0	21.6	144.8	100.9	104.4
First Mutual Bancshares, Inc.	196.7	89.9	10.0	73.7	58.0	62.0
FNB Corp. (Virginia)	274.2	113.3	17.4	125.9	70.2	73.8
Focus Energy Trust	1,488.5	49.0	364.1	622.4	57.6	246.7
Genesis Microchip, Inc.	324.1	191.2	(63.7)	214.3	(44.6)	(28.6)
Genlyte Group, Inc.	2,829.8	1,601.3	144.5	306.1	235.4	266.6
Goodman Global, Inc.	2,600.0	1,901.9	140.1	(180.9)	228.8	271,504.0
Great Lakes Bancorp, Inc.	333.9	47.4	(1.6)	134.3	26.4	30.3
Harrah's Entertainment, Inc.	27,835.9	9,439.3	748.1	918.3	1,703.7	2,383.8
ION Media Networks, Inc.	1,230.4	228.9	(179.0)	(1,851.6)	(46.8)	(10.5)
Kellwood Co.	1,055.2	1,958.2	105.3	63.6	98.2	138.8
KNBT Bancorp, Inc.	1,004.0	193.5	19.7	214.9	109.3	118.4
Lifecore Biomedical, Inc.	230.5	70.0	7.6	87.1	12.7	15.1
MarkWest Hydrocarbon, Inc.	1,273.9	697.0	66.4	(863.2)	106.3	165.3

(*continued*)

Exhibit 3.7 *Continued*

Target Name	TIC	Net Sales LTM	Net Income LTM	BV Target Common Equity	EBIT Operating Income LTM	EBITDA Cash Flow LTM
Merchants & Manufacturers Bancorp, Inc.	353.3	108.3	3.6	64.3	54.3	57.9
Metal Management, Inc.	1,761.9	2,387.2	91.9	435.4	150.1	179.5
MGI PHARMA, Inc.	3,563.9	369.2	(2.1)	19.0	7.0	19.6
Midwest Air Group, Inc.	448.6	697.2	(0.2)	65.3	2.2	17.4
Mutual Community Savings Bank, Inc. SSB	11.2	6.6	(0.4)	6.6	3.4	3.4
Nextest Systems Corp.	358.3	75.8	4.9	120.5	6.8	8.5
NSB Retail Systems PLC	317.0	15.8	91.1	41.2	16.0	23.3
NUVO Network Management, Inc.	18.1	0.9	16.7	5.4	0.4	2.0
Oglebay Norton Co.	653.3	376.2	10.5	187.1	29.8	54.1
Pacific Stratus Energy Ltd.	506.7	(21.8)	38.0	195.7	(11.4)	7.0
Pavilion Bancorp, Inc.	55.6	22.7	2.3	278.6	11.5	13.2
Peerless Energy, Inc.	279.5	(5.2)	54.0	132.0	2.6	29.4
Photoworks, Inc.	23.6	10.7	(6.3)	(1.2)	(6.3)	(6.0)
Pilot Energy Ltd.	72.7	0.8	15.7	15.3	1.9	7.1
PrimeWest Energy Trust	3,016.9	1,580,548.0	640.2	1,356.0	124.4	352.8
Printronix, Inc.	106.8	127.5	4.0	72.8	4.6	8.6
Radiation Therapy Services, Inc.	1,059.2	367.4	32.2	(75.9)	66.6	89.0
Respironics, Inc.	4,932.8	1,240.0	131.3	745.5	180.6	248.8
Rockyview Energy, Inc.	111.5	(13.6)	37.5	96.9	(13.4)	10.8
Sierra Health Services, Inc.	2,460.2	1,718.9	140.5	201.9	219.4	236.0
Slade's Ferry Bancorp	247.4	38.8	3.5	49.3	23.5	24.4
Suncom Wireless Holdings, Inc.	2,570.8	919.7	(118.5)	(526.3)	42.4	163.0
Taylor NGL LP	611.9	(51.9)	235.5	180.4	32.3	48.6
The Meridian Gold, Inc.	2,925.4	250.9	49.9	366.5	95.8	126.9
Traffix, Inc.	98.7	80.7	1.8	33.9	3.9	6.0
Tutogen Medical, Inc.	196.2	53.8	6.9	40.4	3.9	6.0
Union Bankshares Co. (Maine)	231.2	37.2	3.9	35.3	21.6	22.6
USB Holding Co., Inc.	608.3	190.9	30.8	225.1	136.5	139,598.0
Vantagepoint Systems, Inc.	11.0	0.6	12.0	0.6	1.3	1.6
Vault Energy Trust	296.3	(19.6)	118.3	237.7	(16.7)	42.0
Ventana Medical Systems, Inc.	3,120.6	248.6	44.6	159.4	69.7	87.1
Verticalnet, Inc.	9.8	13.8	(7.3)	(10.5)	(6.2)	(3.7)
Viceroy Homes Ltd.	56.5	(1.2)	69.3	36.3	(1.7)	1.8
VISICU, Inc.	397.4	35.7	8.9	115.6	14.0	15.1
VistaCare, Inc.	145.2	240.8	(5.7)	50.9	(5.4)	(2.0)
Visual Sciences, Inc.	350.4	79.0	2.5	19.6	1.9	12.6

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

Exhibit 3.8 Target Multiples

Target Name	P to Sales	P to Income	P to Book Value	TIC to EBIT	TIC to EBITDA
Adams Respiratory Therapeutics, Inc.	6.12			30.29	
Alabama National Bancorp	2.82	19.54	3.02		
American Bank Note Holographics, Inc.	4.13	24.88	0.00	17.53	15.51
AMIS Holdings, Inc.	0.86	7.62	2.13	9.56	5.20
Aspreva Pharmaceuticals Corp.	7.41	3.86	2.38	6.57	6.39
ASV, Inc.	2.41		2.85	27.55	23.19
Audible, Inc.	2.72		5.18		
Axcan Pharma, Inc.		3.68	4.35	10.55	8.91
BIW Ltd.	4.18		3.55	28.50	18.33
Boardwalk Bancorp, Inc.	3.35		2.52		
Bradley Pharmaceuticals, Inc.	2.34			27.29	13.03
Bulldog Resources, Inc.		4.84	4.35	10.82	6.70
Canadex Resources Ltd.		1.27	1.06	6.90	3.26
Canetic Resources Trust		2.23	1.52		6.17
Canyon Resources Corp.			1.96		
Carolina National Corp.	2.85	23.54	1.44		
Carrier Access Corp.	2.49		0.90		
Chittenden Corp.	355.00	18.86	3.83		
Christiana Bank & Trust Co.	2.75	18.00	2.43		
Claymont Steel Holdings, Inc.	1.24			10.73	8.22
Cognos ULC		4.35		27.88	23.38
Coley Pharmaceutical Group, Inc.	6.83		4.40		
Collicutt Energy Services Ltd.		0.72	1.68	33.10	19.01
Commerce Bancorp, Inc. (New Jersey)	2.20	39.99	2.43		
Document Sciences Corp.	1.53				
E4 Energy, Inc.		1.78	0.89		5.16
Electronic Clearing House, Inc.	1.55				
Emergis, Inc.		4.11	7.10	26.50	16.77
ExAlta Energy, Inc.		1.56	0.94		5.23
Extreme CCTV, Inc.		1.99	6.21	26.16	18.16
First Consulting Group, Inc.	1.25	15.29	2.80	14.22	11.06
First Indiana Corp.	325.00	24.44	3.65		
First Mutual Bancshares, Inc.	2.00	17.92	2.44		
FNB Corp. (Virginia)	1.76	11.46	1.58		
Focus Energy Trust		3.27	1.91	25.84	6.03
Genesis Microchip, Inc.	1.70		1.51		
Genlyte Group, Inc.	1.69	18.70	8.83	12.02	10.62
Goodman Global, Inc.	0.93	12.60		11.36	9.58
Great Lakes Bancorp, Inc.	3.00		1.06		
Harrah's Entertainment, Inc.	1.77	22.38		16.34	11.68
ION Media Networks, Inc.	0.47				
Kellwood Co.	0.28	5.17	8.55	10.74	7.60
KNBT Bancorp, Inc.	2.51	24.60	2.26		
Lifecore Biomedical, Inc.	3.29	30.38	2.65	18.09	15.28
MarkWest Hydrocarbon, Inc.	1.07	11.22		11.98	7.70
Merchants & Manufacturers Bancorp, Inc.	1.26	37.52	2.13		
Metal Management, Inc.	0.63	16.24	3.43	11.74	9.81
MGI PHARMA, Inc.	8.94				

(*continued*)

Exhibit 3.8 *Continued*

Target Name	P to Sales	P to Income	P to Book Value	TIC to EBIT	TIC to EBITDA
Midwest Air Group, Inc.	0.61		6.55		
Mutual Community Savings Bank, Inc. SSB	0.34		0.34		
Nextest Systems Corp.	4.72		2.97	52.40	
NSB Retail Systems PLC		3.48	7.70	19.86	13.60
NUVO Network Management, Inc.		1.04	3.22		9.04
Oglebay Norton Co.	1.38		2.77	21.91	12.07
Pacific Stratus Energy Ltd.		13.33	2.59		
Pavilion Bancorp, Inc.	2.37	23.63	0.19		
Peerless Energy, Inc.		4.51	1.85		9.51
Photoworks, Inc.	2.20				
Pilot Energy Ltd.		4.04	4.14		10.23
PrimeWest Energy Trust		3.71	1.75		
Printronix, Inc.	0.84	26.72	1.47	23.33	12.47
Radiation Therapy Services, Inc.	2.07	23.59		15.91	11.90
Respironics, Inc.	3.94	37.18	6.55	27.31	19.83
Rockyview Energy, Inc.		2.06	0.80		10.33
Sierra Health Services, Inc.	136.00	16.67			
Slade’s Ferry Bancorp	2.39	26.22	1.88		
Suncom Wireless Holdings, Inc.	1.74				15.77
Taylor NGL LP		2.00	2.61	18.96	12.60
The Meridian Gold, Inc.			7.98	30.54	23.05
Traffix, Inc.	1.22		2.91	25.50	16.52
Tutogen Medical, Inc.	355.00	27.82	4.74		
Union Bankshares Co. (Maine)	1.70	16.15	1.79		
USB Holding Co., Inc.	2.25	13.94	1.91		
Vantagepoint Systems, Inc.		0.82		8.28	6.76
Vault Energy Trust		1.12	0.56		7.05
Ventana Medical Systems, Inc.					
Verticalnet, Inc.	0.30				
Viceroy Homes Ltd.		0.82	1.56		31.21
VISICU, Inc.			3.44	28.29	
VistaCare, Inc.	0.60		2.85		
Visual Sciences, Inc.	4.38				

Source: Mergerstat/BVR Control Premium Study, Q1 2008, available online at www.bvmarketdata.com.

IDENTIFYING INDUSTRIES WITH HIGHER OR LOWER CONTROL PREMIUMS

Often industry control premiums are consistently higher in certain industries, such as technology-based industries where quick reactions and nimbleness are required to achieve bountiful rewards. Exhibit 3.9 shows that trends and control premiums in “Computer Software, Supplies and Services” and “Electronics” are substantially higher than the all-industry average.

These higher-than-average premiums are often seen in specific industries that are rapidly changing, and offer substantially greater opportunities to buyers wishing to penetrate

Exhibit 3.9 Industry Premiums (Percent Premium Offered)

Industry	2001	2002	2003	2004	2005
All Industries	57.2	59.7	62.3	30.7	34.5
Computer Software, etc. (SIC 7371–7379 inclusive)	74.8	71.5	52.7	35.9	34.5
Wholesale & Distribution (SIC 5012–5199 inclusive)	81.3	256.8	67.4	22.6	48.7

Source: Mergerstat Review 2006 (FactSet Mergerstat, LLC).

or expand position and momentum in growing markets. Typically, factors seen in such industries include:

- Short reaction time in which to make decisions in order to achieve sales
- Rapidly changing mix of customers and suppliers
- Short duration of "knowledge half-life" such as new discoveries, techniques, and methods constantly outdating "old" concepts
- Scarcities of key talent; rapidly growing salary levels for key personnel
- Murky competitive and regulatory environments
- Exaggerated profit potential due to economies of scale, such as software distribution
- Waves of consolidation among companies representing disparate intellectual property in order to create new markets and emerging consumers

CAVEATS REGARDING USE OF CONTROL PREMIUM DATA

LARGE DISPERSION TO THE DATA

There is a tremendous dispersion in the control premiums exhibited by takeover transactions. Using individual industry averages will occasionally narrow the dispersion somewhat, but in most industries the range of premiums is still fairly wide. Furthermore, few industries have enough transactions in any period to reach a conclusion to make the observed premiums a reliable indication of the premium that could be expected in the next ensuing transaction. In any event, after a premium is paid for a company, similar companies' stock may experience a price increase as a reaction, reducing the premium on the next transaction in the industry.

If the *Mergerstat/BVR Control Premium Study* data is to be used, I believe that the medians are more reliable measures of central tendency than the means. This is because the means have an upward bias because they are distorted by a few very high observations.

NEGATIVE PREMIUMS

One would think that if the traditional levels-of-value chart is correct, very few companies would be acquired at a discount. Yet, in the third quarter of 1998, more than one-third of the transactions reported in the *Mergerstat/BVR Control Premium Study* were for a price below their premerger public market trading prices.[2] Over the full range of data, about 15 percent of the transactions were at negative premiums. Related to this is

another statistical problem with the *Mergerstat/BVR Control Premium Study* in that both the means and the medians *exclude* "negative premiums." That is, if a company sold at a discount instead of a premium from its public market price, that discount is not counted in compiling the mean or median premiums. This may also be a significant source of upward bias. When transactions at discounts are included in the aggregate statistics, the mean and median premiums can drop significantly.

Another feature of the revised *Mergerstat/BVR Control Premium Study* is a table that includes the "negative premiums" in the means and medians, but at this point it is only for the overall means and medians. Also, the ability to mine the data electronically now enables the analyst to zero in on a specific group of the most relevant transactions rather than rely on broad averages.

MANY CONTROL TRANSACTIONS IMPOUND SYNERGIES

A large proportion of the public company mergers and acquisitions in the 1990s and some in the 2000s were strategic in nature, involving economic benefits of synergies between buyers and sellers. Such synergistic transactions impounded elements of *investment value*, that is, *value to a particular buyer*, as opposed to pure *fair market value*, which is the value of a transaction between *hypothetical willing buyers and sellers*. In other words, the premiums paid in such transactions reflect more than just the prerogatives of control of a company on a stand-alone basis.

Referring back to the traditional levels-of-value chart in Exhibit 1.2, when value for such synergies is included in the premium paid, the total premium takes the price further upward beyond just control value to what might be referred to as *acquisition value*. Consequently, some analysts have suggested that such premiums be labeled *acquisition premiums* or *transactions premiums*, to recognize that they reflect additional values beyond just the value of the elements of control.

Some analysts have suggested that premiums paid by financial buyers are more representative of the pure value of control than premiums paid by strategic buyers. For example, in a 1997 presentation, Chris Mercer explained, "Conceptually, evidence relating to controlling interest transactions involving financial buyers is the best evidence regarding fair market value."[3]

Steve Garber pursued this thought with empirical research presented at the American Society of Appraisers mid-year conference in 1998. He separated out the going private transactions over the 10 years 1988–1997 and compared the premiums paid compared to the premiums in all transactions. As expected, the average premiums paid in the going private transactions were several percentage points less than the average for all transactions.[4] He attributed this difference to the lack of premium for synergies.

Yet, even going private transactions may be based on strategic considerations. For example, an ostensibly financial purchase may be used as a base from which a roll-up or build-up may be commenced.

Most analysts concur that, with the possible exception of industries under consolidation where there are multiple buyers that constitute an effective and relatively predictable market, acquisition premiums observed for public companies generally tend to overstate the pure control premium that could be included in the fair market value of a controlling interest compared with a minority interest. Instead, such premiums usually reflect value to a particular buyer, and therefore reflect elements of investment value over and above fair market value.

CONTROL PREMIUMS ARE SPECIFIC TO A SELECT GROUP OF COMPANIES

Out of the tens of thousands of public companies only a very small percentage actually are acquired each year. In recent years the companies purchased have often been best of breed, making them a very unique subset of the market. Statistically, it is unlikely that this small, select group is universally representative of the market as a whole.

THE HUBRIS FACTOR

It is undeniable that some buyers overpay. This may be either because they are swept up in the heat of the action or, as in 1999/2000, they subscribed to the theory that no price could be too high for the hottest new technology because public shareholders would bail them out. When the investment bankers also buy into these ideas you have the necessary conditions for big mistakes to be made. Extremely high premiums in a particular industry, or premiums paid for companies that are already overpriced in the market, are a note of caution.

In fact, in some cases, especially in the 1980s and 1990s, the premium paid, in retrospect, exceeds the value of all of the synergies. Richard Roll observed this phenomenon in the mid-1980s and hypothesized that it was due to the hubris (an exaggerated sense of self-confidence) on the part of the acquiring companies' CEOs.[5] Two Columbia University professors tested the hubris hypothesis in the early 1990s and found it valid.[6]

Steven Kaplan, a professor at the University of Chicago, conducted a study of 70 large acquisitions, and concluded that the overpayments continued in the first half of the 1990s. He found an average 13 percent increase in wealth, accounted for by an average 21 percent increase in wealth for the target company stockholders and an average 8 percent loss in wealth for the stockholders of the acquiring companies.[7]

ARE CONTROL PREMIUMS TOO HIGH?

It has been well documented that, on average, acquiring companies lose money for their stockholders. (See, for example, the previous section on "The Hubris Factor.")

But a recent paper concludes that this is not because average control premiums are too high. The authors conclude:

> We find no evidence that acquirers paying high premiums underperform those paying relatively low premiums in three years following mergers, and the result is robust after controlling for a variety of firm and deal characteristics. Short term cumulative abnormal returns are moreover positively correlated to the level of the premium paid by acquirers. Our evidence therefore suggests that high merger premiums paid are unlikely to be responsible for acquirers' long-run post merger underperformance.

The authors examined 394 successful UK mergers between 1985 and 2004. They broke the sample into the 30 percent highest premiums paid, the 30 percent lowest premiums paid, and the 40 percent in the middle. Overall, the acquirers underperformed the market. But they found that "for the whole sample, return differentials between high and low premium sub-portfolios are small and statistically insignificant."[8]

So the average underperformance of acquirers must be explained by something other than control premiums paid. How about multiples, such as multiples of EBITDA relative to the industry?

PERCENTAGE DISCOUNTS FROM NET ASSET VALUE

There are certain types of companies for which both underlying net asset value and actual market trading prices for minority interests are publicly available. Most such companies are holding companies of various types, holding real estate, securities, and other investment assets. The percentages below net asset value at which such securities trade are sometimes used as a proxy for minority interest discounts.

A few such sources are the following:

- Prices of publicly traded Real Estate Investment Trusts (REITs) compared with their underlying net asset values, compiled annually by National Association of Real Estate Investment Trusts (NAREIT)
- Prices of SEC-registered limited partnership interests compared with their underlying net asset values, compiled by Partnership Profiles, Inc.
- Prices of publicly traded closed-end mutual fund shares compared with their net asset values, published regularly in the financial press, such as the *New York Times, Wall Street Journal*, and *Barron's*, as well as *Morningstar*

These various sources and their uses are discussed in Chapters 21 and 27, and Appendix B.

Great care must be exercised in using data from REITs and closed-end funds to avoid over- or undervaluation. For instance, REIT shares sometimes trade above and sometimes below net asset value, depending on the state of the markets. The same holds true for closed-end funds where discounts can rapidly become premiums, depending on which sector of the public market happens to be in vogue at the moment. In addition, there are problems currently in using closed-end investment companies as a source for discounts for minority interests. Closed-end investment company managements have begun to use several different techniques to narrow the holding company discount, including (1) stock buybacks, (2) guaranteed annual distributions as a percentage of net asset value, and (3) liquidating.

With respect to limited partnerships, given the lack of liquidity of these investments (transfers of units and receipt of cash can take several months) there is very likely some element of lack of liquidity in the discounts. So these discounts may be a combination of both lack of control and lack of liquidity.

SUMMARY

Two major and totally different bodies of empirical evidence are often used to estimate minority discounts or control premiums:

1. Prices at which controlling interests are acquired in the public market compared with the preannouncement minority stock trading prices

2. Prices at which holding company interests sell compared with their underlying net asset values:

a. REITs

b. SEC-registered limited partnership interests

c. Closed-end mutual funds

As pointed out, there are some shortcomings with the acquisition premium data. Its use to quantify either the value of control in the traditional levels-of-value chart in Exhibit 1.2, or the discount for lack of control in the alternative two-level chart in Exhibit 1.3, must be used with great care. Yet it is all we have at this point until a better tool is devised.

NOTES

1. *Mergerstat/BVR Control Premium Study*. Business Valuation Resources, available at BVMarketData.com. Up until 2001, the quarterly studies were available only in print. Starting in 2001, pursuant to a joint venture between Mergerstat and Business Valuation Resources, the study was renamed the *Mergerstat/BVR Control Premium Study*, and is now available online. The online version has the entire book in PDF format, available to print out any or all, plus all the transaction data arranged to sort on any desired field and export to an Excel spreadsheet for analysis. As of March 2008, the *Mergerstat/BVR Control Premium Study* contains 6,090 total transactions starting in January 1998; with 49 percent of the deals in the database having net sales less than $100 million, with the remainder having net sales greater than $100 million.
2. See Shannon Pratt, "Control Premiums? Maybe, Maybe Not—34% of 3rd Quarter Buyouts at Discounts," *Shannon Pratt's Business Valuation Update* (January 1999): 1–3.
3. Z. Christopher Mercer, "A Brief Review of Control Premiums and Minority Interest Discounts," Proceedings of the 12th Biennial Business Valuation Conference of The Canadian Institute of Chartered Business Valuators, 1996.
4. Steven D. Garber, "Control vs. Acquisition Premiums: Is There a Difference?" presented at the American Society of Appraisers, Maui, June 1998.
5. Richard Roll, "The Hubris Hypothesis of Corporate Takeovers," *Journal of Business* 59, no. 2 (1986): 212. Reprinted with permission of the University of Chicago Press.
6. Matthew L. A. Hayward and Donald C. Hambrick, "Explaining Premiums Paid for Large Acquisitions: Evidence of CEO Hubris," New York: Columbia University Graduate School of Business (June 1995).
7. Steven Kaplan, "Valuation Issues in Corporate Control Transactions," presented at the American Society of Appraisers Advanced Business Valuation Conference (1995).
8. Antonios Antoniou, Philippe Arbour, and Huainan Zhao, "How Much Is Too Much: Are Merger Premiums Too High?" *European Financial Management* 14, No. 2 (2008): pp. 268–287.

Chapter 4

Minority Discounts and Control Premiums in the Courts

Gift, Estate, and Income Tax Cases
- Minority Discount Accepted
  - *Estate of Barudin v. Commissioner*
  - *Estate of Weinberg v. Commissioner*
  - *Gow v. Commissioner*
  - *Estate of Smith v. Commissioner*
  - *Estate of Jones v. Commissioner*
  - *Estate of Jelke v. Commissioner*
  - *Estate of Green v. Commissioner*
  - *Estate of Thompson v. Commissioner*
  - *Hess v. Commissioner*
  - *Adams v. United States*
  - *Temple v. United States*
  - *Robertson v. United States*
- Control Premium Rejected
  - *Estate of Wright v. Commissioner*
  - *Estate of Simplot v. Commissioner*
- Control Premium Applied
  - *Estate of Maggos v. Commissioner*
- Minority Discount from "Market Value" Rejected
  - *Estate of Freeman v. Commissioner*

Discounts for Lack of Control in Employee Stock Ownership Plan Cases
- Minority Discount Accepted
  - *Howard v. Shay*
  - *Reich v. Hall Holding Co.*
  - *Chao v. Hall Holding Co., Inc.*

Dissenting Shareholder Cases
- Cases Denying Minority Discount
  - *Brown v. Arp and Hammond Hardware Co. (Wyoming)*
  - *Pueblo Bancorporation v. Lindoe, Inc. (Colorado)*
  - *Blitch v. Peoples Bank (Georgia)*
  - *Friedman v. Beway Realty Corp. (New York)*
  - *Hansen v. 75 Ranch Co. (Montana)*
  - *HMO-W, Inc. v. SSM Health Care System (Wisconsin)*
  - *Arnaud v. Stockgrowers State Bank (Kansas)*
  - *Bomarko, Inc. v. International Telecharge, Inc. (Delaware)*

This chapter was updated from the first edition by Noah J. Gordon.

Swope v. Siegel-Robert, Inc. (Missouri)
Cases Applying Control Premium
Hintmann v. Fred Weber, Inc. (Delaware)
In re 75,629 Shares of Common Stock of Trapp Family Lodge, Inc. (Vermont)
Nebel v. Southwest Bancorp (Delaware)
Doft & Co. v. Travelocity.com, Inc. (Delaware)
In re Valuation of Common Stock of Penobscot Shoe Company (Maine)
Northwest Investment Corp. v. Wallace (Iowa)
Agranoff v. Miller (Delaware)
Applicability of Discounts to Be Determined on Case-by-Case Basis
Weigel Broadcasting Co. v. Smith (Illinois)
Shareholder Oppression Cases
Marital Dissolution Cases
Minority Discount Rejected
Ferraro v. Ferraro (Virginia)
Oatey v. Oatey (Ohio)
Howell v. Howell (Virginia)
Verholek v. Verholek (Pennsylvania)
Brown v. Brown (New Jersey)
Hanson v. Hanson (Alaska)
Minority Discount Accepted
DeCosse v. DeCosse (Montana)
Stayer v. Stayer (Wisconsin)
Anderson v. Anderson (Tennessee)
Bankruptcy Case
Case Accepting Minority Discount
In re Frezzo
Summary

The term *minority discount* is used in this chapter because it is the most commonly used phrase. The reader should be aware, however, that the professional business appraisal community now prefers the term *discount for lack of control*, or DLOC. This distinction reflects the possibility that such a discount may apply in certain circumstances, such as a 50 percent interest, or where the stockholder has a majority interest but less than absolute control when a supermajority is required. (In about half the states, a supermajority vote is required for certain major corporate actions.)

The chapter is organized by type of case in various courts because of differing rules of law:

- Gift, estate, and income tax
- Employee stock ownership plan (ESOP)

- Dissenting shareholder
- Shareholder oppression
- Marital dissolution
- Bankruptcy

The majority of business appraisers and courts treat discounts for lack of control and discounts for lack of marketability as separate items. Nevertheless, appraisers and courts sometimes lump the two factors into a single discount.

This chapter does not purport to be an exhaustive treatise of the many court cases involving minority versus control issues. That would be too great a task for the scope of this book; moreover, this book does not give legal advice. What I have tried to do is select a representative sample that will show the diversity of opinions in each of the several areas of litigation listed earlier. The reader should consult a lawyer for a legal opinion if one is needed.

Although only minority/control issues are discussed in this chapter, most of the cases also involved other valuation issues and frequently another discount or premium issue.[1]

GIFT, ESTATE, AND INCOME TAX CASES

All gift, estate, and income tax valuations fall under the legal standard of *fair market value*. As such, any time a minority interest is being valued, a minority discount is normally applied in any valuation method that results in a control value. The magnitudes of the minority discounts vary widely and usually are based on expert testimony, supported by empirical evidence presented.

MINORITY DISCOUNT ACCEPTED

Estate of Barudin v. Commissioner.[2] The expert for the taxpayer testified to a combined 67.5 percent minority and marketability discount based on a single prior transaction in units of a partnership that owned two commercial office buildings. The IRS's expert testified to 15 percent minority and 15 percent marketability discounts. The minority discount was based on "market studies" that were unidentified in the written opinion but showed an average of 19 percent, which is the figure decided on by the court. (As to marketability, studies cited showed averages of 26 to 45 percent, and the court found a 26 percent discount.)

Estate of Weinberg v. Commissioner.[3] Both experts and the court agreed that minority and marketability discounts were applicable to this minority limited partnership interest, but there were diverging opinions as to their magnitudes. Both appraisers used data from *The Partnership Spectrum* to quantify discounts using net asset value (NAV) as the basis. The taxpayer's expert used a single strongly comparable guideline partnership and testified to a minority discount of 43 percent. The IRS's expert used 16 guideline partnerships and testified to a minority discount of 20 percent. The judge rejected the use of a single comparable, preferring the use of the group of 16. However, the court preferred other aspects of the taxpayer's expert's methodology and concluded a minority discount of

37 percent. (The judge also determined a discount for lack of marketability of 20 percent, for a combined discount, taken in sequence, of about 50 percent from NAV.)

Gow v. Commissioner.[4] The issue in this case was whether a minority discount was applicable, given that the base value was derived by the discounted cash flow (DCF) method. The taxpayer's expert argued that the DCF value was a control value, and thus a minority discount was applicable. The IRS's expert argued that the DCF value was a minority value, and therefore no minority discount should be applied. The court agreed with the taxpayer's expert and accepted a minority discount.

The DCF method can produce either a minority or control valuation result. It depends primarily on whether the cash flows used are ones a control owner would expect or ones that would accrue to the benefit of a minority owner. The written opinion in this case does not provide enough information for me to decide whether I agree with the court's decision.

Estate of Smith v. Commissioner.[5] In valuing a minority interest in this farm subchapter S corporation that did not make distributions, the taxpayer's expert used market price to net asset value (P/NAV) ratios for nondistributing real estate investment trusts (REITs) to quantify the minority interest discount. The median P/NAV for the 15 selected guideline REITs was 41.3 percent, or a 58.7 percent discount from NAV. The expert chose a discount of 50 percent. The court agreed that the spread between market price of the shares and NAV was a minority discount and accepted the taxpayer's expert's conclusion.

The same case also involved the valuation of a bank stock. The expert for the taxpayer developed a minority interest discount of 32 percent based on the inverse of the control premium data derived from the *Control Premium Study*. The judge applied the 32 percent minority discount so derived.

Estate of Jones v. Commissioner.[6] In this case valuing partnership interests, one expert used a minority discount of 45 percent based on the latest full published *The Partnership Spectrum* compilation, and the other used 38 percent based on the following year's compilations, which covered the period of the valuation date. The court compromised at 40 percent.

Of perhaps greater interest, the court denied the taxpayer's further 20 percent discount for lack of marketability. I disagree with this. While the partnership secondary market is thin, the units *are* registered with the SEC, and there *is* a market. But there is no organized market for private partnership interests of which we are aware, and they are therefore far less liquid.

Estate of Jelke v. Commissioner.[7] The estate's expert in this case discounted decedent's minority interest in a corporation by 25 percent for lack of control, whereas the IRS's expert applied a 5 percent discount. The taxpayer's expert based his discount on the assumption that the company was most like a closed-end and not widely traded investment fund holding publicly traded securities. Comparing the subject company to such funds, the expert arrived at a 20 percent discount base, and added an additional 5 percent discount because the subject company had fewer assets, paid fewer dividends, and posted lower short-term returns than the comparable funds. In contrast, the IRS expert's analysis began with an average discount (8.61 percent) for closed-end funds, and

reduced this because he claimed that the company outperformed the comparables used by the estate. The court adopted a 10 percent lack of control discount, finding that the subject was smaller than some of the comparables presented, but that the subject was well diversified, which reduced investment risk, and that investors in the company would base their investments on the company's history of good performance. This discount was affirmed on appeal.

Estate of Green v. Commissioner.[8] The experts for each party in this case disagreed only slightly on their discounts for lack of control for shares in a bank, with the estate calculating a control premium of 20 percent and an implied lack of control discount of 20 percent, "but with little explanation." The IRS concluded an average discount range of 18.4 to 19.6 percent but reduced that to 15 percent for several factors: (1) decedent's "substantially larger interest" than typical minority interests in banks; (2) lack of concentration of ownership in the bank's stock; (3) the highly regulated and "transparent" banking industry; and (4) the bank's solid capitalization, high returns on equity and assets, high rating compared with other banks, and favorable dividend payout. The Tax Court did not adopt either side's analysis. It rejected the estate's control premium and found the IRS's discount reductions were not well supported. The court concluded a 17 percent DLOC.

Estate of Thompson v. Commissioner.[9] The issue in this case was the value of a 20 percent interest in a publishing company. The estate's experts used a capitalization of income method and applied a 40 percent minority discount. The IRS's expert used two methods, the DCF method and the comparable public company method, but did not apply a discount for lack of control, claiming such a discount is inherent in the DCF method. The court criticized both experts for their lack of experience and for the general lack of credibility of their valuations. The court also adjusted the estate's expert's capitalization rate, and applied a 15 percent minority discount.

Hess v. Commissioner.[10] The experts for both sides in this case agreed that a 15 percent DLOC applied, but the court criticized the taxpayer's expert for using a discount under the guideline public company method, concluding that such a discount is already included and inherent in that method.

Adams v. United States.[11] The court in this case, after remand from the Fifth Circuit, which required the Tax Court to apply discounts to a partnership interest because the co-executors' receipt of a partner's share of the dissolved partnership's surplus was not a legal certainty, applied a 20 percent DLOC to a 25 percent interest in the estate partnership because the taxpayer's expert provided "the lone specific analysis of the issues."

Temple v. United States.[12] In this gift tax case, the court determined the DLOC for limited partnerships holding publicly held marketable securities by using closed-end funds data. Although both parties had used this data, the taxpayer's expert limited the universe of funds and computed the discount using the 75th percentile of the limited universe. The IRS's expert used all reporting closed-end funds and calculated the discount based on the mean of the reported discounts and premiums from net asset value. The court preferred what it deemed the more comprehensive approach used by the IRS expert, and applying the IRS's analysis to three valuation dates, the court applied minority discounts in a range of 3.3 percent to 10.1 percent.

Robertson v. United States.[13] This case involved the valuation of limited partnership interests in determining a Generation Skipping Tax (GST). The taxpayer's expert arrived at a 22 percent minority discount based on 8 percent median discounts in closed-end funds, plus 11 percent based on "structural differences" between closed-end funds and the subject limited partnership, plus 3 percent for other factors. The court rejected the 3 percent discount for other factors, finding it was unwarranted, since this was based on six factors unique to the partnership, none of which was empirically quantifiable—and many of which had already been factored into the closed-end fund analysis. The IRS's expert arrived at a 6 percent minority discount, based on an average discount for closed-end funds. The court not only found that the taxpayer's expert's analysis was more thorough, but also commented that use of the median was more appropriate than the average, which could be unduly influenced by outliers. Thus, a 19 percent discount for lack of control was allowed.

CONTROL PREMIUM REJECTED

Estate of Wright v. Commissioner.[14] At issue was the value of a 23.8 percent interest in a very thinly traded over-the-counter (OTC) stock. The market price was $50 per share, with only very small blocks traded. The taxpayer's experts applied a blockage discount and concluded a $38 value. The IRS's expert relied on the hypothesis that a single group of investors might purchase the entire block of stock and further use this block to force other minority stockholders to sell, thus acquiring at least 51 percent, and therefore opined to a 33 percent control premium and a value of $67.34 per share. The court found the hypothetical scenario unlikely and rejected the control premium. It reduced the blockage discount to 10 percent, resulting in a value of $45 per share.

Estate of Simplot v. Commissioner.[15] The decedent in this case owned a minority interest in a small control block of stock. The Tax Court, adopting the IRS's position, attributed a 3 percent premium to the swing vote block, and then took a 35 percent DLOC from the decedent's pro rata share in that block. This resulted in a multimillion-dollar control premium on the noncontrolling interest in the control block. On appeal, the Ninth Circuit reversed, finding that a buyer of the block could never recover the premium, and accepting the taxpayer's application of a zero premium. The appellate court decided that a controlling block of stock is not to be valued at a premium for estate tax purposes unless it can be shown that a purchaser of the block would be able to use it "in such a way to assure an increased economic advantage worth paying a premium for."

CONTROL PREMIUM APPLIED

Estate of Maggos v. Commissioner.[16] The decedent's controlling block of stock in a company was repurchased by the company without the benefit of a formal valuation. After applying a 25 percent DLOM, the court applied a 25 percent control premium based on average premiums paid in the industry at the time of purchase.

MINORITY DISCOUNT FROM "MARKET VALUE" REJECTED

Estate of Freeman v. Commissioner.[17] The taxpayer's expert estimated a market value for the minority shares and then applied a 20 percent minority interest discount and also a discount for lack of marketability. In rejecting the minority discount the court explained:

> [Taxpayer's expert] applied a 20-percent discount to reflect what he believed would be the minority position that a purchaser of the shares would have. We think that that is inappropriate. [He] did not arrive at a value for the corporation and then try to determine the value of minority interest. He arrived at a market equivalent value for a share of the corporation and then multiplied to arrive at the value of the shares. We assume that, in valuing a single share of stock, the market would recognize the minority position of that share, and that no further minority discount would (or could) be demanded.

DISCOUNTS FOR LACK OF CONTROL IN EMPLOYEE STOCK OWNERSHIP PLAN CASES

Most ESOP stock is valued on a minority basis, whether the ESOP owns a controlling interest in the stock or not. If the ESOP clearly has control, the trustees can elect to have the stock valued on a control basis. As in tax cases, the legal standard of value for ESOP cases is *fair market value*.

MINORITY DISCOUNT ACCEPTED

Howard v. Shay.[18] This was a class action suit in which ESOP participants sued for undervaluation on termination of the ESOP and sale of its 38.6 percent stock interest to a trust controlled by the controlling stockholder. One of the many issues was whether a series of minority interest discounts should have been taken and, if so, their magnitude.

The first discount applied was 60 percent from NAV on a 50 percent interest in a Japanese real estate holding company, in which the Japanese partner was the managing partner. It is not clear exactly how much of this 60 percent was for lack of control because other factors were included, such as the confiscatory Japanese real estate capital gains structure, adverse changes in the Japanese real estate market, and questionable confidence in the real estate appraisal.

The appraiser then applied a 45 percent minority discount to the stock held by the ESOP. This was based partly on REIT discounts from NAV at the time plus lack of dividend distributions. The appraiser then applied a 50 percent discount for lack of marketability. The case was heavily litigated, but in the end the appraiser's value was upheld.

Reich v. Hall Holding Co.[19] The ESOP owned a 9.96 percent interest in Hall Holding Co. stock. One expert had considerable experience in the industry. The court accepted his conclusion of company value based on DCF, comparable acquisitions, and the guideline public company method, but the court did not accept his opinion that there should be no minority interest discount. The other expert had considerable experience in valuing stock for ESOP purposes. The court concluded that a 13 percent minority discount should be applied to the industry expert's discounted cash flow value and comparable acquisitions value, because the ESOP held only 9.96 percent of Hall Holding stock. The court also held that the minority discount should not apply to the value derived from the guideline public company method, because that analysis yielded a minority interest value.

Chao v. Hall Holding Co., Inc.[20] The U.S. Department of Labor brought suit against Hall Holding Co. and others on the grounds, among others, that they breached their fiduciary duty by purchasing Hall Holding stock for the employee stock ownership plan

(ESOP) without conducting a prudent and independent investigation to determine the stock's fair market value.

Goldman Financial Group, Inc. (GFGI), purchased Hall Chemical Co., through Hall Holding Co. (Hall Holding). Hall Chemical was Hall Holding's primary asset, with Hall Holding owning 95 percent of Hall Chemical. The decision was made to create Hall Chemical ESOP, and a valuation expert was hired to value Hall Chemical. However, the expert was not informed and never knew that the purpose of the valuation was to determine how much an ESOP should pay for Hall Chemical stock. The expert concluded that Hall Chemical was worth between $32.4 and $37.4 million, exclusive of debt. Based on this valuation, Hall Chemical's president and vice president, who were also trustees of the ESOP, offered to and did purchase for Hall Chemical ESOP 110 shares, or 9.9 percent, of Hall Holding stock for $3.5 million (the appraiser had not valued Hall Holding, however).

The District Court, finding that Hall Holding stock should have been valued, conducted its own valuation. The court concluded that the fair market value of Hall Holding stock was $2,450,451. It arrived at this value by using the valuation expert's range of value for the Hall Chemical stock, subtracting a $13.6 million debt of Hall Holding, and applying a 13 percent minority discount to account for the fact that the ESOP purchased only a minority interest (9.96 percent) in Hall Holding (as well as other discounts). This decision was affirmed on appeal.

DISSENTING SHAREHOLDER CASES

In almost all states, the legal standard of value for dissenting stockholder cases is fair value. Most states have modeled their dissenting stockholder statutes after the Model Business Corporation Act. This act was revised in 1984 and became known as the Revised Model Business Corporation Act (RMBCA), which has had revisions through 2002. Until 1999, the RMBCA defined fair value as follows:

> The value of the shares immediately before the effectuation of the corporate action to which the shareholder objects, excluding any appreciation or depreciations in anticipation of the corporate action unless exclusion would be inequitable.

In 1999 the definition changed to:

> "Fair value" means the value of the corporation's shares determined:
>
> i. immediately before the effectuation of the corporate action to which the shareholder objects;
> ii. using customary and current valuation concepts and techniques generally employed for similar businesses in the context of the transaction requiring appraisal; and
> iii. without discounting for lack of marketability or minority status except, if appropriate, for amendments to the articles pursuant to section 13.02(a)(5).[21]

The majority of states[22] use the pre-1999 definition, and only a handful have adopted the 1999 version. A minority of states use the pre-1999 definition without the "unless exclusion would be inequitable" phrase, and some states omit this phrase but, in addition, add a clause that states that all relevant factors should be considered in determining value. Florida and Illinois use a hybrid of the pre-1999 and 1999 definitions.[23]

The pre-1999 definition is silent, however, as to what the fair value standard implies in the context of control/minority interests, thus leaving the issue of discounts to be determined by the courts through case law. The courts have been widely divergent in their stances on the minority/control issue:

- Precedential opinions (that is, binding case law) in some states have held that value will be on a proportionate share of control basis.
- Precedential opinions in other states have said that value will be on a minority basis.
- Precedential opinions in yet other states have held that there will be no universal rule and that the determination must be made on the facts and circumstances of each case.
- Some states do not yet have any precedential rule on the minority/control valuation basis issue.

In states that have no precedential case law, courts often look to the case law of other states for guidance, often choosing those states with similarly worded statutory law. To complicate matters even further, courts in states that have precedential case law on the matter occasionally find reasons to reverse the precedent or to make an exception to it. The trend is toward disallowing discounts.

The lesson for appraisers is clear. Work closely with the client's legal counsel to understand the statutory context and case law implications of each dissenting shareholder matter.

CASES DENYING MINORITY DISCOUNT

Even though some states have said that the issue of minority discounts in dissenters' rights valuations must be decided on a case-by-case basis, and others have no precedential case law on the issue, the majority of states deny lack of control (and lack of marketability) discounts in appraisal actions.

***Brown v. Arp and Hammond Hardware Co.* (Wyoming).**[24] The Wyoming Supreme Court, finding that the clear majority of courts have held that minority discounts do not apply when determining fair value in the appraisal context, ruled that it would join the majority and not permit such discounts.

***Pueblo Bancorporation v. Lindoe, Inc.* (Colorado).**[25] In this case, the Colorado Court of Appeals rejected lack of control discounts, saying:

> [I]n determining the "fair value" of a dissenter's shares in a closely held corporation, the trial court must first determine the value of the corporation and the pro rata value of each outstanding share of common or equity participating stock. In the case of a going concern, no minority discount is to be applied. . . .

***Blitch v. Peoples Bank* (Georgia).**[26] The trial court allowed a minority discount, but the court of appeals reversed. Only one prior appellate case in Georgia had addressed this issue. In *Atlantic States Const. v. Beavers*, the Georgia Court of Appeals had determined that minority and marketability discounts could be considered in the fair value calculation but should not be overemphasized.[27] The court did not follow this case because it was not binding precedent and because it found authority to the contrary to be

more persuasive. (The case of *Atlantic States* was not binding on the *Blitch* decision because it interpreted a prior dissenters' rights statute, and also because the judgment was not fully concurred in by all judges ruling on that case—a requirement by Georgia Court of Appeals rules.)

The court noted that the current Georgia dissenting shareholder statute was based on the Model Business Corporation Act. The court also pointed out that legislative comments to the Georgia statute specifically provide that the official comments to the Model Act were relevant to any interpretation of the Georgia statute. In looking at the official comments, the 1999 amendments to the Model Act, and case law from other jurisdictions holding that minority and marketability discounts should not be applied, the court of appeals concluded that these authorities were more persuasive than *Atlantic States* and adopted a rule rejecting the discount.

Friedman v. Beway Realty Corp. **(New York).**[28] The corporation's expert opined to a 9.8 percent minority discount, based on differences between NAV and market prices for REITs. The court rejected the minority discount. (The court did, however, accept a discount for lack of marketability.)

Hansen v. 75 Ranch Co. **(Montana).**[29] The court prohibited the consideration of a minority discount when establishing fair value, despite a stockholders' agreement that reflected such a discount. This decision overruled the same court's 1996 decision in *McCann Ranch, Inc. v. Quigley-McCann*,[14, 30] a shareholder oppression suit in which the court held that nothing in §35-1-826(4), Model Corporation Act, prohibited consideration of a minority shareholder's lack of control and lack of marketability for minority shares when establishing fair value.

HMO-W, Inc. v. SSM Health Care System **(Wisconsin).**[31] The Wisconsin Supreme Court upheld a trial court's ruling that a minority discount would not be allowed in a case under a dissenters' appraisal rights statute. In a footnote, the supreme court defined both minority and marketability discounts and discussed their respective purposes. The court then stated that it was not addressing the issue of whether a marketability discount should be applied because that was not at issue in this case.

Arnaud v. Stockgrowers State Bank **(Kansas).**[32] In a case of first impression before the Kansas Supreme Court, it rejected both minority and marketability discounts in a dissenters' suit where a reverse stock split forced out almost all of the shareholders. This result should not be construed too broadly, because the issue put to the Kansas Supreme Court focused very narrowly on the case-specific facts: "Is it proper for a corporation to determine the 'fair value' of a fractional share pursuant to K.S.A. § 17-6405 by applying minority and marketability discounts when the fractional share resulted from a reverse stock split intended to eliminate the minority shareholder's interest in the corporation?"

Bomarko, Inc. v. International Telecharge, Inc. **(Delaware).**[33] Plaintiff's expert used the guideline public company method and applied a 30 percent control premium to account for the minority discount inherent in the comparable companies analysis. The court rejected defendants' argument against the control premium, stating, "Plaintiffs are entitled to be paid the fair value of their shares without a minority discount."

***Swope v. Siegel-Robert, Inc.* (Missouri).**[34] The U.S. District Court reached its decision consistent with the Missouri Court of Appeals case of *King v. F.T.J., Inc.*, 765 S.W.2d 301 (Mo. Ct. App., 1989). That case held that the question of whether minority and marketability discounts are applicable in Missouri dissenting stockholder cases is to be determined on a case-by-case basis, weighing the individual facts and circumstances. In this case, the court determined that the shares should be valued on a minority basis but that there should be no discount for lack of marketability. The Eighth Circuit reversed, holding that no minority or marketability discounts should be applied in dissenters' rights cases as a matter of law.

CASES APPLYING CONTROL PREMIUM[35]

The control premium comes into play when a guideline public company valuation method is used and the objective is to reach a control value result. The *Control Premium Study* usually is cited as empirical evidence to quantify this premium.

Some have argued that the full premium paid in acquisitions is too high, on average, to represent the value of control because it often contains elements of synergistic value, which should not be a part of either fair value or fair market value. Resources are now available that give analysts the ability to adjust for these factors.[36]

***Hintmann v. Fred Weber, Inc.* (Delaware).**[37] Experts valued the subsidiaries of a holding company by a combination of the DCF and guideline public company methods. The Court of Chancery of Delaware held that, because the companies were controlled subsidiaries, a control premium was appropriate. The expert for the plaintiff testified that control premiums paid in the industry in the 12 months prior to the valuation were at a mean of 45 percent and a median of 55 percent. Because a portion of those premiums reflected postmerger values expected from synergies, the plaintiff's expert arbitrarily adjusted the premium down to 20 percent, which the court accepted.

***In re 75,629 Shares of Common Stock of Trapp Family Lodge, Inc.* (Vermont).**[38] In this 1999 case of first impression since Vermont's Business Corporation Act was amended in 1994, the Vermont Supreme Court upheld a trial court ruling that applied a 30 percent control premium. The dissenters' expert testified that "in applying the discounted cash flow (DCF) method, he relied on figures derived from publicly traded companies and that the per share value of a share on the public market is a minority interest value." He testified that the average control premium for the hotel and motel industry was 46 percent (apparently obtained from the *Control Premium Study*). In applying a 30 percent premium, he asserted that this figure "was on the conservative side."

The validity of this decision is suspect. It is one thing to apply a control premium to a result derived from the guideline public company method. In the DCF method, though, the only figure to be derived from public companies is the discount rate. As discussed in detail in *Cost of Capital*,[39] and previously in this book, the discount rate is the same or nearly the same for both control and minority interests, and all or most of the difference between control and minority values is accounted for by the expected cash flows, which the expert certainly could not have derived from public companies. Therefore, I question the validity of always applying a control premium to a result reached by the DCF method.

***Nebel v. Southwest Bancorp* (Delaware).**[40] Plaintiff's expert applied a control premium, which the court accepted. Defendant's expert used the DCF and guideline public company methods, with no premium or discount applied. The court rejected defendant's expert's appraisal "because it had a built-in minority discount." (As noted above, the guideline public company method begets a marketable minority value, and the DCF method could reach either a minority or control value.)

***Doft & Co. v. Travelocity.com, Inc.* (Delaware).**[41] The court on its own added a 30 percent control premium, saying that "The equity valuation produced in a comparable company analysis does not accurately reflect the intrinsic worth of a corporation on a going concern basis. Therefore, the Court, in appraising the fair value of the equity, 'must correct this minority trading discount by adding back a premium designed to correct it.'"

***In re Valuation of Common Stock of Penobscot Shoe Company* (Maine).**[42] This dissenters' rights action involved a small, closely held business. The court permitted a control premium adjustment, concluding that the control premium could properly be used as an upward adjustment of the value of the subject company's shares when compared to similar companies in the industry.

***Northwest Investment Corp. v. Wallace* (Iowa).**[43] In this case, the Iowa Supreme Court held that in an appraisal action a control premium may be considered in determining fair value if it is supported by the evidence.

***Agranoff v. Miller* (Delaware).**[44] In this case, the Delaware Court of Chancery explained that the determination of a control premium is necessarily imprecise because to determine what the implicit minority discount in a comparable companies analysis is, one is forced to look at the prices paid for control blocks. Such prices are frequently paid in connection with a merger or other fundamental transaction. The court found that this source of data is therefore problematic, because the premiums arguably reflect value that is not related to the value of the acquired companies as going concerns under their preexisting business plans, such as synergistic values attributable to transactionally specific factors. The court acknowledged that it is impossible to make precise determinations about what motivated an acquirer to pay a control premium. In this case, the court decided that the premium should be 30 percent.

APPLICABILITY OF DISCOUNTS TO BE DETERMINED ON CASE-BY-CASE BASIS

***Weigel Broadcasting Co. v. Smith* (Illinois).**[45] The defendants' expert applied both minority and marketability discounts, which the trial court accepted. The appellate court, citing earlier Illinois cases, confirmed that "applying such discounts, therefore, is left to the trial court's discretion." In upholding the discounts in this case, the appellate court also offered the following observations: "The trial court, we think, was justified in finding the illiquidity and minority factors had a significant bearing on the intrinsic value of the stock, especially in the absence of any claim of oppressive corporate conduct."

It must be noted that since *Weigel* was decided, Illinois adopted a hybrid version of the 1999 RMBCA definition of fair value in dissenters' rights valuations that expressly

prohibits discounting for minority status. Accordingly, Illinois courts will presumably no longer have the discretion to apply a discount for lack of control in an appraisal action.

SHAREHOLDER OPPRESSION CASES

In most states, the standard of value for shareholder oppression cases is *fair value*, the same as for dissenting stockholder cases. However, case law in shareholder oppression matters in a given state does not necessarily parallel the dissenters' cases regarding the minority/control valuation issue. See Chapter 25, ''Discounts and Premiums in Dissolution and Oppression Cases,'' for an in-depth treatment of this rapidly growing area.

MARITAL DISSOLUTION CASES

Not one state has a statutory standard of value for divorce cases, much less any statutes regarding minority or control issues. Some states have adopted a standard of value through case law. Even in those states, however, the standard is not always consistently followed. When a spouse who is active in the business owns a minority interest, the courts are divided as to whether a minority interest discount should be applied.

Far more business valuation cases at the trial level are for marital property division purposes than for any other area of business valuation litigation. In spite of this, there is very sparse precedential case law in this area. This is partly because the bulk of the cases are relatively small and partly because there often is an inadequate evidentiary record made at trial from which to appeal.

Many jurisdictions have recognized that a lack of control discount is frequently appropriate if the operating spouse does not own a controlling interest in the subject company. For example, an Alaska case, referencing other jurisdictions, rejected as a matter of law testimony to the effect that no discount for lack of control was appropriate.[46] In a North Dakota case, the Court rejected the testimony of one expert who said that ''there should be no minority discount in a family-owned business in divorce cases, where, as here, Lillian's family owns the corporation and the minority shares are not being sold to unrelated, unknown buyers.'' However, the Court concluded a discount for lack of control of only 11.3 percent rather than the 25 to 40 percent sought by the party being awarded the business interest in question.[47] There have been many other cases in which discounts for lack of control have been accepted.[48] On the other hand, there have been many cases where experts' testimony in favor of a discount for lack of control has been rejected.[49] The cases discussed below are a sampling of these.

MINORITY DISCOUNT REJECTED

***Ferraro v. Ferraro* (Virginia).**[50] The husband in this case owned a 34 percent interest in various sporting goods stores. The court adopted the husband's expert's valuation using the excess earnings method, which produces a control value. On the other hand, the trial court rejected the husband's expert's application of a minority interest discount, and the appellate court upheld, explaining: ''[N]o other person owned a majority interest. . . . Although husband testified that other minority shareholders routinely voted

together . . . the trial court was free to reject husband's testimony and conclude that husband's minority ownership did not diminish the value of this asset.''

***Oatey v. Oatey* (Ohio).**[51] The husband contended on appeal that the trial court erred in not applying a minority interest discount. The appellate court upheld the trial court's reasoning that the husband had effective control through family ownership. (This is akin to the IRS's old family attribution rule which Revenue Ruling 93-12 eliminated.)

***Howell v. Howell* (Virginia).**[52] The court rejected a minority discount for an interest in a law practice. In upholding the trial court, the appellate court found the discounts (both marketability and minority) inappropriate because no transfer of the partnership interest was foreseeable and no one in the firm, nor any group within it, exercised majority control.

***Verholek v. Verholek* (Pennsylvania).**[53] Pennsylvania is one of the states that, through its case law, clearly has adopted fair market value as the standard of value for divorce. Nevertheless, the court denied a minority interest discount from a value arrived at by the capitalization of earnings method. The court's explanation was that ''the expert testified that a minority discount was not needed because the company was not valued as a whole.'' The opinion lacked sufficient details about the capitalization of earnings method used to enable me to assess the validity of the expert's statement on that point.

***Brown v. Brown* (New Jersey).**[54] In this case the New Jersey Appellate Division expressly indicated that it was looking to corporate law principles found in shareholder oppression and dissent cases to determine that, in the absence of extraordinary circumstances, neither marketability nor minority discounts apply to the valuation of a spouse's interest in a closely held corporation for purposes of equitable distribution. The rationale of cases such as *Brown*, therefore, is that a spouse who owns a fractional interest in an enterprise must be compensated for what has been taken—either the pro rata share of the going concern, or what the owner would have reasonably expected to receive from continuing involvement with the enterprise. Applying discounts to the spouse's share where the spouse retains the interest would unfairly reduce the value of the marital estate.

***Hanson v. Hanson* (Alaska).**[55] In this case, despite the agreement of the experts for both sides that discounts for lack of control and for lack of marketability should be applied to the wife's minority interest in the husband's business, the court disallowed the discounts, reasoning that discounts were inappropriate where the majority spouse was acquiring the minority spouse's interest.

MINORITY DISCOUNT ACCEPTED

***DeCosse v. DeCosse* (Montana).**[56] The husband owned a minority interest, with other family members owning the balance. Every year a Certified Public Accountant valued the stock by the income approach and applied a 20 percent minority discount. At trial, the CPA testified to the value, net of the 20 percent discount, which the court accepted. The Montana Supreme Court upheld the lower court's ruling.

***Stayer v. Stayer* (Wisconsin).**[57] In this case the wife's expert valued the family company as a whole and valued the husband's minority interest as a proportionate share of

the total. The husband's expert valued the minority interest based solely on a hypothetical sale of only his minority interest, recognizing both the minority position and also the lack of marketability due to a stockholder agreement. (The decision did not break down the relative effect of minority and lack of marketability.) The court of appeals upheld the trial court's acceptance of the husband's expert's valuation.

***Anderson v. Anderson* (Tennessee).**[58] In valuing the husband's minority interest in a mobile home company, its CPA (and also the parties' joint expert) first calculated its "fair value" as a going concern, which he estimated at just over $2.7 million. He then calculated 43.75 percent of that value, representing the husband's shares and discounted this by 38.3 percent for lack of control. Although the court rejected his additional discount for lack of marketability, it accepted the minority discount.

BANKRUPTCY CASE

CASE ACCEPTING MINORITY DISCOUNT

In re Frezzo.[59] A Chapter 7 trustee sought to sell debtor's 50 percent interest in a company. An appraisal by an expert using the income approach yielded a value of $1,290,000, net of a 10 percent discount for lack of control and 30 percent for lack of marketability. The court granted the trustee's motion to sell at that price, despite an objection from the debtor that the interest was worth $2,500,000, but with no expert testimony or evidence to substantiate that position.

SUMMARY

Court decisions on minority/control issues are heavily influenced by the particular legal context. Gift, estate, and income tax issues and also ESOP valuations all fall under the *fair market value* standard, as defined in U.S. Treasury regulations. In this context, minority interests are always valued as such, and minority discounts are applied if the base value for a minority interest is developed by appraisal methodology resulting in a control value.

In almost all states, both dissenting stockholder and stockholder oppression cases fall under the respective state's statutory standard of *fair value*. The case law decisions on this issue have been greatly mixed, but there is a clear trend disallowing discounts for lack of control in appraisal actions. In addition, the 1999 RMBCA definition of fair value expressly excludes minority discounts, and several states have adopted this definition.

States' marital dissolution statutes provide no guidance on valuation. Court decisions on issues such as minority/control vary considerably.

In the area of bankruptcy, the decisions on the issue of minority/control also differ widely.

Even where precedent seems to be established, it often changes. Any time a valuation potentially contains a minority/control issue, the attorney and/or appraiser should thoroughly search the current case law relevant to the particular valuation.

NOTES

1. The full texts of all case decisions discussed in this chapter and many more are available at BVLibrary.com. In addition, the case summaries on BVLibrary.com contain the names of the testifying experts in most cases, even if the written opinion does not.
2. *Estate of Barudin v. Commissioner,* T.C. Memo 1996-395, 72 T.C.M. (CCH) 488 (1996).
3. *Estate of Weinberg v. Commissioner,* T.C. Memo 2000-51, 79 T.C.M. (CCH) 1507 (2000).
4. *Gow v. Commissioner,* T.C. Memo 2000-93, 79 T.C.M. (CCH) 1680 (2000).
5. *Estate of Smith v. Commissioner,* T.C. Memo 1999-368, 78 T.C.M. (CCH) 745 (1999).
6. *Estate of Jones v. Commissioner*, 116 T.C. No. 11 (2001).
7. *Estate of Jelke v. Commissioner,* T.C. Memo 2005-131 (2005), *rev'd on other grounds,* 503 F.3d 1317 (11th Cir. 2007).
8. *Estate of Green v. Commissioner,* T.C. Memo 2003-384.
9. *Estate of Thompson v. Commissioner,* T.C. Memo 2004-174 (2004).
10. *Hess v. Commissioner,* T.C. Memo 2003-251 (2003).
11. *Adams v. United States,* 2001 U.S. Dist. LEXIS 13092 (N.D. Tex. 2001).
12. *Temple v. United States,* 2006 U.S. Dist. LEXIS 16171 (E.D. Tex. 2006).
13. *Robertson v. United States,* 2006 U.S. Dist. LEXIS 1167 (N.D. Tex. 2006).
14. *Estate of Wright v. Commissioner,* T.C. Memo 1997-53, 73 T.C.M. (CCH) 1863 (1997).
15. *Estate of Simplot v. Commissioner,* 112 T.C. 13 (1999), rev'd, 249 F.3d 1191 (9th Cir. 2001).
16. *Estate of Maggos v. Commissioner*, T.C. Memo 2000-129 (2000).
17. *Estate of Freeman v. Commissioner,* T.C. Memo 1996-372, 72 T.C.M. (CCH) 373 (1996).
18. *Howard v. Shay,* 1993 U.S. Dist. LEXIS 20153 (C.D. Cal. 1993), *rev'd* and *remanded by,* 100 F.3d 1484 (9th Cir. 1996), *cert. denied,* 520 U.S. 1237 (1997).
19. *Reich v. Hall Holding Co.,* 60 F. Supp. 2d 755 (1999).
20. *Chao v. Hall Holding Co., Inc.,* 285 F.3d 415, 2002 U.S. App. LEXIS 5929 (6th Cir. 2002).
21. Model Business Corporation Act, § 13.01(4) (2002 ed.).
22. For a review of the standard of value for dissenters' rights and oppression actions in the 50 states, see Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications* (New York: John Wiley & Sons, 2007), pp. 115–119.
23. For a listing of states that have adopted some version of the RMBCA definition of fair value, see Jay E. Fishman, Shannon P. Pratt, et al., PPC's *Guide to Business Valuations*, 18th ed. (Houston: Thomson Tax & Accounting, 2008) Ex. 15-1 "States That Have Adopted the RMBCA Definition of Fair Value," p. 15-5.
24. *Brown v. Arp and Hammond Hardware Co.,* 141 P.3d 673 (Wyo. 2006).
25. *Pueblo Bancorporation v. Lindoe, Inc.*, 37 P.3d 492, at 499 (Colo. App. 2001), *aff'd,* 63 P.3d 353 (Colo. 2003).
26. *Blitch v. Peoples Bank,* 246 Ga. App. 453, 540 S.E.2d 667 (Ga. Ct. App. 2000).
27. *Atlantic States Const. v. Beavers,* 169 Ga. App. 584, 314 S.E. 2d 245 (Ga. Ct. App. 1984).
28. *Friedman v. Beway Realty Corp.,* 87 N.Y.2d 161, 661 N.E.2d 972, 638 N.Y.S.2d 399 (N.Y. 1995).
29. *Hansen v. 75 Ranch Co.,* 1998 Mont. 77, 957 P.2d 32 (Mont. 1998).
30. *McCann Ranch, Inc. v. Quigley-McCann,* 276 Mont. 205, 915 P.2d 239 (Mont. 1996).
31. *HMO-W, Inc. v. SSM Health Care System,* 234 Wis.2d 707, 611 N.W.2d 250 (Wis. 2000), *aff'g* 228 Wis. 2d 815, 598 N.W.2d 577 (Wis. Ct. App. 1999).

32. *Arnaud v. Stockgrowers State Bank,* 268 Kan. 163, 992 P.2d 216 (Kan. 1999).
33. *Bomarko, Inc. v. International Telecharge, Inc*., 1999 Del. Ch. LEXIS 211 (Del. Ch. 1999), *aff'd, International Telecharge, Inc. v. Bomarko, Inc.*, 766 A.2d 437 (Del. 2000).
34. *Swope v. Siegel-Robert, Inc.,* 74 F. Supp. 2d 876 (E.D. Mo. 1999), aff'd in part, reversed in part by, 243 F.3d 486 (8th Cir. 2001).
35. For a discussion of control premiums in the Delaware courts, see an article by Gil Mathews in the summer 2008 issue of the *Business Valuation Review* summarized in Shannon Pratt and Alina Niculita, *The Lawyer's Business Valuation Handbook* (Chicago: American Bar Association, 2009), chapter 15. Available for purchase from www.BVResources.com.
36. Beginning in 2001, Business Valuation Resources assumed control of the distribution of the Control Premium Study and renamed them Mergerstat/Shannon Pratt's Control Premium Study. In conjunction with this transfer, each transaction from 1998 forward was assigned a code as either vertical integration, horizontal integration, conglomerate, or financial. With this new information, an analyst using the data can eliminate the synergistic transactions where it is appropriate.
37. *Hintmann v. Fred Weber, Inc.,* 1998 Del. Ch. LEXIS 26 (Del. Ch. 1998).
38. *In re 75,629 Shares of Common Stock of Trapp Family Lodge, Inc.,* 169 Vt. 82, 725 A.2d 927 (Vt. 1999).
39. Shannon P. Pratt, Roger J. Grabowski, *Cost of Capital: Applications and Examples,* 3rd ed. (New York: John Wiley & Sons, 2008).
40. *Nebel v. Southwest Bancorp,* 1999 Del. Ch. LEXIS 30 (Del. Ch. 1999).
41. *Doft & Co. v. Travelocity.com, Inc.,* 2004 Del. Ch. LEXIS 75 (Del. Ct. Ch. 2004).
42. *In re Valuation of Common Stock of Penobscot Shoe Company,* 2003 Me. Super. LEXIS 140 (Me. Super. 2003).
43. *Northwest Investment Corp. v. Wallace*, 2007 Iowa Sup. LEXIS 87 (Iowa 2007).
44. *Agranoff v. Miller*, 2001 Del. Ch. LEXIS 71 (Del. Ct. Ch. 2001).
45. *Weigel Broadcasting Co. v. Smith,* 289 Ill. App. 3d 602, 682 N.E.2d 745 (Ill. App. Ct. 1996).
46. *Hayes v. Hayes*, 756 P.2d 298 (Alaska 1988).
47. *Kaiser v. Kaiser*, No. 960013 N.D. Sup. Ct., 1996 WL 663189 (N.D. Sup. Ct. 1996).
48. See, e.g., *Priebe v. Priebe,* 556 N.W.2d 78 (S.D. 1996) (40 percent); *In re Marriage of DeCosse,* 936 P.2d 821, 1997 WL 19374 (Mont. 1997) (20 percent); *Arneson v. Arneson,* 355 N.W. 2d 16 (Wis. Ct. App. 1984) (25 percent); *Rattee v. Rattee,* 767 A. 2d 415, 146 N.H. 44 (N.H. 2001); *L.R.M. v. R.K.M.,* 46 S.W.3d 24 (Mo. Ct. App. 2001) (32 percent combined discount), *Anderson v. Anderson,* 2006 Tenn. App. LEXIS 592 (Tenn. App. 2006) (38.3 percent).
49. See, e.g., *Howell v. Howell,* 46 Va. Cir. 339, 1998 Va. Cir. LEXIS 256 (Va. Cir. Ct. 1998), *aff'd,* 31 Va. App. 332, 523 S.E.2d 514 (Va. Ct. App. 2000); *Oatey v. Oatey,* No. 67809, 67973 Ohio Ct. App., 1996 WL 200273 at *22 (Apr. 25, 1996); *Nardini v. Nardini,* 414 N.W. 2d 184, 189 (Minn. 1987); *Cross v. Cross,* 586 P.2d 547, 549 (Wyo. 1978); *Ferraro v. Ferraro,* 2000 WL 251678 (Va. Ct. App. 2000); *Brown v. Brown,* 348 N.J. Super. 466, 792 A.2d 463, 2002 N.J. Super. LEXIS 105 (N.J. Super. 2002) (discounts disallowed absent extraordinary circumstances); *Baltrusis v. Baltrusis,* 113 Wash. App. 1037 (Wash. Ct. App. 2002); *Hanson v. Hanson,* 2005 Alas. LEXIS 166 (Alaska 2005) (no discount where majority spouse acquires the minority spouse's interest).
50. *Ferraro v. Ferraro,* 2000 Va. App. LEXIS 164 (Va. Ct. App. 2000).
51. *Oatey v. Oatey,* 1996 Ohio App. LEXIS 1685 (Ohio Ct. App. 1996).
52. *Howell v. Howell,* 31 Va. App. 332, 523 S.E.2d 514 (Va. Ct. App. 2000).
53. *Verholek v. Verholek,* 1999 Pa. Super. 282, 741 A.2d 792 (Pa. Super. Ct. 1999).

54. *Brown v. Brown,* 348 N.J. Super. 466; 792 A.2d 463, 2002 N.J. Super. LEXIS 105 (N.J. App. Div. 2002).
55. *Hanson v. Hanson,* 2005 Alas. LEXIS 166 (Alaska 2005).
56. *DeCosse v. DeCosse,* 282 Mont. 212, 936 P.2d 821 (Mont. 1997).
57. *Stayer v. Stayer,* 206 Wis. 2d 675, 558 N.W.2d 704 (Wis. Ct. App. 1996).
58. *Anderson v. Anderson,* 2006 Tenn. App. LEXIS 592 (Tenn. App. 2006).
59. *In re Frezzo,* 217 B.R. 985 (Bankr. E.D. Pa. 1998).

Chapter 5

Discounts for Lack of Marketability for Minority Interests: Concept and Evidence

Public Market Benchmark for Marketability
Empirical Evidence to Quantify Discounts for Lack of Marketability
Restricted Stock Studies
- How Restricted Shares of Public Companies Arise
- Nature and Results of Restricted Stock Studies
- Liquistat Database
- Results of the Securities and Exchange Commission's Loosening of Restrictions

Pre–Initial Public Offering Discount for Lack of Marketability Studies
Courts' Aversion to "Benchmarking"
Regulatory and Court Recognition of Empirical Marketability Discount Studies
- Revenue Ruling 77-287
- Recognition of Pre–Initial Public Offering Studies

Summary

Lack of marketability, more often than not, is the largest dollar discount factor in the valuation of a business interest, particularly a minority interest. This chapter particularly discusses evidence of the discounts for lack of marketability for minority interests, and Chapter 12 will discuss discounts for lack of marketability for controlling interests.

PUBLIC MARKET BENCHMARK FOR MARKETABILITY

The United States has the most liquid markets in the world for equity interests. All observers agree that this condition vastly facilitates the formation of equity capital raised from millions of minority equity investors. U.S. equity markets are the benchmark for marketability: sell your stock instantly over the phone, at or very close to a known public price, and receive cash in your pocket within three business days. Anything short of that standard of liquidity forms the basis for a discount for lack of marketability.

Investors love liquidity and are willing to pay a high premium for it. Conversely, relative to otherwise similar highly liquid securities, investors demand a high discount for

lack of liquidity. The market price differential between otherwise comparable, readily marketable and unmarketable interests is greater than most people realize. The incident described in the following narrative helps to drive home the point. Nothing was changed regarding the securities themselves, but even short-term jeopardy of their marketability had a sudden and dramatic impact on their market prices.

> The concept of marketability, or the relative ease and promptness with which a security can be bought or sold, is an underlying assumption of an efficient market. When this assumption is challenged, the results can be severe.
>
> **WS Clearing,** a clearinghouse in Glendale, California, closed its doors on March 6, 1997, because of a net capital deficit of at least $1.1 million.
>
> **Euro-Atlantic Securities,** a brokerage firm in Boca Raton, one of two dozen clients of WS Clearing, stopped making a market in several stocks, because it had relied on WS Clearing's ability to complete transactions in those securities and had no alternative clearinghouse.
>
> The stock of **Hollywood Productions,** a company in the movie and bathing-suit businesses, fell from $7.50 per share to $3.25 (a 57 percent loss) before closing at $5.25. (Euro-Atlantic had been a market maker in the stock of Hollywood Productions.)
>
> **Metropolitan Health Networks, Inc.** (another stock for which Euro-Atlantic was a market maker) fell from $7 to $4.125 before closing at $5 on the NASDAQ small cap market. Both stocks closed down about 30 percent, reflecting the discount for lack of marketability. This sequence of events shows that even in liquid markets like NASDAQ, if marketability becomes impaired even temporarily, investors quickly revise their expectations and demand compensation for lack of marketability.[1]

Many factors affect the extent to which the marketability of a given business ownership interest that is not actively traded may differ from the marketability found in active, freely traded securities markets:

- Put rights
- Dividends or distributions
- Size of potential market of buyers
- Prospects for going public or being acquired
- Restrictive transfer provisions
- Size and financial strength of company
- Size of interest in question relative to total shares outstanding

These factors and others are discussed in subsequent chapters.

EMPIRICAL EVIDENCE TO QUANTIFY DISCOUNTS FOR LACK OF MARKETABILITY

Two series of studies are widely recognized to provide market evidence of the difference between the price of a publicly traded stock and the price of a stock that is otherwise the same or similar but not eligible for public trading as of the valuation date.

These two series of studies are known as the *restricted stock studies* and the *pre-IPO studies*.

RESTRICTED STOCK STUDIES

Many companies whose stocks are publicly traded have outstanding shares that are not registered for public trading or are subject to restrictions on public trading. These shares are identical to the publicly traded shares in all respects except for the lack of registration or the restrictions on trading.

HOW RESTRICTED SHARES OF PUBLIC COMPANIES ARISE

Unregistered or restricted shares can arise in a variety of ways, for example:

- **Shares not registered at the time of IPO.** Underwriters of initial public offerings often are not willing to have all of the outstanding stock registered for public trading at the time of the offering. They are concerned about the risk that insiders may bail out and depress the market. Alternatively, shares might be registered but restricted from trading by a ''lockup agreement'' for some negotiated period of time.
- **Shares issued in an acquisition.** Companies often use stock to acquire other companies. The stock issued in an acquisition in many cases is unregistered or subject to restrictions on its sale.
- **Private placements.** Companies often sell unregistered shares privately to raise capital without incurring the delay or expense of registering the shares at the time of the placement.

In any of the above scenarios, the owners of the restricted stock may or may not have contractual rights to register the stock at some point in the future or when certain conditions are met.

NATURE AND RESULTS OF RESTRICTED STOCK STUDIES

In any case, *although the unregistered or restricted shares cannot be sold on the open market, blocks of shares may be sold in private transactions*. Thus, the restricted stock studies compare the prices of the restricted stock sales to the public market trading prices on the same day. Since the shares are identical in every respect except for their trading status, the difference is due solely to marketability and thus serves as empirical evidence of and a benchmark for the amount of discount that the market requires for the lack of marketability.

There have been many independent studies of such transactions. The studies have covered hundreds of transactions from 1966 through the present time. Details of the various restricted stock studies are included in Chapters 6.

In 1977 the IRS issued Revenue Ruling 77-287, which recognized the restricted stock studies as empirical data useful for guidance in quantifying discounts for lack of marketability. Exhibit 5.1 summarizes the restricted stock studies. At least up until 1990, the average or median discounts hovered around 33 to 35 percent.

There is one database available that provides individual stock transactions, the FMV Restricted Stock Study. It is described in the next chapter.

LIQUISTAT DATABASE

The LiquiStat database, a study by Espen Robak at Pluris Valuation Advisors LLC, is a continuously updated database of transactions in the secondary market for illiquid

Exhibit 5.1 Summary of Restricted Stock Transaction Studies

Time Period	Study	Number of Transactions	Average Discount
1/66–6/69	SEC Institutional Investor	398	25.8%[1]
1/68–12/70	Milton Gelman	89	33.0%
1/68–12/72	Robert Trout	60	33.5%
1/68–12/72[2]	Robert Moroney	148	35.6%
1/69–12/73	Michael Maher	33	35.4%
10/78–6/82	Standard Research Consultants	28	45.0%[3]
1/81–12/88	William Silber	69	33.8%
1/79–4/92	FMV Opinions, Inc.	>100	23.0%
1/80–12/96	Management Planning, Inc.	53	27.1%
1/91–12/95	Bruce Johnson	70	20.0%
1/96–4/97	Columbia Financial Advisors	23	21.0%[4]
5/97–12/98	Columbia Financial Advisors	15	13.0%[5]

[1] The average was 32.6% for OTC companies not required to file reports with the Securities and Exchange Commission.

[2] The exact ending month is not specified.

[3] Median.

[4] Median was 14.0.

[5] Median was 9.0.

securities. Different from other studies, the LiquiStat database specializes in the analysis of discounts taken when investors not affiliated with the issuing company sell restricted stock in private transactions to other investors. See Exhibit 7.1 for the LiquiStat discounts for restricted stock. The LiquiStat database is available at www.PlurisValuation.com. The LiquiStat database is further analyzed in Chapter 7.

RESULTS OF THE SECURITIES AND EXCHANGE COMMISSION'S LOOSENING OF RESTRICTIONS

In 1990 the SEC eliminated the requirement that all restricted stock transactions be registered with it. It issued Rule 144A, which allows qualified institutional investors to trade unregistered securities among themselves without filing registration statements. This created a somewhat more liquid market for the unregistered securities, thus starting a significant trend of reducing the average discounts observed in restricted stock transactions because of the looser restrictions.

In February 1997 the SEC announced that, effective April 29, 1997, the required holding period for securities restricted pursuant to Rule 144 would be reduced from two years to one year. This significantly increased the liquidity of restricted securities. As can be seen from the only restricted stock studies covering the post-1997 period as of our publication date (the Columbia Financial Advisors studies included in Exhibit 5.1), this change significantly reduced the average discount that the market requires for holding restricted securities.

Lately, the SEC made another announcement that, effective February 15, 2008, changes to Rule 144 modified the restricted stock holding period from one year to six months.[2]

Restricted stocks, by definition, are stocks of companies that already have established public markets. When the restrictions are lifted, an active public market will be available to

the owners of the shares. Private companies enjoy no such market or imminently prospective market. Therefore, it is reasonable to expect that the discount for lack of marketability for minority shares of private companies would be greater than that for restricted stocks.

As can be seen from Exhibit 5.1, prior to 1990 the discounts for smaller public company restricted stocks clustered in the area of 33 to 35 percent. (Size of the company is a factor impacting the magnitude of the discount for lack of marketability, as will be discussed further in Chapter 11.) Since 1990, apparently because the restrictions have been progressively loosened, the discounts have been lower, and the restricted stock study average discounts have become even less relevant as a proxy for private company minority interest discounts for lack of marketability, especially since the holding period was reduced to one year and then six months.

This turn of events does, however, provide a good illustration of the effect that higher marketability, higher liquidity, and shorter holding periods have on the relative magnitude of the discount. Extrapolation of these data to private company situations with longer holding periods and less marketability may provide another tool for analyzing the discount.

For example, suppose a stock were absolutely prohibited from sale in a lockup situation, but the lockup expired the next day. Buyers would feel fairly comfortable paying nearly full price for the stock because the next day they would have completely liquid shares just like everyone else. Therefore, one could start with a data point of approximately zero discount for a one-day holding period until the stock became liquid.

The data from the various restricted stock studies have shown that, as the holding period for relatively marketable restricted stock is reduced from two years to one, the discount is reduced from the 20s into the teens. The discount for very restricted stock with a two-year holding period (that is, pre-1990) versus the discount for relatively restricted stock (post-1990, but pre-1997) is the difference between approximately 33 to 35 percent and something in the low 20s. These relationships could be used to construct fitted curves that would quantify the discount for completely unmarketable stock with, for example, an expected 5- or 10-year holding period. (See Appendix D for some additional considerations in this type of analysis.)

This approach is enhanced by another series of studies that comes closer to providing a direct proxy for private company minority interest discounts for lack of marketability: the pre-IPO studies will be discussed next.

PRE–INITIAL PUBLIC OFFERING DISCOUNT FOR LACK OF MARKETABILITY STUDIES

Starting in 1975, another series of studies addressed the quantification of discounts for lack of marketability for minority shares of privately held companies. These studies observed transactions in privately held companies that eventually completed initial public offerings (IPOs). In each transaction, the private transaction price was compared to the public offering price, and the percentage discount from the public offering price was considered a proxy for the discount for lack of marketability.

Although the results of these three series of studies consistently showed higher discounts than the restricted stock studies, these discounts still may understate true average discounts for lack of marketability for minority shares of most privately held companies, because in many cases the buyers and sellers knew about the possibility of future

liquidity through a public offering. However, the studies do represent actual trades in closely held company shares and, as such, embody another source of direct empirical evidence on the topic of discounts.

The following elements of uncertainty are embodied in the pre-IPO discounts:

- It is not known for sure whether the IPO will happen. Market conditions can change rapidly.
- The price of the IPO cannot be known.
- Because the company is private at the time of the transactions, there may be uncertainty as to the current value of the firm.
- Once the company does go public, officers, employees, affiliates, and others still may own restricted stock subject to lockup provisions, which further extends the expected holding period and exposes the owner to market volatility.

Two of the companies stopped doing the studies after 2000. Willamette Management Associates never made their underlying data public, only their annual averages. The details (entire transaction database) of the John Emory studies are the subject of Chapter 9. The Valuation Advisers database is available in its entirety through Business Valuation Resources, and is the subject of Chapter 10.

These studies, taken together with the restricted stock studies, offer powerful evidence of the size of the impact of lack of marketability on the values of minority stock interests.

For example, in *Estate of Davis*,[3] I used both types of studies to quantify the discount for lack of marketability. The judge criticized the IRS expert for using only restricted stock studies, which did not give the full range of available evidence. In *Okerlund*,[4] we went into both types of databases and selected companies with characteristics most in common with the subject company. The result was a 40 percent discount for lack of marketability on one valuation date and 45 percent on the second valuation date, even though the company had over $1 billion in sales. In *Bradley J Berquist and Angela Tendick et al. v. Commissioner*,[5] the expert for the IRS used both sets of data, resulting in a 45 percent discount for lack of marketability.

Willamette began its series of studies specifically to help quantify the discount for lack of marketability in the *Estate of Gallo v. Commissioner* case.[6]

COURTS' AVERSION TO "BENCHMARKING"

"Benchmarking" has come to be the term used for merely citing average or median results of studies in support of quantifying the discount for lack of marketability. Courts find it much more convincing when experts go into the databases and select transactions that have characteristics in common with the subject company.

Such factors include size, profitability, size of block relative to shares outstanding, dividend payments, potential for public offering or other liquidity event, information access and reliability, and other characteristics. These are discussed in Chapter 11, "Factors Affecting Discounts for Lack of Marketability for Minority Interests." Interestingly, in most years, industry is not a big factor, except for financial institutions, which tend to have somewhat smaller discounts for lack of marketability than other industries.

REGULATORY AND COURT RECOGNITION OF EMPIRICAL MARKETABILITY DISCOUNT STUDIES

The IRS and the courts have recognized the two series of empirical studies discussed in this chapter as guidance in quantifying discounts for lack of marketability.

REVENUE RULING 77-287

In 1977 the Internal Revenue Service published Revenue Ruling 77-287, which recognized the restricted stock studies as valid empirical evidence for quantifying discounts for lack of marketability. The full text of Revenue Ruling 77-287 is included as Appendix D.

The restricted stock studies are also discussed in the *IRS Valuation Training for Appeals Officers Coursebook* at pages 11-2 through 11-7.[7]

RECOGNITION OF PRE–INITIAL PUBLIC OFFERING STUDIES

The first of the pre-IPO studies had not yet been published at the time of Revenue Ruling 77-287. The IRS discusses the pre-IPO studies briefly in the *IRS Valuation Training for Appeals Officers Coursebook* at pages 9-3 through 9-6.

In *Mandelbaum v. Commissioner*, the only issue was the size of the discount for lack of marketability. Judge David Laro stated that he used the restricted stock studies and pre-IPO studies as his starting point and adjusted upward or downward based on a variety of factors.[8] (The factors are discussed in Chapter 11.)

In *Estate of Davis v. Commissioner*, expert witnesses for the taxpayer considered both restricted stock and pre-IPO studies, while the expert for the IRS used only restricted stock studies.[9] The court chose a discount for lack of marketability closer to the opinions of the taxpayer's experts, explaining that the IRS expert should have considered both lines of studies to have a more comprehensive basis for his opinion.

In *Howard v. Shay*,[10] the discount for lack of marketability, determined by using a pre-IPO database, was upheld both at the initial trial and on remand.

Both the taxpayer's expert and the IRS's expert in *Okerlund v. United States*[11] used specific transactions from both the restricted stock studies and pre-IPO studies to determine discounts on two different valuation dates. The court determined a discount for one date that was closer to the taxpayer's expert's and accepted the taxpayer's expert's discount for the other date.

The Tax Court in *Estate of Green v. Commissioner*,[12] while recognizing the pre-IPO studies, indicated that they did not warrant a discount greater than 35 percent. In other cases, however, the Tax Court has upheld a greater discount for lack of marketability that was based at least in part on pre-IPO data.[13]

SUMMARY

Marketability or liquidity is the ability to convert ownership interests to cash quickly, with minimum transaction costs and at a price very close to a known market price. This attribute is very important to investors. It means they can get their money whenever they want or need it. They do not risk being unable to sell during changing internal company or market conditions. Their proceeds are not diluted by high costs of finding a buyer and

effecting a transaction. Because of the current active market, quoted regularly, they do not risk overestimating expected proceeds from sale. Investors demand a much higher expected rate of return if they incur these risks, not infrequently an amount double or triple the rate of return they would expect from a fully liquid investment. They demand this return in the form of a substantially discounted price compared with the price of an otherwise comparable but fully liquid investment.

A large amount of empirical data is available to help quantify this discount for minority interests in closely held companies. The data fall into two major categories:

1. Trades in restricted or illiquid stocks of publicly traded companies
2. Trades in stocks of privately held companies prior to an IPO

Because of the loosening of restrictions on transactions in restricted public stocks and the resulting increase in their marketability, the restricted stock studies show that transactions since 1990 generally have lower discounts than pre-1990 transactions. This makes current restricted stock transactions somewhat less useful in determining private minority discounts. However, changes in the discount during the 1990s have shed light on the relative magnitude of marketability discounts as a function of the holding period and the degree to which the shares are restricted from resale.

The pre-IPO studies more closely represent the actual circumstances of a closely held company stockholder and thus are generally regarded as a better direct proxy for closely held company minority stock discounts for lack of marketability.

This chapter has addressed only the concept and importance of marketability (and the penalties for lack of it) and data quantifying average discounts for lack of marketability for minority interests. Subsequent chapters address:

- Factors influencing the magnitudes of the discount for lack of marketability
- Quantifying the discount when net asset value is the starting point
- Discounts for lack of marketability for controlling interests
- Courts' treatment of discounts for lack of marketability

The IRS has recognized the restricted stock studies as empirical evidence of lack of marketability in Revenue Ruling 77-287. The U.S. Tax Court and U.S. District Courts have recognized both the restricted stock studies and pre-IPO studies on many occasions. Some appellate courts have also effectively accepted them.[14]

NOTES

1. Jim Jordon, "Clearinghouse Debacle Illustrates Value of Marketability," *Shannon Pratt's Business Valuation Update* (April 1997): 9 (as modified).
2. Please refer to "Revisions to Rules 144 and 145: A Small Entity Compliance Guide." The guide was prepared by the staff of the U.S. Securities and Exchange Commission under Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996, as amended. The guide is available at www.sec.gov/info/smallbus/secg/rules144-145-secg.htm.
3. *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).

4. *Okerlund v. United States*, 53 Fed. Cl. 341 (Fed. Ct. 2002), *motion for new trial denied,* 2003 U.S. Claims LEXIS 42 (Fed. Cl. 2003), *aff'd,* 93 AFTR 2d 2004-1715 (Fed. Cir. 2004).
5. *Berquist v. Commissioner,* 2008 U.S. Tax Ct. LEXIS 20, 131 T.C. No. 2 (2008).
6. *Estate of Gallo v. Commissioner,* T.C. Memo. 1985-363, 50 T.C.M. (CCH) 470 (1985).
7. Internal Revenue Service, *IRS Valuation Training for Appeals Officers Coursebook* (Chicago: Commerce Clearing House, Incorporated, 1998).
8. *Mandelbaum v. Commissioner,* T.C. Memo. 1995-255, 69 T.C.M. (CCH) 2852 (1995).
9. *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).
10. *Howard v. Shay*, 1993 U.S. Dist. LEXIS 20153 (C.D. Cal. 1993), *rev'd and remanded*, 100 F.3d 1484 (9th Cir. 1996).
11. *Okerlund v. United States*, 53 Fed. Cl. 341 (Fed. Ct. 2002), *motion for new trial denied,* 2003 U.S. Claims LEXIS 42 (Fed. Cl. 2003), *aff'd,* 93 AFTR 2d 2004-1715 (Fed. Cir. 2004).
12. *Estate of Green v. Commissioner*, T.C. Memo 2003-348 (U.S. Tax Ct. 2003).
13. See, e.g., *Estate of Brookshire v. Commissioner*, T.C. Memo 1998-365 (U.S. Tax Ct. 1998) (40 percent discount derived from both restricted stock and pre-IPO studies); *Okerlund v. United States*, 53 Fed. Cl. 341 (Fed. Ct. 2002), *motion for new trial denied,* 2003 U.S. Claims LEXIS 42 (Fed. Cl. 2003), *aff'd,* 93 AFTR 2d 2004-1715 (Fed. Cir. 2004) (40 percent and 45 percent discounts, respectively, derived from both restricted stock and pre-IPO studies).
14. See, e.g., *McCord v. Commissioner*, 120 T.C. No. 13, 2003 U.S. Tax Ct. LEXIS 16 (U.S. Tax Ct. 2003), *rev'd,* 2006 U.S. App. LEXIS 21473 (5th Cir. 2006) (a split Tax Court had rejected the pre-IPO studies, but the Fifth Circuit reinstated a valuation that had relied on them).

Chapter 6

Synopsis of Restricted Stock Studies

Securities and Exchange Commission Institutional Investor Study
Gelman Study
Trout Study
Moroney Study
Maher Study
Standard Research Consultants Study
Silber Study
FMV Opinions Study
Management Planning Study
  Factors with the Most Explanatory Power
    Size of Revenues
    Size of Earnings
    Price Stability
    Value of Block
    Quarters to Sell Block
    Trading Volume
  Factors with Some Explanatory Power
    Revenue Stability
    Earnings Stability
  Factors with Minimum Explanatory Power
    Debt Ratio
    Shares Outstanding
    State of Market
Johnson Study
Columbia Financial Advisors Study
LiquiStat Database
Summary

This chapter summarizes all available published restricted stock studies and, in addition, includes tabular material from several of the studies.

Quite clearly, discounts on restricted stocks compared to freely traded stock prices were lower starting in 1990 when the SEC issued Rule 144A relaxing the Rule 144 restrictions, and a further trend toward lower discounts began in 1997, when the required holding period under Rule 144 was reduced from two years to one year. This

This chapter was updated from the first edition by Alina V. Niculita.

demonstrates that the perceived holding period is a major factor affecting the size of the discount for lack of marketability.

Several of the studies include analyses of other factors affecting the size of the discount, and these results are summarized within the synopsis of each study. The results are generally consistent from study to study, but not universally so. Chapter 11 analyzes these influences by factor rather than by study. The most important factor, dividend payouts, does not show up in the restricted stock studies because very few of the companies in which restricted stock transactions were involved paid any dividends. Chapter 11 brings the payout factor into perspective by reference to data other than the restricted stock transactions.

SECURITIES AND EXCHANGE COMMISSION INSTITUTIONAL INVESTOR STUDY

To this day, the SEC Institutional Investor Study[1] is the most comprehensive restricted stock study, encompassing 398 transactions from January 1, 1966, through June 30, 1969. The SEC broke down the transactions by several criteria:

- Trading market
- Type of institutional purchaser
- Transaction size
- Sales of issuer
- Earnings of issuer

The results of these breakdowns are shown in Exhibits 6.1 through 6.6.

The differences in discounts among different trading markets were significant, as shown in Exhibit 6.1. The smallest discounts were found among stocks listed on the New York Stock Exchange (NYSE). Next were American Stock Exchange (ASE) and over-the-counter (OTC) reporting companies. Most significantly, the largest discounts were found among OTC nonreporting companies, with well over 50 percent of the transactions showing discounts in excess of 30 percent. These are companies that are public but, because of the asset size or number of stockholders, do not have to file the annual 10-K or other reports with the SEC. *These are the companies that come closest to resembling privately held companies.*

The differences by type of purchasing institution, as shown in Exhibit 6.2, are not especially significant. The transaction size, illustrated in Exhibit 6.3, did not seem especially important either. The size factor, however, measured by sales as shown in Exhibits 6.3 and 6.4, was significant. Blocks of stock of companies with smaller sales tended to sell at larger discounts. Over 50 percent of transactions in stocks of companies with sales of less than $5 million took place at discounts of 30 percent or higher.

Even more significant than size of sales was size of earnings, as shown in Exhibits 6.5 and 6.6. Blocks of stock of companies with lower earnings tended to sell at greater discounts than those with larger earnings; this is shown especially clearly in Exhibit 6.5. Over 60 percent of transactions in companies with earnings of less than $1 million took place at discounts of 20 percent or more. On the other hand, over 60 percent of transactions in companies with earnings more than $1 million took place at discounts of 20 percent or less.

Exhibit 6.1 Discounts on Purchase Price of Restricted Common Stock Classified by Trading Market

January 1, 1966, to June 30, 1969
DISCOUNT

Trading Market	–15.0% to 0.0%		0.1% to 10.0%		10.1% to 20.0%		20.1% to 30.0%		30.1% to 40.0%		40.1% to 50.0%		50.1% to 80%		Totals	
	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)
Unknown	1	1,500,000	2	2,496,583	1	205,000	0	—	2	3,332,000	0	—	1	1,259,995	7	8,793,578
New York Stock Exchange	7	3,760,663	13	15,111,798	13	24,503,988	10	17,954,085	3	11,102,501	1	1,400,000	4	5,005,068	51	78,838,103
American Stock Exchange	2	7,263,060	4	15,850,000	11	14,548,750	20	46,200,677	7	21,074,298	1	44,250	4	4,802,404	49	109,783,432
Over-the-Counter (Reporting Co.)	11	13,828,757	39	13,613,676	35	38,585,259	30	35,479,946	30	38,689,328	13	9,284,047	21	8,996,406	179	178,477,419
Over-the-Counter (Non-Reporting Co.)	5	8,329,369	9	5,265,925	18	25,122,024	17	11,229,155	25	29,423,584	20	11,377,431	18	13,505,545	112	104,253,033
TOTAL	26	34,681,849	67	52,337,982	78	102,965,021	77	110,863,863	67	123,621,711	35	22,105,728	48	33,569,418	398	480,145,572

Source: SEC Institutional Investor Study.

Exhibit 6.2 Discounts on Purchase Price of Restricted Common Stock Classified by Institutional Purchaser

January 1, 1966, to June 30, 1969
DISCOUNT

Class of Institution	–15.0% to 0.0%		0.1% to 10.0%		10.1% to 20.0%		20.1% to 30.0%		30.1% to 40.0%		40.1% to 50.0%		50.1% to 80%		Totals	
	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)	No. of Transactions	Value of Purchases (Dollars)
Banks	6	10,803,050	17	15,021,358	31	35,624,259	26	44,586,199	18	44,581,008	9	3,838,055	12	3,047,068	119	157,500,99
Investment Advisors	7	6,012,188	13	24,429,493	27	50,390,544	26	37,654,718	32	60,149,780	16	13,630,681	16	20,695,041	137	212,962,44
Property and Liability Insurance Companies	1	1,500,000	2	1,438,375	3	2,418,279	3	7,342,061	0	—	3	1,850,000	2	1,659,995	14	16,208,710
Life Insurance Companies	5	6,909,369	2	2,029,500	8	7,735,412	13	9,720,627	8	10,174,527	2	999,993	5	3,631,414	43	41,200,842
Self-Administered Employee Benefit	4	3,109,932	29	3,733,256	2	3,653,133	3	1,748,856	0	—	0	—	2	2,000,000	40	14,245,177
Foundations	0	—	2	3,140,000	1	429,000	0	—	0	—	0	—	0	—	3	3,569,000
Educational Endowments	1	284,250	1	2,500,000	2	600,000	1	1,300,000	0	—	2	1,000,000	1	207,000	8	5,891,250
Venture Capital	2	6,063,060	1	46,000	4	2,114,394	5	8,511,402	9	8,716,396	3	786,999	10	2,328,900	34	28,567,151
TOTAL	26	34,681,849	67	52,337,982	78	102,965,021	77	110,863,863	67	123,621,711	35	22,105,728	48	33,569,418	398	480,145,572

Source: SEC Institutional Investor Study.

Exhibit 6.3 Discounts on Purchase Price of Restricted Common Stock Classified by Size of Transaction and Sales of Issuer

	January 1, 1966, to June 30, 1969 DISCOUNT													
	50.1% or More		40.1% to 50.0%		30.1% to 40.0%		20.1% to 30.0%		10.1 to 20.0%		0.1% to 10.0%		Totals	
Sales of Issuer (Thousands of Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)
Less than 100	11	2,894,999	7	2,554,000	17	19,642,364	16	12,197,394	6	12,267,292	9	12,566,000	66	62,122,049
100–999	7	474,040	2	1,221,000	0	—	1	500,000	1	1,018,500	2	3,877,500	13	7,091,040
1,000–4,999	8	4,605,505	13	8,170,747	12	10,675,150	15	9,865,951	10	9,351,738	3	2,295,200	61	44,964,291
5,000–19,999	6	1,620,015	4	1,147,305	13	25,986,008	25	27,238,210	24	21,441,347	47	12,750,481	119	90,183,366
20,000–99,999	3	605,689	3	4,372,676	6	11,499,250	8	11,817,954	18	22,231,737	17	36,481,954	55	87,009,260
100,000 or More	2	1,805,068	0	—	2	2,049,998	3	7,903,586	10	24,959,483	7	10,832,925	24	47,551,060
TOTAL	37	12,005,316	29	17,465,728	50	69,852,770	68	69,523,095	69	91,270,097	85	78,804,060	338	338,921,066

Source: SEC Institutional Investor Study.

Exhibit 6.4 Average Discounts on Purchase Price of Restricted Common Stock Classified by Sales of Issuer by Year

	SALES OF ISSUER (Thousands of Dollars)													
	Less than 100		100 to 999		1,000 to 4,999		5,000 to 19,999		20,000 to 99,999		100,000 or More		Totals	
Year	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)
1966	0	—	0	—	1	61.4	7	23.8	10	9.3	3	.2	21	15.3
1967	1	17.2	3	79.4	11	37.4	36	9.5	6	6.2	6	11.2	63	17.7
1968	2	25.6	5	30.0	36	32.6	47	18.7	26	23.9	11	21.1	127	24.5
1969 (first half)	3	41.4	5	45.5	13	26.9	29	27.1	13	21.4	4	25.8	67	27.9
TOTAL	6	32.1	13	47.4	61	32.7	119	18.3	55	18.7	24	16.8	178	23.1

Source: SEC Institutional Investor Study.

Note: Averages of discounts are weighted by the number of transactions in each range of sales.

Exhibit 6.5 Discounts on Purchase Price of Restricted Common Stock Classified by Earnings of Issuer

	January 1, 1966, to June 30, 1969 DISCOUNT													
	50.1% or More		40.1% to 50.0%		30.1% to 40.0%		20.1% to 30.0%		10.1 to 20.0%		0.1% to 10.0%		Totals	
Earnings of Issuer (Thousands of Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)	No. of Transactions	Size of Transactions (Dollars)
Deficit	0	—	0	—	0	—	0	—	0	—	0	—	0	—
0–99	27	6,901,243	19	11,003,559	28	37,681,014	31	32,796,968	19	25,122,042	46	29,553,418	170	143,058,244
100–999	8	3,299,005	10	6,462,169	19	26,121,758	24	20,344,492	25	16,790,565	16	12,480,144	102	85,498,133
1,000–9,999	0	—	0	—	3	6,049,998	12	16,313,549	17	27,948,007	15	16,955,530	47	67,267,084
10,000 or More	2	1,805,068	0	—	0	—	1	68,086	8	21,409,483	8	19,814,968	19	43,097,605
TOTAL	37	12,005,316	29	17,465,728	50	69,852,770	68	69,523,095	69	91,270,097	85	78,804,060	338	338,921,066

Source: SEC Institutional Investor Study.

Exhibit 6.6 Average Discounts on Purchase Price of Restricted Common Stock Classified by Earnings of Issuer by Year

	EARNINGS OF ISSUER (Thousands of Dollars)											
	Deficit		0 to 99		100 to 999		1,000 to 9,999		10,000 or More		Totals	
Year	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)	No. of Transactions	Average Discount (Percentages)
1966	0	—	8	14.7	5	25.6	4	10.7	4	8.4	21	15.3
1967	0	—	35	21.8	12	19.2	12	8.1	4	4.9	63	17.7
1968	0	—	48	27.1	49	26.0	21	15.5	9	23.2	127	24.5
1969 (first half)	0	—	19	33.3	36	26.6	10	23.8	2	19.3	67	27.9
TOTAL	0	—	110	25.6	102	25.4	47	15.0	19	15.8	278	23.1

Source: SEC Institutional Investor Study.

Note: Averages of discounts are weighted by the number of transactions in each range of earnings.

Exhibit 6.7 Distribution of Discounts in Gelman Study

Size of Discount	No. of Common Stocks	% of Total
Less than 15.0%	5	6%
15.0–9.9	9	10
20.0–24.9	13	15
25.0–29.9	9	10
30.0–34.9	12	13
35.0–39.9	9	10
40.0 and over	32	36
Total	89	100%

Source: Milton Gelman, "An Economist-Financial Analyst's Approach to Valuing Stock of a Closely-Held Company," *Journal of Taxation* (June 1972): 353–354. © 1972 Warren, Gorham & Lamont, of RIA, 395 Hudson Street, New York, NY 10014, reprinted with permission.

GELMAN STUDY

Milton Gelman studied the transactions through the end of 1970 by four mutual funds established in 1968 specifically for the purpose of investing in restricted stocks.[2] He reported that both the mean and median discount for 89 stocks studied was 33 percent.

The distribution of discounts observed by Gelman is shown in Exhibit 6.7. Significantly, 60 percent of all transactions were at discounts greater than 30 percent, and 36 percent of all the transactions were at discounts greater than 40 to 45 percent. Nevertheless, to this date, the U.S. Tax Court has recognized only a few discounts of 40 percent (and only one of 50 percent) in *Huber v. Commissioner*[3] strictly for marketability not combined with any other factors. (The case of *Howard v. Shay* concluded a 50 percent discount for lack of marketability, but that was an ESOP case, not a tax case, and the ESOP did not have a put option, as required of ESOPs formed more recently.[4])

TROUT STUDY

Like Gelman, Robert Trout studied purchases of restricted stocks by mutual funds.[5] His time frame was 1968 to 1972. He used three of the same funds studied by Gelman plus three others. Although he used more funds and a longer time period than Gelman, he made some eliminations, resulting in a total of 60 transactions studied.

Trout used a multiple linear regression analysis to study the impact of several factors on the size of the discount. The effects of each of these factors, from a multiple regression intercept of 43.53, was as follows, controlling for other variables:

- **Listed on exchange.** Discount averaged 8.39 percent less for those listed than for unlisted stocks.
- **Shares outstanding** (a proxy for overall marketability of the company's shares). Discount averaged 4.08 percent less for each 1 million shares outstanding over the study's average of 1.51 million outstanding.
- **Size of transaction.** This was measured in two dimensions, which were somewhat offsetting:

- **Percent of outstanding stock** (voting control). The average discount was 0.87 percent less for each percentage point of outstanding stock above the study's average of 7.41 percent.
- **Value of transaction.** The average discount was 4.75 percentage points higher for every $1 million above the study's average of $1.08 million.

MORONEY STUDY

Robert Moroney, an investment banker in Houston, studied 148 restricted stock purchases by 10 mutual funds from 1968 through 1972.[6] He found a range from a 30 percent premium up to a 90 percent discount, with an average discount of 35.6 percent. The results are shown in Exhibit 6.8.

The Moroney article also gives details of discounts concluded by the U.S. Tax Court up to the time of his study.

MAHER STUDY

J. Michael Maher, an insurance company officer and former IRS gift and estate tax agent, studied purchases of restricted stocks by four mutual funds from 1969 through 1973.[7] He found discounts ranging from a low of 2.79 percent to a high of 75.7 percent, with an average of 35.4 percent. His article includes a complete list of the 33 transactions included in the study.

STANDARD RESEARCH CONSULTANTS STUDY

William Pittock and Charles Stryker, then of the Standard Research division of American Appraisal Associates, analyzed 28 private placements of restricted common stock from October 1978 through June 1982.[8] They found discounts ranging from 7 to 91 percent, with a median of 45 percent. The U.S. equity markets were quite depressed during the latter part of this period, which may explain why the discounts were unusually high for block sales of illiquid stock.

The sample size used in the study is relatively small to make meaningful analyses of factors influencing the size of the discounts. There was some correlation, however, showing that stocks of companies with larger revenues tended to have lower discounts. While profitability in the latest year was not a significant factor, those companies with only one or two years of profitability out of the last five sold at the highest average discounts, while the two companies in the study that were profitable in each of the last five years showed the lowest discounts.

SILBER STUDY

William Silber analyzed 69 private placements from 1981 through 1989.[9] He found a range from a 12.7 percent premium to an 84 percent discount, with an average discount of 33.75 percent.

Exhibit 6.8 Original Purchase Discounts, Moroney Study (Discounts from the quoted market value of the same corporation's "free" stock of the same class)

Investment Company	Original Purchase Discount	Number of Blocks
Bayrock Growth Fund, Inc., New York City (formerly Fla. Growth Fund)	4 blocks bought at discounts of 12%, 23%, 26%, 66%, respectively	4
Diebold Venture Capital Corp., New York City	6 blocks bought at discounts of 16%, 20%, 20%, 23%, 23%, 50%, respectively	6
Enterprise Fund, Inc., Los Angeles	10 blocks bought at discounts of 31%, 36%, 38%, 40%, 49%, 51%, 55%, 63%, 74%, 87%, respectively	10
Harbor Fund, Inc., Los Angeles	1 block bought at a discount of 14%	1
Inventure Capital Corp., Boston	At acquisition dates all blocks were valued at cost	—
Mates Investment Fund, Inc., New York City	1 block bought at a discount of 62%	1
New America Fund, Inc., Los Angeles (formerly Fund of Letters, Inc.)	32 blocks bought at discounts of 3%, 3%, 14%, 14%, 16%, 21%, 25%, 26%, 27%, 33%, 33%, 33%, 35%, 36%, 36%, 37%, 37%, 39%, 40%, 40%, 43%, 44%, 46%, 47%, 49%, 51%, 53%, 53%, 56%, 57%, 57%, 58%, respectively	32
Price Capital Corp., New York City	7 blocks bought at discounts of 15%, 29%, 29%, 32%, 40%, 44%, 52%, respectively	7
SMC Investment Corp., Los Angeles	12 blocks bought at 30% premium, discounts 4%, 25%, 26%, 32%, 33%, 34%, 38%, 46%, 48%, 50%, 78%, respectively	12
Value Line Development Capital Corp., New York City	35 blocks bought at discounts of 10%, 15%, 15%, 15%, 15%, 15%, 20%, 23%, 28%, 28%, 28%, 30%, 30%, 30%, 30%, 30%, 32.5%, 35%, 40%, 40%, 40%, 40%, 40%, 40%, 45%, 50%, 50%, 50%, 50%, 53%, 55%, 55%, 65%, 70%, 90%, respectively	35
Value Line Special Situations Fund, Inc., New York City	38 blocks bought at discounts of 10%, 13%, 15%, 15%, 17%, 17%, 20%, 20%, 20%, 23%, 25%, 25%, 25%, 25%, 26.5%, 27%, 27%, 30%, 30%, 30%, 30%, 30%, 30%, 30%, 30%, 33%, 37.5%, 40%, 40%, 40%, 40%, 45%, 55%, 55%, 56%, 56%, 60%, 81%, respectively	38

Source: Robert E. Moroney, "Most Courts Overvalue Closely Held Stocks," *Taxes—The Tax Magazine* (March 1973): 144–156. Published and copyrighted by CCH Incorporated, 2700 Lake Cook Road, Riverwoods, IL 60015, reproduced with permission.

Silber investigated several factors that might help explain the different levels of discount. He found that private placements of companies with higher revenues tended to sell at lower discounts, but this accounted for only a few percentage points.

Silber's results regarding transaction size were in direct contrast to those of Trout (although he did not reference the Trout study):

- **Percent of outstanding stock.** "Discounts are larger when the block of restricted stock is large relative to the total shares outstanding."[10]
- **Value of transaction.** ". . . [T]he dollar size of the issue is inversely related to the discount."[11]

FMV OPINIONS STUDY

FMV Opinions, Inc., a business valuation firm, examined over 471 restricted stock transactions from 1980 through March 2005.[12] The mean discount was reported as 22.1 percent.

The authors offered several generalizations about factors affecting the size of the discount for lack of marketability:

- Discounts were lower for companies with higher revenues and higher earnings.
- Discounts were lower for those companies whose unrestricted stocks were traded on the larger exchanges.
- The discounts were highest for blocks of stock valued at under $10 million and decreased as the size of the block exceeded $10 million.
- However, discounts were higher for blocks exceeding 10 percent of ownership than for blocks representing smaller percentages.
- Discounts for lack of marketability were higher as the capitalization of the corporation decreased.
- For companies with capitalizations under $50 million, average discounts were 28.9 percent, and median discounts were 28.0 percent.

Overall, FMV staff reviewed thousands of transactions during the construction of the study. Transactions were eliminated from the study for the following reasons:

- The transaction was not a private placement, or was announced and later withdrawn.
- The stock was not traded on a domestic exchange.
- The stock traded below $1 for the entire month of the transaction.
- Significant pieces of information were unavailable, to the extent that the private placement discount could not be determined. This includes issues where the reference market price for the fully liquid shares was not available, where the private placement transaction price was unavailable, or issues where only the net transaction proceeds to the issuer were reported publicly (net of unknown transaction costs and fees).
- The transaction was not a plain vanilla common stock issue. The stock was either preferred stock, convertible preferred stock, or some kind of hybrid equity-derivative

security; or it was issued as part of a stock warrant unit or had units attached; or detachable units, warrants, or options were issued with the common stock.

- There were special contractual arrangements between buyer and seller limiting either the economic upside or downside of the buyer.
- The stock was issued in connection with a merger or acquisition, in exchange for services, or in connection with any other transaction that could cast doubt on what the fair market value of the restricted stock was.
- The stock was registered and became fully marketable either prior to the transaction or within thirty days of it.

This "cleaning process" eliminated over 90 percent of transactions reviewed, leaving the current database (as of October 2008) of almost 500 plain vanilla private placements of restricted common stock. Over time, with the addition of eligible transactions, the study evolved into a database available online at www.bvmarketdata.com, the *FMV Restricted Stock Study*. The database includes restricted stock transaction data from two time frames, (1) transactions prior to March 1, 1997, having a two-year holding period on the restricted stock and (2) transactions from March 1, 1997, to March 2005 having a one-year holding period on the restricted stock. As a result, the database can be searched by either a one-year or two-year holding period, among other search criteria. As of the time of this writing, the *FMV Restricted Stock Study* included 242 transactions with a two-year holding period with a 22 percent average discount and a 20 percent median discount, and 229 transactions with a one-year holding period with a 22 percent average discount and an 18 percent median discount.[13] As of the time of this writing, the SEC further reduced the holding period on restricted stock from one year to six months, and the study was in the process of being updated with new transactions in stock with a six-month holding period.

MANAGEMENT PLANNING STUDY

Robert Oliver[14] and Roy Meyers studied private placements for the period from January 1, 1980, through December 31, 2000.[15] They considered transactions that were noted in *Investment Dealers Digest, Private Placement Letter,* and *Private Equity Week* leading up to the time of the study.

A total of 59 transactions were further studied after eliminating transactions involving the following:

- Market price under $2 per share
- Less than $3 million sales volume
- Companies characterized as "startup" or "developmental stage"
- Companies lacking adequate information
- Transactions that were known to have forms registration rights

The underlying data for the transactions in the Management Planning Study as of the time of this writing is presented in Exhibit 6.9. The authors offered the following broad observations about the 59 selected transactions:

Exhibit 6.9 Analysis of Private Sales of Unregistered Common Stock, Management Planning Study

Date	Company	Location of Market	Number of Shares Sold Privately (000)	Private Sale Price Per Share ($)	Market Price Per Share ($)	Discount
3/6/1985	Air Express International Corp.	A.S.E.	714	7.00	7.00	0.0%
10/19/1993	AirTran Corp.	O.T.C.	1,379	7.25	9.00	19.4%
10/30/1980	Anaren Microwave, Inc.	O.T.C.	200	6.25	9.50	34.2%
12/14/1982	Angeles Corp.	O.T.C.	160	11.25	14.00	19.6%
3/4/1996	ARC Capital	O.T.C.	1,400	1.63	2.00	18.8%
10/30/1985	AW Computer Systems, Inc.	O.T.C.	1,152	1.60	3.75	57.3%
7/12/1983	Besicorp Group, Inc.	O.T.C.	750	2.00	4.719	57.6%
4/8/1991	Bioplasty, Inc.	O.T.C.	1,100	10.50	15.25	31.1%
12/12/1996	Biopool International, Inc.	O.T.C.	500	2.19	2.50	12.5%
4/2/1998	Black Warrior Wireline Corp.	O.T.C.	596	5.50	7.56	27.3%
5/14/1993	Blyth Holdings, Inc.	O.T.C.	371	12.00	17.50	31.4%
2/5/1984	Byers Communications Systems, Inc.	O.T.C.	323	15.50	20.00	22.5%
1/10/1995	Centennial Technologies, Inc.	A.S.E.	75	8.75	9.00	2.8%
8/8/1995	Chantal Pharmaceutical Corp.	O.T.C.	1,000	4.90	8.875	44.8%
4/1/1981	Crystal Oil Co.	A.S.E.	937	26.67	35.13	24.1%
3/12/1986	Cucos, Inc.	O.T.C.	340	5.89	7.25	18.8%
9/23/1994	Davox Corporation	O.T.C.	533	1.88	3.50	46.4%
1/13/1988	Del Electronics	O.T.C.	184	2.14	3.625	41.0%
2/28/1996	Dense Pac Microsystems, Inc.	O.T.C.	900	5.00	6.50	23.1%
7/1/1992	Edmark Corp.	O.T.C.	381	5.25	6.25	16.0%
11/10/1981	Electro Nucleonics	O.T.C.	111	9.50	12.625	24.8%
9/22/1995	Esmor Correction Services, Inc.	O.T.C.	497	7.75	11.50	32.6%
3/27/1991	Gendex Corp.	O.T.C.	400	12.50	15.00	16.7%
10/31/1986	Harken Oil & Gas, Inc.	O.T.C.	1,351	1.48	2.125	30.4%
6/16/1998	HORIZON Pharmacies, Inc.	A.S.E.	737	9.50	11.75	19.1%
10/23/1997	HORIZON Pharmacies, Inc.	A.S.E.	465	10.08	14.00	28.0%
9/2/1983	ICN Pharmaceuticals, Inc.	N.Y.S.E.	1,000	9.40	10.50	10.5%
3/26/1999	Integrated Transportation Network Group, Inc.	O.T.C.	2,000	2.00	4.4375	54.9%
9/22/1997	Interlink Electronics, Inc.	O.T.C.	324	6.94	9.13	23.9%
3/16/1992	Ion Laser Technology, Inc.	O.T.C.	557	1.75	2.97	41.1%
2/14/1994	Max & Erma's Restaurants, Inc.	O.T.C.	156	7.64	8.75	12.7%
5/8/1986	Medco Containment Services, Inc.	O.T.C.	2,941	34.00	40.25	15.5%
11/20/1985	Newport Pharmaceuticals, Intl., Inc.	O.T.C.	850	7.00	11.25	37.8%
3/5/1996	Nobel Education Dynamics, Inc.	O.T.C.	1,000	12.00	14.875	19.3%
4/11/1993	Noble Roman's, Inc.	O.T.C.	417	3.00	3.625	17.2%
6/1/1987	North American Holding Corporation	O.T.C.	375	8.00	11.50	30.4%
5/31/1983	North Hills Electronics, Inc.	O.T.C.	350	10.50	16.563	36.6%
11/14/1991	Photographic Sciences Corp.	O.T.C.	1,200	4.17	8.25	49.5%
8/18/1993	Presidential Life Corporation	O.T.C.	5,250	7.25	8.625	15.9%
12/21/1989	Pride Petroleum Services, Inc.	O.T.C.	4,300	5.00	6.625	24.5%
6/17/1991	Quadrex Corp.	O.T.C.	1,000	5.00	8.25	39.4%
2/21/1980	Quality Care, Inc.	O.T.C.	600	5.25	8.00	34.4%
12/11/1980	Ragen Precision, Inc.	O.T.C.	200	10.00	11.813	15.3%
3/17/1992	REN Corporation-USA	O.T.C.	1,171	10.25	14.50	29.3%
10/1/1992	REN Corporation-USA	O.T.C.	5,500	9.75	11.875	17.9%
4/18/1997	Reuter Manufacturing, Inc.	O.T.C.	1,517	3.00	4.875	38.5%
11/20/1985	Ryan's Family Steak Houses, Inc.	O.T.C.	250	21.00	23.00	8.7%
3/21/1985	Ryan's Family Steak Houses, Inc.	O.T.C.	450	16.11	17.00	5.2%
6/30/1988	Sahlen & Associates, Inc.	O.T.C.	3,222	1.88	2.594	27.5%
3/6/1985	Starrett Housing Corp.	A.S.E.	300	10.00	18.13	44.8%
6/12/1985	Sudbury Holdings, Inc.	O.T.C.	4,700	4.75	8.875	46.5%

(*continued*)

Exhibit 6.9 *Continued*

Date	Company	Location of Market	Number of Shares Sold Privately (000)	Private Sale Price Per Share ($)	Market Price Per Share ($)	Discount
6/21/1983	Superior Care, Inc.	A.S.E.	1,415	4.00	6.88	41.9%
2/15/1984	Sym-Tek Systems, Inc.	O.T.C.	85	11.71	17.125	31.6%
8/22/1984	Telepictures Corp.	O.T.C.	1,000	15.25	17.25	11.6%
7/1/1998	Total Research Corporation	O.T.C.	1,000	2.25	3.69	39.0%
2/29/1996	Unimed Pharmaceuticals, Inc.	O.T.C.	1,400	6.00	7.125	15.8%
1/31/1984	Velo-Bind, Inc.	O.T.C.	300	7.75	9.625	19.5%
7/30/1980	Western Digital Corp.	O.T.C.	2,500	3.13	5.938	47.3%
2/22/1991	50-Off Stores, Inc.	O.T.C.	810	7.00	8.00	12.5%
					Median	24.8%
					Average	27.4%

- The average discount for lack of marketability was about 27 percent.
- The median discount for lack of marketability was about 25 percent.
- Only one of the 59 transactions occurred at a price equal to the market price.
- The remaining 58 transactions all reflected discounts for lack of marketability ranging from a low of about 3 percent to a high of 58 percent.

The authors also analyzed the relationships of specific factors and the size of discounts. Following are some of their possibly more important findings.

FACTORS WITH THE MOST EXPLANATORY POWER

Certain factors tended to be better correlated with the size of discounts.

Size of Revenues

Companies with higher revenues tended to have lower discounts. Exhibit 6.10 shows the relationship between the level of revenues and the size of the discount.

Exhibit 6.10 Relationship between Revenues and Discount, Management Planning Study

Company	Revenues ($000)	Discount	Median	Average
Air Express International Corp.	292,952	0.0%		
Crystal Oil Co.	273,294	24.1%		
Presidential Life Corporation	209,008	15.9%		
AirTran Corp.	124,331	19.4%		
Sudbury Holdings, Inc.	118,068	46.5%		
Starrett Housing Corp.	105,147	44.8%		
50-Off Stores, Inc.	78,123	12.5%	19.3%	21.7%
Telepictures Corp.	74,186	11.6%		
Medco Containment Services, Inc.	73,615	15.5%		
Pride Petroleum Services, Inc.	65,898	24.5%		
Sahlen & Associates, Inc.	54,949	27.5%		

Exhibit 6.10 *Continued*

Company	Revenues ($000)	Discount	Median	Average
Gendex Corp.	54,508	16.7%		
REN Corporation-USA (10/1/92)	53,427	17.9%		
REN Corporation-USA (3/17/92)	53,427	29.3%		
Nobel Education Dynamics, Inc.	44,154	19.3%		
Max & Erma's Restaurants, Inc.	43,273	12.7%		
ICN Pharmaceuticals, Inc.	38,774	10.5%		
North American Holding Corporation (a)	36,677	30.4%		
Superior Care, Inc.	36,399	41.9%		
Electro Nucleonics	34,959	24.8%		
Total Research Corporation	34,057	39.0%		
Davox Corporation	33,756	46.4%	24.8%	25.3%
Quadrex Corp.	33,169	39.4%		
Ryan's Family Steak Houses, Inc. (11/20/85)	31,995	8.7%		
Ryan's Family Steak Houses, Inc. (3/21/85)	31,995	5.2%		
Ragen Precision Industries, Inc.	29,750	15.3%		
HORIZON Pharmacies, Inc. (6/16/98)	28,429	19.1%		
Angeles Corp.	28,273	19.6%		
Quality Care, Inc.	28,225	34.4%		
Esmor Correctional Services, Inc.	24,273	32.6%		
Velo-Bind, Inc.	23,466	19.5%		
Integrated Transportation Network Group, Inc.	22,343	54.9%		
Byers Communications Systems, Inc.	21,180	22.5%		
Western Digital Corp.	20,603	47.3%		
Sym-Tek Systems, Inc.	20,079	31.6%		
ARC Capital	19,394	18.8%		
Dense Pac Microsystems, Inc.	18,006	23.1%	28.0%	31.4%
Black Warrior Wireline Corp.	17,062	27.3%		
Photographic Sciences Corporation	16,434	49.5%		
Reuter Manufacturing, Inc.	14,174	38.5%		
Interlink Electronics, Inc.	13,485	23.9%		
HORIZON Pharmacies, Inc. (10/23/97)	13,136	28.0%		
Newport Pharmaceuticals, Intl., Inc.	10,469	37.8%		
Blyth Holdings, Inc.	9,282	31.4%		
Noble Roman's, Inc.	9,103	17.2%		
Harken Oil & Gas, Inc.	8,689	30.4%		
Anaren Microwave, Inc.	8,306	34.2%		
Centennial Technologies, Inc.	8,213	2.8%		
Bioplasty, Inc.	7,872	31.1%		
Unimed Pharmaceuticals, Inc.	7,412	15.8%		
Chantal Pharmaceutical Corporation	7,215	44.8%		
Cucos, Inc.	6,802	18.8%	32.7%	31.4%
Biopool International, Inc.	6,662	12.4%		
Del Electronics Corporation	6,492	41.0%		
Edmark Corp.	5,963	16.0%		
AW Computer Systems, Inc.	4,261	57.3%		
Besicorp Group, Inc.	3,964	57.6%		
North Hills Electronics, Inc.	3,384	36.6%		
Ion Laser Technology, Inc.	3,194	41.1%		

Size of Earnings

Companies with higher earnings tended to be associated with lower discounts. Exhibit 6.11 shows the relationship between the level of earnings and the size of the discount.

Exhibit 6.11 Relationship between Earnings and Discount, Management Planning Study

Company	Earnings ($000)	Discount	Median	Average
Presidential Life Corporation	23,967	15.9%		
Crystal Oil Co.	9,113	24.1%		
Integrated Transportation Network Group, Inc.	7,869	54.9%		
AirTran Corp.	6,740	19.4%		
Telepictures Corp.	6,057	11.6%		
Starrett Housing Corp.	5,195	44.8%		
Medco Containment Services, Inc.	3,931	15.5%	16.7%	20.6%
Nobel Education Dynamics, Inc.	3,906	19.3%		
Ryan's Family Steak Houses, Inc. (11/20/85)	3,345	8.7%		
Ryan's Family Steak Houses, Inc. (3/21/85)	3,345	5.2%		
Angeles Corp.	3,095	19.6%		
ICN Pharmaceuticals, Inc.	2,967	10.5%		
North American Holding Corporation (a)	2,921	30.4%		
Gendex Corp.	2,901	16.7%		
50-Off Stores, Inc.	2,816	12.5%		
Sahlen & Associates, Inc.	2,064	27.5%		
REN Corporation-USA (10/1/92)	1,830	17.9%		
REN Corporation-USA (3/17/92)	1,830	29.3%		
Electro Nucleonics	1,791	24.8%		
Dense Pac Microsystems, Inc.	1,698	23.1%		
Sudbury Holdings, Inc.	1,635	46.5%		
Esmor Correctional Services, Inc.	1,543	32.6%	27.5%	28.4%
Max & Erma's Restaurants, Inc.	1,371	12.7%		
Total Research Corporation	1,124	39.0%		
ARC Capital	942	18.8%		
Ragen Precision Industries, Inc.	861	15.3%		
Velo-Bind, Inc.	841	19.5%		
Sym-Tek Systems, Inc.	780	31.6%		
Reuter Manufacturing, Inc.	749	38.5%		
Photographic Sciences Corporation	729	49.5%		
Western Digital Corp.	678	47.3%		
Newport Pharmaceuticals, Intl., Inc.	647	37.8%		
Unimed Pharmaceuticals, Inc.	625	15.8%		
Byers Communications Systems, Inc.	546	22.5%		
Pride Petroleum Services, Inc.	544	24.5%		
Interlink Electronics, Inc.	515	23.9%		
Quality Care, Inc.	514	34.4%	31.1%	29.8%
Noble Roman's, Inc.	491	17.2%		
Centennial Technologies, Inc.	464	2.8%		
Black Warrior Wireline Corp.	447	27.3%		
North Hills Electronics, Inc.	439	36.6%		

Exhibit 6.11 *Continued*

Company	Earnings ($000)	Discount	Median	Average
Anaren Microwave, Inc.	428	34.2%		
Chantal Pharmaceutical Corporation	406	44.8%		
Bioplasty, Inc.	399	31.1%		
Davox Corporation	385	46.4%		
Edmark Corp.	364	16.0%		
AW Computer Systems, Inc.	354	57.3%		
Quadrex Corp.	347	39.4%		
Superior Care, Inc.	336	41.9%		
HORIZON Pharmacies, Inc. (6/16/98)	327	19.1%		
Cucos, Inc.	272	18.8%		
Besicorp Group, Inc.	265	57.6%	30.9%	31.0%
Del Electronics Corporation	240	41.0%		
Harken Oil & Gas, Inc.	204	30.4%		
HORIZON Pharmacies, Inc. (10/23/97)	196	28.0%		
Air Express International Corp.	184	0.0%		
Biopool International, Inc.	141	12.4%		
Ion Laser Technology, Inc.	123	41.1%		
Blyth Holdings, Inc.	99	31.4%		

Price Stability

Companies with greater trading price stability tended to have lower discounts.

Value of Block

Larger dollar value blocks tended to have lower discounts.

Quarters to Sell Blocks

The greater the number of quarters needed to sell the block (based on trading volume) generally the higher the discount.

Trading Volume

Transactions where the size of the block represented a higher percentage of trading volume tended to have somewhat higher discounts.

FACTORS WITH SOME EXPLANATORY POWER

Several factors were found to be somewhat related to the size of discounts.

Revenue Stability

Higher revenue stability was somewhat related to lower discounts.

Earnings Stability

The most stable earnings were associated with lower discounts.

FACTORS WITH MINIMUM EXPLANATORY POWER

Some factors had little correlation with the size of discounts.

Debt Ratio

There appeared to be no relationship between discounts and debt ratio seen in the four quartiles.

Shares Outstanding

There appeared to be no relationship between discounts and number of shares outstanding.

State of Market

The data showed no significant relationship between the discounts during rising versus falling market conditions.

JOHNSON STUDY

Bruce Johnson, of the firm Munroe, Park & Johnson, studied 72 private placement transactions that occurred in 1991 through 1995.[16] This was the first half decade after the Rule 144 restrictions were relaxed. The range was a 10 percent premium to a 60 percent discount with an average discount for the 72 transactions of 20 percent.

The study analyzed four factors that might influence the size of the discount: (1) positive net income, (2) sales volume, (3) transaction value, and (4) net income strength. The results of his study are shown in Exhibit 6.12.

COLUMBIA FINANCIAL ADVISORS STUDY

As of this writing, there are two restricted stock studies undertaken since the Rule 144 holding period was reduced to one year in 1997, and the one headed by Kathryn Aschwald at Columbia Financial Advisors, Inc. (CFA) is one of them (the other is *The FMV Restricted Stock Study*[17]).

Their study was divided into two parts: January 1, 1996, through April 30, 1997 (before the reduction in the Rule 144 holding period), and May 1, 1997, through December 31, 1998 (after the one-year holding period became effective, April 29, 1997).

They identified 23 transactions for the 1996–April 1997 period, with discounts ranging from 0.8 to 67.5 percent, with a mean of 21 percent. For the May 1997–December 1998 period, they identified 15 transactions, with a range of 0 to 30 percent, and a mean of 13 percent, and a median of 9 percent.

As explained by Kathryn Aschwald, author of the CFA study:

> Many "rumblings" in the appraisal community have centered around the fact that discounts for restricted stock have been declining, and many appear to be concerned about what this might mean in valuing privately held securities. It makes perfect sense that the discounts for restricted securities have generally declined since 1990 as the market (and liquidity) for theses [sic] securities has increased due to Rule 144A and the shortening of restricted stock holding periods beginning April 29, 1997. Thus, while the newer studies are specifically

Exhibit 6.12 Johnson Study

Total Net Income	Avg Discount
Negative	22.5%
$0 to $1M	26.0%
$1M to $10M	18.1%
+ $10M	6.3%
Total Sales	**Avg Discount**
$0 to $10M	23.5%
$10M to $50M	19.4%
$50M to $200M	17.7%
+$200M	13.0%
Transaction Size	**Avg Discount**
$0 to $5M	26.7%
$5M to $10M	20.9%
$10M to $25M	17.0%
+$25M	10.8%
Net Income Margin	**Avg Discount**
Negative	22.5%
0% to 5%	23.7%
5% to 10%	15.2%
+10%	11.6%

Source: Bruce Johnson, "Quantitative Support for Discounts for Lack of Marketability," *Business Valuation Review* (December 1999): 152–155.

relevant for determining the appropriate discounts for restricted securities, the studies conducted after 1990 are not relevant for purposes of determining discounts for lack of marketability for privately held stock, because they reflect the increased liquidity in the market for restricted securities. Such increased liquidity is not present in privately held securities.[18]

LIQUISTAT DATABASE

The LiquiStat database, a study by Pluris Valuation Advisors LLC, is a continuously updated database of transactions in the secondary market for illiquid securities. Different from other studies, the LiquiStat database specializes in the analysis of discounts taken when investors not affiliated with the issuing company sell restricted stock in private transactions to other investors. The LiquiStat database is available at www.PlurisValuation.com. The LiquiStat database is further analyzed in Chapter 7.

SUMMARY

The many independent restricted stock studies, encompassing hundreds of transactions, are remarkably consistent over time. They indicate discounts in the 33 to 35 percent range, up until the SEC started loosening the restrictions in 1990. After that, discounts

dropped, reflecting greater liquidity, especially after the holding period was reduced from two years to one year in 1997.

The studies do not address the most important factor influencing the magnitudes of discounts, that is, the level of dividends or cash distributions. This is because almost none of the companies involved in the studies paid dividends. (*The Partnership Re-Sale Discount* studies described in Chapter 11 make the point, however, that distributions are a major factor.) Nonetheless, the restricted stock studies are helpful in identifying several other factors that do and do not impact the size of discounts for lack of marketability. Chapter 11 examines the impact of various factors in some detail.

NOTES

1. "Discounts Involved in Purchases of Common Stock (1966–1969)," *Institutional Investor Study Report of the Securities and Exchange Commission,* H.R. Doc.N.64, part 5, 92nd Cong., 1st Session, 1971, 2444–2456, available at BVLibrary.com.
2. Milton Gelman, "An Economist-Financial Analyst's Approach to Valuing Stock of a Closely-Held Company," *Journal of Taxation* (June 1972): 353–354.
3. *Huber v. Commissioner,* T.C. Memo 2005–2 (2005).
4. *Howard v. Shay,* 1993 U.S. Dist. Lexis 20153 (C.D. Cal. 1993), *rev'd and remanded by,* 100 F.3d 1484 (9th Cir. 1996), *cert. denied,* 520 U.S. 1237 (1997).
5. Robert R. Trout, "Estimation of the Discount Associated with the Transfer of Restricted Securities," *Taxes—The Tax Magazine* (June 1977): 381–385.
6. Robert E. Moroney, "Most Courts Overvalue Closely Held Stocks," *Taxes—The Tax Magazine* (March 1973): 144–156.
7. J. Michael Maher, "Discounts for Lack of Marketability for Closely Held Business Interests," *Taxes—The Tax Magazine* (September 1976): 562–571.
8. William F. Pittock and Charles H. Stryker, "Revenue Ruling 77-287 Revisited," *SRC Quarterly Reports* 10, no. 1 (Spring 1983): 1–3.
9. William L. Silber, "Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices," *Financial Analysts Journal* (July–August 1991): 60–64.
10. *Id.,* p. 61.
11. *Id.,* p. 62.
12. Lance S. Hall and Timothy C. Polacek, "Strategies for Obtaining the Largest Valuation Discounts," *Estate Planning* (January/February 1994): 38–44.
13. FMV Opinions, Inc., "Determining Discounts for Lack of Marketability: A Companion Guide to the FMV Restricted Stock Study," www.bvmarketdata.com, and author's searches of the database.
14. Robert Oliver has since retired.
15. As of the time of this writing (October 2008), Management Planning, Inc., was in the process of preparing a completely new private placement study involving transactions through the end of 2007.
16. Bruce Johnson, "Restricted Stock Discounts, 1991–95," *Shannon Pratt's Business Valuation Update* (March 1999): 1–3; "Quantitative Support for Discounts for Lack of Marketability," *Business Valuation Review* (Dec. 1999): 152–155.
17. Kathryn F. Aschwald, "Restricted Stock Discounts Decline as Result of 1-Year Holding Period," *Shannon Pratt's Business Valuation Update* (May 2000): 1–5.
18. *Id.,* pp. 4–5.

Chapter 7

LiquiStat Database (Restricted Stocks, Options, Warrants, and Convertible Securities)

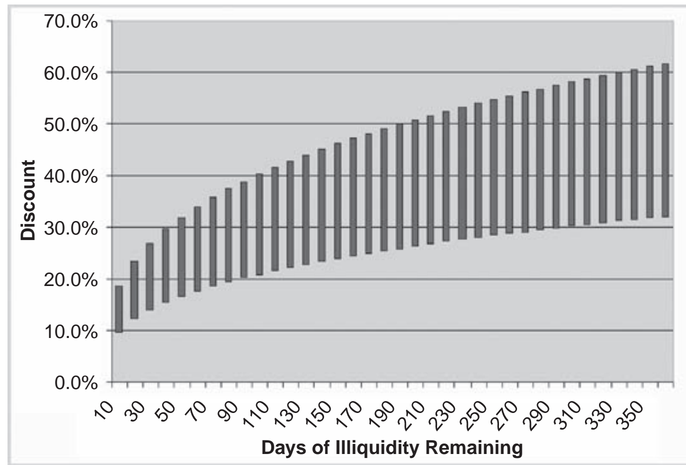
By Espen Robak and Angelina McKedy

Restricted Stock as a Basis
Biases Beyond Illiquidity in Traditional Restricted Stocks
 Control and Monitoring
 Capital Scarcity
 Lemon Theory (Information Asymmetry)
 Other Factors
How LiquiStat Is Different
Options and Warrants in LiquiStat
Convertible Securities in LiquiStat
Summary

The LiquiStat database, a study by Espen Robak at Pluris Valuation Advisors LLC, is a continuously updated database of transactions in the secondary market for illiquid securities. Different from other studies, the LiquiStat database specializes in the analysis of discounts taken when investors not affiliated with the issuing company sell restricted stock in private transactions to other investors. See Exhibit 7.1 for the LiquiStat discounts for restricted stock. Additional data on the LiquiStat database is available at www.PlurisValuation.com.

In this chapter we look at an alternative to the more traditional restricted stock studies appraisers have utilized in the past to determine discounts for illiquidity. The LiquiStat database created by Pluris Valuation Advisors, LLC takes a new approach to analyzing restricted stock transactions to reflect arm's length transactions on an investor-to-investor basis. The LiquiStat database also tackles for the first time discounts associated with warrants and convertible securities—along with other illiquid assets. Future releases of the LiquiStat database will include information on trading in illiquid debt instruments, including auction-rate securities and other structured finance vehicles; distressed debt and claims against distressed companies, including bankruptcy claims; and data on secondary market trading in common stock of private companies.

Exhibit 7.1 LiquiStat Discounts for Restricted Stocks



Source: Espen Robak, *Fair Value of Illiquid Securities: Restricted Securities and Auction-Rate Securities, Handbook on FAS 157 and Fair Value-How Do We Get from Here to There?* March 2008. Used with permission. Available at www.PlurisValuation.com.

RESTRICTED STOCK AS A BASIS

Restricted stock studies discussed in Chapter 6 analyze the difference between sales of liquid and illiquid securities otherwise identical in nature. Most restricted stock studies involve a comparison of the public market trading price and private placements called PIPEs (Private Investments in Public Equity). PIPEs typically involve companies small in nature (worth less than $100 million), and the companies are often in financial distress. The PIPEs are used to infuse capital into these companies. Because of the nature of the transactions one could argue that they are not truly comparable to the public market transactions they are compared to in these studies and therefore the discount associated with these restricted stock studies might be smaller than it would be in arm's length investor-to-investor transactions. Chapter 6 gives more in depth details of the traditional restricted stock private placement studies.

The private placement studies are a theoretically valid method for measuring illiquidity—if there are no factors other than illiquidity present that affect the private placement price and if sufficient information on each deal can be analyzed. However, PIPEs and other private placements are often uniquely structured and the information disclosed on each deal may be insufficient to arrive at an accurate measure of the discount in each case. For example, the exact time of the pricing of each deal is often not publicly disclosed. Especially for highly volatile stocks, if the timing of the deal is off by just a few days, the impact on the measured discount (versus the actual discount) may be considerable.

BIASES BEYOND ILLIQUIDITY IN TRADITIONAL RESTRICTED STOCK STUDIES

In restricted stock private placement studies, the illiquidity discount is assumed to be the difference between the private placement price and the "market" price of a specific

stock. However, other biases may be present that affect the discount in the private placement price of equity. These factors may include:

Control and Monitoring. Where the seller of the shares assumes the investor will take an active role in management, where the discount could be explained as compensation to the buyer for their enhanced role in company.

Capital ''Scarcity.'' Firms issuing private equity are in need of raising capital due to financial conditions, meaning the firm is most likely in financial distress.

Lemon Theory (Information Asymmetry). An assumption that the seller has adverse knowledge of the equity, which is unknown to the buyer. In other words, if the equity was so attractive why would the seller be selling it? This skepticism may result in an additional discount.

Other Factors. Even accounting for the discount, restricted stock private placement investors often do poorly, assuming they hold until the end of the Rule 144 holding period (the stock deteriorates further). One explanation may be that such buyers overpay due to the additional ''selling'' involved in the deal process. Another explanation may be that the buyers routinely shortcut the Rule 144 holding period through early registrations, hedging, short selling, or other techniques.

The LiquiStat Database attempts to remove these additional factors that may impact the discount in restricted stock sales. In addition, the LiquiStat database avoids the serious flaws inherent in the traditional private placement studies due to the limited information available to the compilers of such studies.

HOW LIQUISTAT IS DIFFERENT

The LiquiStat database aims to capture true arm's length transactions that are investor-to-investor. The database is created by Pluris Valuation Advisors LLC. LiquiStat contains transactions facilitated by SecondMarket, an intermediary specializing in illiquid securities and assets. The buyers and sellers tend to be hedge funds, institutions, or other accredited investors. For the transactions in the LiquiStat database, the investors are not affiliated with the issuer of the stock and do not have any material nonpublic information about the issuer of the stock. It is assumed that the investors are aware of all the publicly available information of the stock, including trading price and volume histories, stock price volatilities and similar information available to a sophisticated investor. By removing the issuer and any affiliates of the issuer from the transaction, the additional factors that may influence the discounts on restricted stocks are mitigated. Additionally, LiquiStat is the first database to separate warrant and convertible securities transactions.

By assuring that both the buyer and the seller are not affiliated with the issuer of the securities, the LiquiStat database eliminates transactions that could have additional discounts for control and monitor and information asymmetry. The transactions are also in transfers of stock, not new issuances; therefore the idea of the issuing company needing to infuse new capital is removed. Without these additional factors, the LiquiStat more truly captures only the discount associated with liquidity.

LiquiStat pulls its data from the SecondMarket trading network (SecondMarket). SecondMarket is believed to be the largest trading network for restricted securities anywhere, with more than 200 institutions and accredited investors as members.[1] All Second-Market transactions that are used by LiquiStat are time and date stamped, which allows for precision in determining the market reference price to compare the transaction to. This is in comparison to other private placement studies in which the exact timing of

Exhibit 7.2 Restricted Stock Discounts from LiquiStat

	Restricted Stock Discounts (SecondMarket)						
	Market Cap ($m)	**Block Size (%)**	**Total Assets ($m)**	**Holding Period (Days)**	**Market Price ($)**	**Volatility (%)**	**Discount (%)**
Average	293	450	124	203	7.89	86	28.3
Median	203	76	38	210	4.03	77	22.9
1st Quintile	407	35	48	227	13.11	81	12.8
2nd Quintile	100	59	54	251	3.63	74	19.4
3rd Quintile	90	40	54	105	3.85	76	22.9
4th Quintile	232	256	13	229	5.24	68	35.0
5th Quintile	99	274	7	197	2.70	104	47.5

Source: Pluris Valuation Advisors LLC, available at www.PlurisValuation.com.

the transactions is almost always unknown. The LiquiStat database is then able to correlate the days remaining in the holding period of the restricted stocks with the discount.

The LiquiStat database analyzes in each transaction the market capitalization, block size of the transaction, revenue of the issuer company, remaining holding period for the restricted stock, the current market prices of stock, volatility and applicable discount rate between the restricted stock and the freely traded stock available in the market place. See Exhibit 7.2 for Restricted Stock Discounts from LiquiStat.

OPTIONS AND WARRANTS IN LIQUISTAT

Until LiquiStat, there has never been a study of marketability discounts applicable to warrants or stock options. The SecondMarket trading network has had a great volume of trading in common stock warrants—the equivalent of common stock call options—since inception. Considering the great volume of stock options issued every year subject to financial reporting and/or tax reporting requirements, the lack of data on stock options thus far has been an impediment to accurate valuations.

The data shows that warrants trade at significant discounts from their Black-Scholes model values—much greater discounts than those for restricted stock. The discounts are a function of the variance of the stock, the delta of the warrant (the "delta" of the option or warrant is one of the calculation steps in the Black-Scholes formula and describes the relationship between the stock price and the option price), a measure of how far the option is into or out of the money, the block size, the market value of the issuing firm, and other factors. Internal analysis by Pluris Valuation Advisors found that warrant discounts (from the Black-Scholes formula value) are:

- As much as 10 to 20 percentage points higher than restricted stock discounts
- Greater the greater the volatility of the stock underlying the warrant
- Greater the greater the quantity of warrants sold
- Lower the higher the intrinsic value of the warrant
- Greater the higher the time value of the warrant
- Greater the longer the time to expiration
- Lower the greater the market capitalization of the issuer company

Exhibit 7.3 Warrant Discounts from LiquiStat

	Warrant Stock Discounts (RSTN)						
	Market Cap ($m)	**Stock Price ($)**	**Intrinsic Value ($)**	**Delta**	**Money-ness**	**Volatility (%)**	**Discount (%)**
Average	231	6.81	2.31	0.817	0.202	7686.3	42.7
Median	153	4.12	0.38	0.831	0.153	69	44.2
1st Quintile	229	7.66	2.16	0.903	0.471	52	15.3
2nd Quintile	160	4.96	1.42	0.841	0.317	66	30.2
3rd Quintile	127	4.40	0.43	0.794	0.139	60	44.5
4th Quintile	123	2.45	0.00	0.830	−0.058	83	56.8
5th Quintile	106	2.44	0.00	0.803	−0.184	90	66.9

Source: Pluris Valuation Advisors LLC, available at www.PlurisValuation.com.

The LiquiStat database for warrants analyzes in each transaction, the market capitalization, stock price, intrinsic value, delta, moneyness (or how far in or out of the money the warrant is), volatility of the stock, and the discount. See Exhibit 7.3 for Warrant Discounts from LiquiStat.

CONVERTIBLE SECURITIES IN LIQUISTAT

The LiquiStat database also shows significant trading activity on the SecondMarket trading network in convertible debentures and convertible preferred shares. This data, along with the LiquiStat database, helps in determining the appropriate option-adjusted yield spreads for convertible securities. The analysis should always consider the price the convertible instruments are issued at, as well as the warrant coverage (the amount of warrants issued with a debenture as ‘‘sweeteners’’) and the percentage of the total purchase price that is represented by the warrant coverage.

Convertible securities generally have two value components: a fixed income component and an optionality component. The value of the fixed income component changes relative to interest rates, credit spreads, and the idiosyncratic risk premium of the issuing company (and fluctuates in opposite direction to the option-adjusted yield). The value of the optionality component fluctuates with the stock price of the issuing company and reflects the value of the option of the holder to convert the bond to common stock at the conversion price. Non-traded convertibles are subject to significant illiquidity adjustments and trade at a discount from the value of actively traded convertibles.

SUMMARY

The LiquiStat database offers appraisers an alternative in determining discounts for lack of liquidity. The database includes transactions that have details about the buyer, the seller, and the transaction time frame, all of which can be applied in capturing a discount for illiquidity. Additionally, LiquiStat provides information on discounts associated with transactions in options/warrants and convertible securities both of which have not been analyzed previously.

Chapter 8

Blockage Discounts

Blockage Is Distinct from Restricted Stock
Factors to Analyze in Quantifying Blockage Discount
    Size of Block Relative to Trading Volume
        Number of Shares as a Percentage of Outstanding Shares
        Size of the Block Relative to the Float
        Number of Individual and Institutional Shareholders
    Characteristics of the Stock Itself
    Market Factors
        Trading Market
        Price Volatility
        Other Block Trades
        Market Exposure
        Price Trends
    Current Outlook
    Market Impact of the Block
    Institutional Ownership
Must Consider Ways of Selling Stock
"Price Pressure" and "Market Exposure"
Block Buyer Could Ameliorate Blockage Discount
Blockage Discounts Recognized in Estate and Gift Tax Regulations
Blockage Discounts in U.S. Tax Court
    Multiple Gifts Must Be Valued Separately
    Each Case Depends on Unique Facts and Circumstances
Financial Accounting Standards That May Affect Blockage Discounts
Blockage Discounts Used to Estimate Illiquidity Discounts
Summary

The concept of *blockage* applies primarily to a holding of publicly traded stock, when the block is so large relative to normal trading volume that either an instant sale probably would be at a discounted price compared to the prevailing market or else it would take a long time to sell. (See Exhibit 8.1 for definitions.) The concept also applies to real estate, when the quantity being appraised could only be sold at a discounted price compared to the prevailing market for small parcels or else it would take the market a long time to absorb it. The principle also applies to property such as collections of art and antiques.

Disputes as to whether a discount for blockage is applicable and, if so, the magnitude of the discount arise most commonly in the determination of fair market value for gift

This chapter was updated from the first edition by Angelina McKedy.

Exhibit 8.1 Definitions of Blockage and Blockage Discount

Blockage Discount An amount or percentage deducted from the current market price of a publicly traded security to reflect the decrease in the per share value of a block of those securities that is of a size that could not be sold in a reasonable period of time given normal trading volume.[a]

Blockage Recognition in the field of taxation of fact that in some instances a large block of stock cannot be marketed and turned into cash as readily as a few shares. *Citizens Fidelity Bank & Trust Co. v. Reeves*, Ky., 259 S.W.2d 432, 433. The discount at which a large block of stock sells below the price of a smaller block is blockage. It is generally a phenomenon of shares which do not represent the controlling interest in a corporation. *See* Blockage Rule.[b]

Blockage Rule The principle that a large block of stock shares may be valued at less than the total value of the individual shares because such a large block may be difficult to sell at full price.[c]

[a] *Source:* International Glossary of Business Valuation Terms.
[b] *Source: Black's Law Dictionary*, 6th ed.
[c] *Source: Black's Law Dictionary*, 8th ed.

and estate tax purposes, but they could apply in divorce, insolvency, and other contexts as well.

BLOCKAGE IS DISTINCT FROM RESTRICTED STOCK

Like minority and marketability, the concepts of blockage and restricted stock are separate concepts, although they can be related. *Blockage* refers to difficulty in selling because of the size of the block relative to the market. *Restricted stock* refers to difficulty in selling because of regulatory or contractual restraints on selling. While restricted stock discounts may easily be over 30 percent, discounts for blockage usually are considerably less, typically under 15 percent, although they have been as high as 25 percent.

In some cases the detrimental effects of blockage and restricted stock are lumped together and reported only as a single discount. In other cases both restricted stock and blockage discounts have been allowed and quantified separately.[1]

FACTORS TO ANALYZE IN QUANTIFYING BLOCKAGE DISCOUNTS

This section lists factors to consider in estimating the size of the blockage discount. To the extent that they are relevant, they should be presented in detail in the valuation report. Some excellent illustrative tables are contained in Joseph Estabrook's chapter on blockage discounts in *Handbook of Advanced Business Valuation*.[2]

SIZE OF BLOCK RELATIVE TO TRADING VOLUME

The most important single factor is how many shares the block constitutes relative to normal daily, weekly, monthly, or annual trading volume. Tabular support can include a record of prices and volume for some relevant period.

Other factors relating to the size of the block could also be relevant.

Number of Shares as a Percentage of Outstanding Shares

The larger the number relative to the total, the greater the likely necessary discount.

Size of the Block Relative to the Float

The *float* is the amount of stock available for market trading, generally considered to be stock not held by insiders or control owners. Generally speaking, the larger the float, the better the potential liquidity.

Number of Individual and Institutional Shareholders

A large number of shareholders and, particularly, a significant number of institutional shareholders could contribute to liquidity for a large block.

CHARACTERISTICS OF THE STOCK ITSELF

Certain characteristics of the stock itself could be important. For example, does it pay dividends? A block of stock with no dividend yield probably would be harder to place than one with a good dividend yield. The analyst should note any special features, such as whether there is more than one class of stock, as well as consider the implications of those features.

MARKET FACTORS

Several aspects of the market for the stock may impact the potential discount.

Trading Market

Is it traded on the New York Stock Exchange (NYSE), American Stock Exchange (ASE), a regional exchange, NASDAQ, or over-the-counter (OTC) market? Active markets like the NYSE and NASDAQ could ease the problem compared to less active markets (unless, of course, the desire to unload was known to traders and others who might short the stock in anticipation of market weakness).

Price Volatility

Risk and expected return go hand in hand. High price volatility is often a negative factor that exacerbates the blockage discount. A high beta also would be a negative factor.

Other Block Trades

Is there any history of other large block trades or secondary offerings?

Market Exposure

How many analysts follow the stock, and what reports have been issued? Have there been any recent changes in their recommendations?

Price Trends

Has the stock been on an upward or downward price trend? This factor seems to arise in every discussion of blockage discounts. It appears that a downward price trend is considered a negative factor (higher discount) and an upward price trend a positive factor (lower discount). If one believes that stock market prices are a random walk, recent trends should not make any difference. However, in *Estate of Davis v. Commissioner*, Judge Carolyn Chiechi recognized that it would take a long time to sell the block of stock in question, yet she denied a blockage discount. The only clue to the denial of the discount in the written opinion is that the stock had been on an upward price trend, a fact emphasized by the expert for the IRS.[3]

CURRENT OUTLOOK

As with any valuation report, there should be some discussion of the outlook, at least for company fundamentals, and also for the industry and the economy. While one would expect these factors already to be reflected in the market price of the stock, they could impinge still further on the blockage discount.

MARKET IMPACT OF THE BLOCK

Ultimately the question is this: What would be the impact on the market of the sale of this block of stock? If marketed as a block, what price concession would be necessary? If dribbled out, how much additional volume could the market absorb, if any, without affecting the price, and how long would it take to sell the block in the normal course of open market transactions?

The analyst may be able to gain some insight by interviewing brokers and/or market makers. This seems like a reasonable step to consider in the overall process of estimating a blockage discount. As George Hawkins explains it:

> The market maker in the shares of the public company is normally the best place to start. Market makers are specialists who actually serve as the intermediaries who match purchase and sell orders for the stock, maintaining an inventory on hand of the shares to match the needs of buyers and sellers and create an orderly market. Since they are in daily contact with the liquidity and supply and demand forces of the stock, they are normally the best equipped to estimate the price impacts of dumping a larger block of the shares on the market.[4]

INSTITUTIONAL OWNERSHIP

A higher blockage discount is much more likely in a smaller company with little or no institutional ownership than in a larger company with more institutional ownership. The reason is because, for the latter types of companies, the large-block trading desks of most of the big investment banks will buy the block at, often, just a 1 to 7 percent discount, because they know they can find a ready institutional buyer without much delay. However, these desks tend to shy away from blocks of companies for which they cannot readily find a block buyer. For those companies with low institutional holdings, then, the owner of the block is often left with no alternative but to sell the shares gradually into the market.

MUST CONSIDER WAYS OF SELLING STOCK

In the valuation report, the analyst should consider the various mechanisms for selling the stock, suggesting which method or methods would be likely to have the least depressing effect on value.

The two most common methods of selling a large block would be a private placement or dribbling the stock out onto the open market in small lots that would not be likely to affect the price significantly. In the case of a private placement, one would estimate the percentage discount that would be required to induce a buyer to purchase the entire block outright. In the case of a dribble-out, one would estimate the present value of the expected proceeds at a discount rate that reflected the time value of money and the risk of depression in the stock price over the selling period.

Other possible mechanisms for selling include:

- The sale to an underwriting syndicate for resale to the public—secondary distribution
- A special offering by which a broker may buy the entire block and resell it or offer it
- Exchange distributions, in which one member acting as a principal or agent sells a block to other members of the exchange who have solicited purchases.[5]

"PRICE PRESSURE" AND "MARKET EXPOSURE"

Will Frazier has suggested two components of cost that should be measured in estimating a blockage discount: price pressure and market exposure.

Price pressure is the impact on the stock price when a large block depresses the market. Frazier suggests measuring this by analyzing the factors outlined above, using various assumed numbers of days to sell the stock.

What Frazier means by *market exposure* is the risk of encountering a lower stock price during the holding period necessary to complete the liquidation of the shares, again using various holding period scenarios. He suggests measuring this by estimating the cost of a put option.[6]

BLOCK BUYER COULD AMELIORATE BLOCKAGE DISCOUNT

Brian Becker and Gary Gutzler comment on the basic principle that markets are a function of supply and demand. They note that traditional blockage literature focuses on the willing seller, generally assuming no willing buyers at the time for a block of the subject's size. They point out that it is difficult to buy as well as difficult to sell large blocks. If someone were looking for a large block of the subject company at the same time that the block became available, the increased demand would offset the increased supply, and the depressing effect on the market price would be neutralized.[7] While this hypothesis makes sense, its occurrence in real-world markets would be purely coincidental.

BLOCKAGE DISCOUNTS RECOGNIZED IN ESTATE AND GIFT TAX REGULATIONS

The concept of a discount for blockage is specifically recognized in the estate and gift tax regulations:

> In certain exceptional cases, the size of the block of stock to be valued in relation to the number of shares changing hands in sales may be relevant in determining whether selling prices reflect the fair market value of the block of stock to be valued. If the executor can show that the block of stock to be valued is so large in relation to the actual sales on the existing market that it could not be liquidated in a reasonable time without depressing the market, the price at which the block could be sold as such outside the usual market, as through an underwriter, may be a more accurate indication of value than market quotations. Complete data in support of any allowance claimed due to the size of the block of stock shall be submitted with the return (Form 706 Estate Tax Return or Form 709 Gift Tax Return). On the other hand, if the block of stock to be valued represents a controlling interest, either actual or effective, in a going business, the price at which other lots change hands may have little relation to its true value.[8]

BLOCKAGE DISCOUNTS IN U.S. TAX COURT

The concept of a discount for blockage for tax purposes goes all the way back to 1937. In a landmark decision that is still frequently quoted, *Safe Deposit and Trust Co. v. Commissioner*, the Tax Court said: "Blockage is not a law of economics, a principle of law or a rule of evidence. If the value of a given number of shares is influenced by the size of the block, this is a matter of evidence and not of doctrinaire assumption."[9] In other words, it is based on the facts and circumstances of each case.

Exhibit 8.2 is a summary of tax cases dealing with blockage. While the exhibit is self-explanatory, we will comment on a few of the principles demonstrated in the cases.

Exhibit 8.2 Summary of Selected Tax Cases Involving Blockage Discounts

Year	Case Citation	Blockage Discount	Comments
2006	*Estate of Gimbel v. Commissioner*, 2006 Tax Ct. Memo LEXIS 274 (December 19, 2006).	14.2% combined on restricted and non-restricted shares	IRS asserted a discount in the range of 8 to 9%, whereas taxpayer initially asserted a 20% discount, but lowered this to 17%.
2000	*Estate of Brocato v. Commissioner*, T.C. Memo 1999-424	11% (on 7 of 8 real properties)	Petitioner asserted a 12.5% blockage discount for all eight real properties while the IRS argued that a discount of 1.92% should be applied to only seven properties.
1999	*Estate of Mellinger v. Commissioner*, 112 T.C. 26	25%	Both parties presented expert testimony for a blockage discount ranging from 15% to 35%; the court made adjustments to petitioner's methods.
1999	*Estate of Foote v. Commissioner*, T.C. Memo 1999-37	3.3%	Court accepted IRS expert opinion of a 3.3% blockage discount based on 16 factors; rejected taxpayer's expert's reliance on past cases and a 22.5% blockage discount.

(*continued*)

Exhibit 8.2 *Continued*

Year	Case Citation	Blockage Discount	Comments
1998	*Estate of Davis v. Commissioner*, 110 T.C. 530	Zero	Court disallowed a blockage discount because Estate failed to carry burden of establishing that a blockage or SEC Rule 144 discount should apply.
1998	*Estate of McClatchy v. Commissioner*, 147 F.3d 1089 (9th Cir.)	15%	IRS conceded a 15% blockage discount opined by petitioner. Issue on appeal related to federal securities law restrictions.
1997	*Estate of Wright v. Commissioner*, T.C. Memo 1997-53	10%	Starting with the over-the-counter price of $50 per share, taxpayer's experts applied a 24% discount for blockage and other factors; IRS expert applied a control premium but no blockage discount.
1987	*Adair v. Commissioner*, T.C. Memo 1987-494	5%	For valuation of petitioner Adair's stock, a blockage discount was inappropriate. For valuation of petitioner Borgeson's stock, IRS expert opined to no blockage discount and petitioner's expert opined to a 15% blockage discount.
1985	*Robinson v. Commissioner*, T.C. Memo 1985-275	18%	Respondent opined to a 6% blockage discount; petitioner Robinson opined to a 40% combined discount for federal securities restrictions and blockage; petitioner Centronics opined to no blockage discount.
1983	*Steinberg v. Commissioner*, T.C. Memo 1983-534	27.5%	Petitioner argued for a 30% blockage discount; IRS argued for a 12.5% blockage discount.
1974	*Rushton v. Commissioner*, 498 F.2d 88 (5th Cir.)	Zero	Commissioner disallowed a blockage discount for sale of 4 blocks of stock.

One of the largest discounts for blockage was found in a 1999 case, *Estate of Mellinger v. Commissioner*. The stock in question was a very large block of a very thinly traded public stock, Frederick's of Hollywood. Both the taxpayer and the Internal Revenue Service presented expert testimony, and Chief Judge Mary Ann Cohen concluded a blockage discount of 25 percent.[10]

MULTIPLE GIFTS MUST BE VALUED SEPARATELY

The important principle that each gift must be valued separately may work against the taxpayer for the purpose of estimating blockage discounts applicable to gifts. A block of stock in an estate is valued as a whole, regardless of how it may be split up among multiple heirs. This is an important legal concept that many appraisers misunderstand. In estate taxes, what is valued is what the estate owns, regardless of the decedent's will, trusts, or other dispositive arrangements. By contrast, in gift taxes, multiple gifts to various donees, even if made on the same day, must be valued separately. This principle was affirmed with respect to blockage discounts in *Rushton v. Commissioner*.[11]

EACH CASE DEPENDS ON UNIQUE FACTS AND CIRCUMSTANCES

As with other aspects of valuation, the facts and circumstances of each case must stand on their own. A quantification of blockage discounts cannot be determined by reference to past blockage court cases.

In *Estate of Christie v. Commissioner*, the taxpayer suggested using an average of discounts allowed in past court cases. The court opinion stated, "The suggestion is too simplistic to require detailed comment."[12]

In *Estate of Foote v. Commissioner*, taxpayer's expert opined to a 22.5 percent blockage discount based on reported Tax Court cases that involved a blockage discount and were factually similar to the subject. The expert for the IRS considered at least 16 factors in arriving at a discount of 3.3 percent, including:

- Decedent's shares were only 2.2 percent of the total shares outstanding.
- Decedent's block was equal to the number of the subject company's shares traded during a 29-day period.
- The trading float of the stock.
- Dividend-paying record of the company.
- Current outlook for the company.
- The percentage of institutional ownership of stock.
- Effect of trading more than 50,000 shares of stock in eight separate trading days.[13]

The court adopted the IRS expert's opinion, noting that he properly considered all the relevant factors.

Estate of Branson v. Commissioner was unique in that there was no organized market for the stock, but the company (a bank) maintained a list of interested buyers. Decedent's block size equaled several years' worth of historical transactions, but the court also considered transactions of about a tenth to a quarter of decedent's block size shortly before death and within a year after death in deciding that the blockage discount should be 10 percent.[14] The opinion also cites and quotes several earlier blockage discount cases.

In *Estate of Gimbel v. Commissioner*,[15] the decedent owned more than 3.6 million shares of Reliance Steel and Aluminum Company, a publicly traded company. The decedent's block of shares represented almost 13 percent of the company's outstanding stock—enough that the estate was considered an affiliate; and nearly all of its holdings were subject to restrictions under applicable federal securities laws. The corporation's board later repurchased 2.27 million shares of the estate's stock at $19.35 per share.

The IRS experts asserted that the shares should be discounted from the valuation date trading price by only 8 or 9 percent, whereas an initial appraisal for the estate opined that 20 percent was a proper discount. At trial, the estate lowered this to 17 percent. The court found that a corporate repurchase of 20 percent of the estate's stock was foreseeable at the date of death. The court accepted a 13.9 percent repurchase discount that was appropriate to utilize in the valuation of the 20 percent of the shares.

The court adopted the estate expert's dribble-out methodology for the sale of the remaining restricted stock over time, reflecting a 14.4 percent discount from the valuation date trading value. The net rate of discount thus amounted to 14.2 percent for all the shares, both restricted and nonrestricted.

Interestingly, the court rejected the use of an option collar approach to determine the discount, saying that "[c]ashless collars and prepaid variable forward contracts generally are used with blocks of stock that are highly liquid and marketable"; the court concluded that there would not have been a market for such hedging contracts in this instance. Similarly, in *Litman v. United States*,[16] an income tax case involving the valuation of a very large block of close to 10 million restricted shares of stock, where the restrictions were

used to calculate a discount for lack of marketability rather than a blockage discount, the court rejected the use of an option collar approach, finding that the size of the subject company's restricted stock, as compared to the public float, would render such a transaction impossible as a practical, real-world matter.

FINANCIAL ACCOUNTING STANDARDS THAT MAY AFFECT BLOCKAGE DISCOUNTS

FAS 157 no longer permits assets to be valued at cost. Investments currently booked at cost—but which have decreased to lower than cost since the original investment—must now be shown at the decreased fair value. Conversely, investments whose fair value has increased since the initial investment must now reflect the appreciated value (that is, the inability to apply a blockage discount to illiquid securities). This increased mandatory disclosure may prompt investors to question not only the accuracy of these adjustments, but also the propriety of an entity's assumption that cost is equivalent to fair value.[17]

Unfortunately, FAS 157 contains what I perceive as an (perhaps unintended) internal inconsistency with respect to blockage discounts. While FAS 157 purports to lead to an "exit price," it makes a distinction between legally imposed restrictions on sale (e.g., restricted stock, which normally *should* be discounted) and market-imposed restrictions (e.g., blocks of stock that are too large to be sold without depressing the market, which *should not* be discounted for what the market refers to as "blockage").

BLOCKAGE DISCOUNTS USED TO ESTIMATE ILLIQUIDITY DISCOUNTS

There is a school of thought among business appraisers that illiquidity discounts should be treated separately from discounts for lack of marketability, but in this book illiquidity is reflected in the discount for lack of marketability. However, blockage discount studies have been utilized to estimate a discount for illiquidity. Dr. Ashok Abbott has written and spoken on this topic on numerous occasions; articles on this topic can be found at www.bvlibrary.com, as well as current updates to his study.

SUMMARY

A *blockage discount* is a discount related to the size of a block, recognizing that selling it all at once would likely flood the market and depress the price. This discount can apply to publicly traded stock, real estate, or collections of personal property. Blockage discounts usually are applied in the context of estate and gift taxes, and are specifically recognized in estate and gift tax regulations.

Blockage is different from illiquidity due to transfer restrictions. There are no hard and fast rules for quantifying blockage discounts, but, as with other aspects of valuation, each case must be analyzed on its specific facts and circumstances. This chapter discussed the factors to be analyzed in quantifying the blockage discount and summarized selected U.S. Tax Court decisions in blockage discount cases.

NOTES

1. See, for example, *Adair v. Commissioner*, T.C. Memo 1987-494, 54 T.C.M. (CCH) 705 (1987), in which the court allowed a discount for lack of marketability and also allowed a 5 percent additional discount for blockage.
2. Joseph S. Estabrook, ''Blockage Discounts,'' Chapter 7 in *Handbook of Advanced Business Valuation*, Robert F. Reilly and Robert P. Schweihs, eds. (New York: McGraw-Hill, 2000), pp. 139–153.
3. *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).
4. George B. Hawkins, ''Selling Out to a Public Company Buyer—Blockage, Restricted Shares, and Value. The State Price Versus Reality,'' *Fair Value* (Spring/Summer 1997). © Banister Financial, Inc. All rights reserved, (704) 334–4932.
5. See note 2, above.
6. William H. Frazier, ''The Use of Capital Gains Tax Liability When Employing an Asset-Based Approach to the Valuation of C Corporation and 'Pure' Blockage,'' unpublished paper, available on BVLibrary.com.
7. Brian Becker and Gary Gutzler, ''Should a Blockage Discount Apply? Perspectives of Both a Hypothetical Willing Buyer and Hypothetical Willing Seller,'' *Business Valuation Review* (March 2000): 3–9.
8. Estate Tax. Reg. Sec. 2031-2(b)(1). Gift Tax Reg. Sec. 25.2512-2(e) contains the same language.
9. *Safe Deposit and Trust Co. v. Commissioner*, 35 B.T.A. 259 (1937).
10. *Estate of Mellinger v. Commissioner*, 112 T.C. 26 (1999).
11. *Rushton v. Commissioner*, 498 F.2d 88 (5th Cir. 1974).
12. *Estate of Christie v. Commissioner*, T.C. Memo 1974-95, 33 T.C.M. (CCH) 476 (1974).
13. *Estate of Foote v. Commissioner*, T.C. Memo 1999-37, 77 T.C.M. (CCH) 1356 (1999).
14. *Estate of Branson v. Commissioner*, T.C. Memo 1999-231, 78 T.C.M. 78 (1999).
15. *Estate of Gimbel v. Commissioner*, 2006 Tax Ct. Memo LEXIS 274 (December 19, 2006).
16. *Litman v. United States*, 78 Fed. Cl. 90 (Claims Ct. 2007).
17. Jason Bronstein and Michael Fussman, ''FAS 157: Pathway and Pitfalls in Fair Value of Complex Investments,'' *Business Valuation Update* (March 2008).

Chapter 9

John Emory Pre–Initial Public Offering Discount for Lack of Marketability Studies—Complete Underlying Data

Study #1: Adjusted Study, January 1980–June 1981
Study #2: Adjusted Study, January 1985–June 1986
Study #3: Adjusted Study, August 1987–January 1989
Study #4: Adjusted Study, February 1989–July 1990
Study #5: Adjusted Study, August 1990–January 1992
Study #6: Adjusted Study, February 1992–July 1993
Study #7: Adjusted Study, January 1994–June 1995
Study #8: Adjusted Study, November 1995–April 1997
Study #9: Adjusted Study, Dot-Com Companies, May 1997–March 2000
Study #10: Adjusted Expanded Study, May 1997–December 2000
Summary

Chapter 5 introduced three sets of pre-IPO marketability studies:

1. Willamette Management Associates
2. John Emory (Emory & Co., LLC)
3. Valuation Advisors

This chapter brings all of the transactions for the series of 10 Emory studies together in one place. (In 2002, Emory & Co., LLC made adjustments to all 10 studies. Only the adjusted study results are presented in this chapter.)[1] For the convenience of subscribers who wish to perform various statistical analyses across the data in the 10 studies, the data are also accessible electronically at BVLibrary.com.

John Emory Sr. originated the studies while at Baird & Co., a Milwaukee investment banking firm, where for many years he served as vice president in the corporate finance department, in charge of appraisal services. He has continued the studies after leaving Baird & Co. through his business valuation firm, Emory & Co., LLC, also in Milwaukee. He is joined there by his son, John Emory Jr., and F. R. Dengel III, both of whom also participate in updating the studies.

A complete list of the articles accompanying each of the studies, most of which were published in *Business Valuation Review*, is contained in the bibliography in Appendix A.

The essential methodology for the studies has remained the same across the entire series of the first eight studies. In summary, the company had to be financially sound, and the private transaction had to occur within five months prior to the IPO date. In the first eight studies, the following were eliminated:

- Development-stage companies
- Companies with a history of operating losses
- Companies with an IPO price under $5 per share

The criteria were relaxed, and some additional analyses were included in the ninth study involving dot-com companies from May 1997 through March 2000 and the tenth study involving expanded companies from May 1997 through December 2000.

Sources for the transactions were prospectuses in which Baird & Co. was a member of the underwriting syndicate or transactions for which Emory had otherwise obtained prospectuses.

The data are presented in chronological order, from the earliest through the latest.

STUDY #1: ADJUSTED STUDY, JANUARY 1980–JUNE 1981

The final two paragraphs of the article accompanying the first study summarize its conclusions:

> The final question to be answered is that if these kinds of discounts are appropriate for promising situations where marketability is probable, but not a certainty, how much greater should discounts be for the typical company's stock that has no marketability, little if any chance of ever becoming marketable, and is in a neutral to unpromising situation? The inability to get out of a once promising investment that has turned sour is something to be avoided. A minority investor cannot control the destiny of his investment and may well be reduced to watching its value decline to nothing. I speak from personal experience.
>
> It is apparent that lack of marketability is one of the more important aspects to value, and the marketplace itself emphasizes this point. The size of discount for lack of marketability depends on the individual situation and is governed by the promise of the company and the likelihood of future marketability.[2]

The basic theme has not changed since.

The data for the adjusted first study is contained in Exhibit 9.1. Ninety-seven prospectuses were reviewed, resulting in 12 qualifying transactions.

STUDY #2: ADJUSTED STUDY, JANUARY 1985–JUNE 1986

The text accompanying the second study is similar to that accompanying the first. Details of the adjusted transactions are shown in Exhibit 9.2. This study encompassed 130 prospectuses, this time yielding 19 qualifying transactions.

The average discounts, a mean and median of 43 percent, are significantly lower than those shown in the first study. As the article points out, the first study was conducted at a time of very depressed market conditions, while the second study was done at a time of record market highs and a more active IPO market.

STUDY #3: ADJUSTED STUDY, AUGUST 1987–JANUARY 1989

The adjusted third study encompassed the October 1987 stock market crash. Nevertheless, the average discount of 38 percent was lower than the 43 percent discount found in the second study.

The article accompanying this study observes that for several months after the crash there was little IPO activity and that the postcrash IPOs were of significantly increased quality and size. Emory also notes that there was little difference in discounts from the pre– versus post–October 19, 1987, periods. In addition, he remarks that they found little difference in discounts based on the equity size of the issuer. The adjusted transactions data are shown in Exhibit 9.3. A review of 98 prospectuses produced 21 qualifying transactions.

STUDY #4: ADJUSTED STUDY, FEBRUARY 1989–JULY 1990

In this study, the average discount was again 46 percent. Market conditions had not changed drastically. After eliminations from 157 IPO prospectuses studied, only 17 qualifying transactions remained. The adjusted qualifying transactions are detailed in Exhibit 9.4.

STUDY #5: ADJUSTED STUDY, AUGUST 1990–JANUARY 1992

This study covered 30 qualifying transactions out of 266 IPO prospectuses reviewed. The mean discount was 34 percent and the median 33 percent. Adjusted transactions are listed in Exhibit 9.5.

In the accompanying article, Emory comments that, after his eliminations, all the companies were promising in nature, and their securities had good potential for becoming readily marketable. Why else would a bona fide investment banker pursue an underwriting commitment?

The point, again, of course, is the question of how much greater the discount should be for the typical privately held minority block with little or no marketability and little or no chance of ever attaining any marketability.

STUDY #6: ADJUSTED STUDY, FEBRUARY 1992–JULY 1993

In this adjusted study, the number of qualifying transactions jumped to 49, out of 443 prospectuses reviewed. The mean discount was 45 percent and the median 43 percent.

In the article accompanying this study, Emory points out that 32 of the 173 transactions in the first six studies were actual sales, most of the rest being options granted at

fair market value. In general, actual sales transactions occurred at greater discounts than options. The six-study average discount for the 32 sales transactions was 49 percent, and the median was 52.5 percent. Adjusted details are shown in Exhibit 9.6

The article also includes an anecdotal example of the reality of sales of closely held stock at significant discounts from IPO prices:

> As an example of the value of marketability, on July 21, 1993, Robert W. Baird & Co. Incorporated, my employer, was the managing underwriter in an initial public offering of 2,150,000 shares of Starcraft Automotive Corporation at a price of $10.00 per share. On March 29, 1993, about four months before the IPO and with full knowledge of the IPO, in a disclosed and arms-length negotiated transaction, a principal holding 50 percent of the voting stock, which represented 42 percent of the economic interest of Starcraft, negotiated a sale of 738,400 shares of his Starcraft stock to Starcraft for a price of $5.42 per share, a discount of 46 percent from the offering price. This same individual also sold another 486,000 shares less than four months later in the IPO at $10.00 per share and then he retired.[3]

STUDY #7: ADJUSTED STUDY, JANUARY 1994–JUNE 1995

The seventh study covered 314 prospectuses, yielding 45 qualifying transactions. The mean and median discounts were 45 percent and 47 percent respectively. Adjusted details are shown in Exhibit 9.7.

STUDY #8: ADJUSTED STUDY, NOVEMBER 1995–APRIL 1997

This study covered 732 prospectuses and found 84 qualifying transactions in a strong stock market and a market for IPOs that could be considered hot.

Again, the actual sales transactions were at slightly larger discounts than the group as a whole. The total group of adjusted transactions is shown in Exhibit 9.8A, and a separate table showing only the sales transactions is presented as Exhibit 9.8B.

Because more companies were arriving at the IPO market with no earnings, and in some cases with no revenues, the 84 transactions tabulated are net after a final cut of 38 transactions that otherwise would have met the study's criteria. This was done to keep the companies used comparable in quality to those in prior studies. The mean and median discounts for the 38 transactions eliminated were 48 percent and 47 percent, respectively, versus the 43 percent and 42 percent found in the primary study.

STUDY #9: ADJUSTED STUDY, DOT-COM COMPANIES, MAY 1997–MARCH 2000

The ninth study differed from its predecessors in four major respects:

1. Only companies with "com" in their names were included.
2. The study covered a 35-month period as opposed to the 18-month periods of each of the eight earlier studies.

3. All transactions were actual sales, whereas the earlier studies also included options issued.
4. Most of the companies did not have earnings.

There were 51 sales transactions used in the study after adjustment. These included 42 convertible preferred stock transactions and 9 common stock transactions. Many of the transactions involved private equity funds, where the use of convertible preferred stock rather than straight common stock is the typical practice. Most such stocks automatically converted to common at the IPO date. The overall adjusted mean and median discounts for the group of 48 were 51 percent, as detailed in Exhibit 9.9A.

The study also compiled and tabulated transactions and average discounts by SIC code. These adjusted results are shown in Exhibit 9.9B.

A phenomenon of this group of dot-com IPOs was the tendency of their stocks to experience significant price increases following the IPO. Consequently, in addition to the pre-IPO transaction price relative to the IPO price, the study also related the transaction price to the stock price at the close of the IPO date and the stock prices 90 days and 180 days after the IPO. The average results are shown below. The details for each adjusted transaction are shown in Exhibit 9.9C.

Pre-IPO Discounts From:[4]

	IPO Price	IPO Date Close	Price 90 Days after IPO	Price 180 Days after IPO
Mean	48%	63%	63%	49%
Median	51%	68%	74%	74%

If there were multiple sale transactions within the five-month period prior to the IPO, during the adjustment, the latest transaction within that time frame was used, and subsequent transactions were detailed in footnotes, as shown in Exhibit 9.9D. As would be expected, the discount tended to drop as the transaction occurred closer to the IPO.

To determine how the discounts changed relative to revenues, equity, offer size, market capitalization, or loss size, the study examined the average of the top and bottom 10 transactions in each of those categories. Only one of the 53 companies had positive earnings. The results were as follows:

Mean Size of Discount from IPO Price

	10 at Top of Category	10 at Bottom of Category
Revenue	55%	57%
Equity	52%	61%
IPO Size	59%	56%
Market Capitalization at IPO	63%	51%
Loss Size	63% (smallest net loss)	52% (largest net loss)

There seemed to be little correlation among revenues, equity, or IPO offer size and the size of the discount.

STUDY #10: ADJUSTED EXPANDED STUDY, MAY 1997–DECEMBER 2000

The adjusted results for the tenth study are shown in Exhibit 9.10.

SUMMARY

The John Emory pre-IPO studies cover a span of 20 years and hundreds of transactions. This chapter has documented every single transaction that was recorded in the studies in that two-decade span.

The results are extremely consistent over time, documenting average discounts around 46 percent over varying market conditions. The Emory Studies are summarized in Exhibit 9.11.

In spite of the consistency of the averages, the dispersion of observations within each study is quite wide. With the convenience of having all of the data here in one place (and also online at BVLibrary.com), the analyst can examine the individual transactions to select those most relevant to the subject valuation.

They broke down the total transactions between sale transactions and option transactions. These results are shown in Exhibit 9.12. The sale transactions had much higher discounts (median of 52 percent) compared with the option transactions (median 42 percent).

They also broke down the transactions in terms of the length of time between the transaction and the IPO. These results are shown in Exhibit 9.13. They show consistently lower discounts as the time approaches the IPO, ranging from a median of 54 percent for transactions four to five months prior to the IPO to a median of 25 percent for transactions within a month of the IPO. This strongly demonstrates that the perceived length of the holding period is a major factor impacting the magnitude of the discount for lack of marketability.

Exhibit 9.1 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, January 1, 1980–June 30, 1981; Adjusted: October 19, 2002

Company	Principal Business	Date and Price of Last Transaction Prior to Offering Date (1)	Offering Date Price to Public	Premium from Prior Transaction	Offer Multiple (2)	Percent Discount From Public Offer (3)	Offer Contribution to Equity (4)	Book Value Before Offer (Millions $)	Book Value After Offer (Millions $)	Nature of Transaction Prior to Public Offering
Alpha Microsystems	Microcomputer systems systems	Feb-81 $6.00	6/18/81 $15.00	150%	2.50	60%	84%	1.963	12.05	Sale at F.M.V.
Anthem Electronics, Inc.	Semiconductor distributor	Jan-80 7	3/4/80 13.5	93%	1.93	48%	26%	5.233	7.064	F.M.V. of options.
Apple Computer, Inc.	Personal computer systems	Aug-80 5.44	12/12/80 22	304%	4.04	75%	76%	25.949	108.087	Sale-arm's length negotiations
Computer Magnetics	Transformer mfg.	Jan-81 3.9	4/14/81 8	105%	2.05	51%	56%	2.768	6.29	F.M.V. of sold shares
Diagnostic/ Retrieval Systems, Inc.	Military computer systems	Sep-80 1.28	1/22/81 10	681%	7.81	87%	56%	1.951	4.391	Option price at least 100% of F.M.V.
Emulex Corporation	Disk/tape controllers	Jan-81 1.73	3/26/81 12	594%	6.94	86%	70%	1.925	6.429	Option price at least 100% of F.M.V.
Intergraph Corporation	Computer graphic systems	Jan-81 4.17	4/7/81 18	332%	4.32	77%	63%	14.678	39.683	Sale of shares at fair value

Inter-Tel	Key phone systems	Dec-80 12	2/5/81 12.5	4%	1.04	4%	76%	2.174	8.875	Option price at least 100% of F.M.V.
Kimbark Oil & Gas Company	Oil & gas exploration	Mar-81 10.44	6/4/81 13	25%	1.25	20%	47%	5.731	10.713	Option price at least 100% of F.M.V.
Monolithic Memories	Computer circuits; bipolar	Mar-80 4.8	8/6/80 21	338%	4.38	77%	57%	14.38	33.611	Sale of shares at F.M.V.—valuation at unspecified date in 1980
Management Science America	Computer software	Feb-81 7.75	4/8/81 16	106%	2.06	52%	56%	10.979	24.766	F.M.V. determined for tax purposes
SEI Corporation	Services to bank trust departments	Jan-81 4.01	3/25/81 17	324%	4.24	76%	85%	1.757	11.96 (5)	Option price at F.M.V.
Average						59%				
Median						68%				

Source: John D. Emory, Sr., *ASA Valuation* (June 1986): 64–65; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

F.M.V. Fair Market Value.

(1) In all cases, the fair market value was determined by the Board of Directors on or near the date of the last transaction prior to the offering.

(2) Offering price divided by fair market value on date of last transaction.

(3) 1 minus (last transaction price divided by offering price).

(4) (Book value after offer, minus book value before offer), divided by book value after offer.

(5) Assumes net proceeds to the company of $16.13 per share.

Exhibit 9.2 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, January 1, 1985–June 30, 1986; Adjusted: October 19, 2002

Company	Principal Business	Offering Date	Price to Public (1)	Last Transaction Date	Price	Premium from Prior Trans.	Offer Multiple (3)	Percent Discount from Public Offer (4)	Offer Contribution to Equity (5)	Book Value Prior to Offering (Millions $)	Book Value After Offering (Millions $)	Nature of Transaction Prior to Public Offering
Bridge Communications Inc.	Local Area Network Systems	18-Apr-85	$12.00	01-Feb-85 (2)	$2.00	500%	6.00	83%	64%	13.076	35.837	Options granted
Capital Wire and Cable Corp	Wire and Cable	29-Apr-86	$13.00	01-Mar-86 (2)	$5.00	160%	2.60	62%	61%	7.339	18.879	Option granted
Carver Corporation	Audio System Components	9-May-85	$11.00	01-Jan-85 (2)	$7.44	48%	1.48	32%	69%	2.578	8.377	Options granted
Century Communications Corp	Cable Systems	11-Feb-86	$12.50	5-Dec-85	$12.00	4%	1.04	4%	77%	7.223	31.409	Options granted
Cytogen Corporation	Biochemical Systems	18-Jun-86	$13.00	01-Mar-86 (2)	$10.00	30%	1.30	23%	72%	13.87	49.331	Options granted
Gemcraft Inc	Family Residential Units	13-Dec-85	$8.00	15-Aug-85	$2.00	300%	4.00	75%	39%	9.566	15.666	Options granted
General Computer Corp	Integrated Computer Systems	4-Mar-86	$13.00	8-Dec-85	$7.80	67%	1.67	40%	58%	2.787	6.671	Options granted
Health Management Assoc. Inc.	Health Care Services	20-Jun-86	$10.00	26-Feb-86	$4.50	122%	2.22	55%	56%	10.468	23.668	Options exercised at F.M.V.
Home Club, Inc.	Membership Warehouses	29-Oct-85	$9.00	10-Sep-85	$6.30	43%	1.43	30%	33%	34.337	50.978	Options granted
Marietta Corporation	Guest Amenity Programs	11-Jun-86	$11.50	01-Mar-86 (2)	$6.60	74%	1.74	43%	74%	2.934	11.206	Options granted

Mercury General Corp.	Seall Auto Insurance	20-Nov-85	$19.00	8-Oct-85	$10.00	90%	1.90	47%	39%	54.8	89.978	Options granted
Modular Technology Inc.	Nonresidential Structures	29-May-86	$7.25	01-Apr-86 (2)	$7.00	4%	1.04	3%	78%	2.398	10.746	Options granted
Poly-Tech Inc	Trash Bags	11-Mar-86	$11.00	01-Dec-85 (2)	$7.50	47%	1.47	32%	76%	3.166	13.198	Shares purchased
Reebok International Ltd.	Athletic Footwear	26-Jul-85	$17.00	6-Jun-85	$5.56	206%	3.06	67%	69%	18.843	60.84	Shares issued
Sandy Corporation	Media-Based Programs	19-Nov-85	$13.00	01-Oct-85 (2)	$6.00	117%	2.17	54%	13%	9.778	11.3	Shares sold
Sbarro Inc.	Italian Restaurants	8-May-85	$10.38	01-Mar-85 (2)	$8.00	30%	1.30	23%	66%	3.865	11.249	Shares sold
Sigma Designs Inc	IBM Enhancement	15-May-86	$5.75	25-Mar-86	$2.790 (6)	106%	2.06	51%	76%	1.523	6.323	Options exercised
Sterling Inc	Fine Jewelry Retailer	14-May-86	$15.50	01-Mar-86 (2)	$10.40	49%	1.49	33%	75%	5.56	22.309	Options granted
VM Software Inc.	Software Products	29-May-85	$16.00	01-Jan-85 (2)	$5.75	178%	2.78	64%	85%	1.425	9.359	Options granted
Average								43%				
Median								43%				

Source: John D. Emory, Sr., *Business Valuation Review* (December 1986): 14; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

F.M.V. Fair Market Value.

(1) In all cases, the fair market value was determined by the Board of Directors on or near the date of the last transaction prior to the offering.

(2) No day indicated in prospectus, only month.

(3) Offering price divided by fair market value on date of last transaction.

(4) 1 minus (last transaction price divided by offering price).

(5) (Book value after offer, minus book value before offer), divided by book value after offer.

(6) Computed from Net Realized Value, which = Fair Market Value less Price Paid.

Exhibit 9.3 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, August 1987–January 1989; Adjusted: October 19, 2002

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	Book Value Prior to Offering (Millions $)	(2) Type of Transaction	Underwriter (Lead)
		Date	Price	Date	Price				
American Power Conversion Corp.	Power Supply Products	Apr-88	$3.08	Jul-88	$7.50	59%	$2.30	Sale	Josepthal
ARIX Corp.	Computer Systems	Jul-88	$5.25	Oct-88	$7.50	30%	$23.80	Options	Bear S.
BMC Softwear, Inc.	Software Products	Jul-88	$7.50	Aug-88	$9.00	17%	$10.50	Sale	Alex. B.
Conner Periphals, Inc.	Winchester Disc. Dr.	Apr-88	$7.00	Apr-88	$8.00	13%	$45.60	Options	Shearson
Egghead, Inc.	Retail Computer Software	Apr-88	$12.50	Jun-88	$17.00	26%	$38.00	Options	Donaldson L.
Flextronics, Inc.	Electronics Contract Mfg.	Apr-88	$5.00	Sep-87	$10.00	50%	$21.20	Options	Goldman
Genus, Inc.	Semiconductor Equipment	Jul-88	$8.00	Nov-88	$5.00	−60%	$17.70	Options	Alex. B.
Gaylord Container Corp.	Paper Pack. Prod.	Mar-88	$3.71	Jun-88	$20.50	82%	$68.40	Options	Salomon
H.H.B. Systems, Inc.	Electric Prod. Equipment	Jun-87	$8.00 (3)	Oct-87	$12.00	33%	$8.60	Sale	Alex. B.
Kinetic Concepts, Inc.	Rent Medical Beds	Feb-88	$8.00	Jun-88	$10.50	24%	$12.20	Sale	Morgan S.
Maxim Integrated Products, Inc.	Mfg. Integr. Circuits	Oct-87	$2.67	Feb-88	$5.50	51%	$12.50	Options	Montgomery
Multicolor Corporation	Printer	Apr-87	$6.32	Aug-87	$13.25	52%	$2.00	Options	Bradford
Norton Enterprises, Inc.	Trucking	May-87	$8.00	Sep-87	$12.00	33%	$5.60	Options	Alex. B.

Nuwest Industries, Inc.	Fertilizers	May-88	$2.80	Oct-88 (4)	$13.50	79%	$53.10	Sale	Dillon Reed
The Office Club, Inc.	Retailer	Jul-88	$5.00	Dec-88	$9.00	44%	$8.20	Options	Salomon
Phoenix Technologies, Inc.	Systems Softwear	Mar-88	$4.64	Jun-88	$15.00	69%	$8.20	Sale	Montgomery
Selfix, Inc.	Mfg. Home Products	Jul-88	$6.75	Oct-88	$7.00	4%	$8.20	Options	Landenburg T.
Synoptics Communications, Inc	LAN Systems	Apr-88	$4.06	Aug-88	$13.50	70%	$8.10	Sale	Morgan S.
Timberjack Corp.	Logging Equipment	Feb-88	$5.00	May-88	$12.00	58%	$10.00	Options	Kidder P.
Winston Furniture Company, Inc.	Mfg. Furniture	Jun-87	$8.00	Aug-87	$14.00	43%	$3.90	Options	Thomson Mc.
Wainwright Bank & Trust	Bank	Aug-88	$12.50	Oct-88	$15.75	21%	$19.30	Options	Landenburg T.
Average						38%	$18.45		
Median						43%	$10.50		

Source: John D. Emory, Sr., *Business Valuation Review* (June 1989): 57; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

(1) 1 Minus (last transaction price divided by offering price).

(2) All Options granted were stated to be at the Common Stock's fair market value.

(3) Effective.

(4) Started trading Oct. 24 under an exclusion. $13.50 is lowest price in subsequent month.

Exhibit 9.4 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, August 1987–January 1989; Adjusted: October 19, 2002

		Last Transaction		Public Offering		(1)% Discount from Public Offering Price	Book Value Prior to Offering (Millions $)	(2) Type of Transaction	Underwriter (Lead)
Company	**Principal Business**	**Date**	**Price**	**Date**	**Price**				
Allied Clinical Laboratories, Inc.	Clinical testing labs	Apr-90	$3.34	Jul-90	$13.00	74%	19.6	Options	Alex. Brown
BTi-Biomagnetic Technologies	Biomagnetic imaging	May-89	5.4	Jul-89	9	40%	7.4	Options	PaineWebber
BTU International, Inc.	Thermal processing equip.	Oct-88	3.5	Feb-89	8	56%	10.4	Sale	Smith Barney
Gehl Company	Mfg. ag. & const. equipment	Aug-89	9.1	Nov-89	14	35%	46.1	Options	RW Baird
Goal Systems International, Inc.	Software	Apr-89	8	May-89	9.75	18%	31.3	Options	Morgan Stanley
Hologic, Inc.	X-Ray systems	Jan-90	8.5	Mar-90	14	39%	1.6	Options	Hambrecht & Quist
KnowledgeWare, Inc.	Engineering software	Aug-89	10.35	Oct-89	12.5	17%	10.8	Options	Montgomery Sec.
Lechters, Inc.	Specialty retailer	Jun-89	13.3	Jul-89	20.5	35%	27.5	Options	Goldman Sachs
Martech USA, Inc.	Pollution & env. services	Nov-89	1.32	Dec-89	10	87%	4.4	Options	PaineWebber

Modtech, Inc.	Modular pre-fab classrooms	Apr-90	6	Jul-90	10	40%	6.9	Options	Seidler Amdec
Neogen Corporation	Agricultural biotech	Jun-89	0.32	Aug-89	5	94%	1.7	Options	Roney & Co.
Neurogen Corporation	Genetic engineering prod.	Jul-89	4	Oct-89	6	33%	6.4	Options	Allen & Co.
Newbridge Networks Corporation	Telecommunications prod	Apr-89	5.5	Jul-89	10.5	48%	51.0	Sale	Smith Barney
O'Charley's, Inc.	Restaurants	May-90	5	Jul-90	9	44%	3.4	Options	Alex. Brown
Pharmacy Management Services	Medical containment serv.	Dec-89	9	Apr-90	12	25%	3.4	Options	Rbrtsn Stephens
Sierra Tucson Companies, Inc.	Drug rehab facilities	Aug-89	7	Oct-89	12	42%	2.2	Options	Oppenheimer
Staples, Inc.	Office prod. superstores	Jan-89	9	Apr-89	19	53%	20.6	Options	Goldman Sachs
Average						46%	$14.98		
Median						40%	$7.40		

Source: John D. Emory, Sr., *Business Valuation Review* (December 1990): 116; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

(1) 1 Minus (last transaction price divided by offering price).

(2) All Options granted were stated to be at the Common Stock's fair market value or reasonably should have been.

Exhibit 9.5 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, August 1990–January 1992; Adjusted: October 19, 2002

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	Book Value Prior to Offering (Millions $)	(2) Type of Transaction	Underwriter (Lead)
		Date	Price	Date	Price				
AG Services of America	Supplies farm inputs	May-91	$7.00	Aug-91	$8.25	15%	$4.50	Options	Josephthal
American Dental Laser	Dental laser systems	Mar-91	7.48	Jun-91	13	42%	3.9	Options	Dain Bosworth
Applied Extrusion Tech	Thermoplastic nets	Apr-91	7	Jun-91	9.5	26%	8	Options	PaineWebber
Au Bon Pain Co, Inc	Bakery cafe chain	Feb-91	6.5	Jun-91	9	28%	22.2	Options	Morgan Stanley
Bird Medical Technologies Inc.	Respiratory Care Products	Jun-90	7.5	Aug-90	8	6%	5.8		
Brooktree Corp	Integrated circuits	Dec-90	9	Apr-91	12	25%	40.9	Sale	Smith Barney
Computer Petrol Corp	Energy information	Jan-91	3.5	May-91	5	30%	1.3	Options	Kinnard
Danek Group Inc	Spinal implant devices	Jan-91	7.11	May-91	15	53%	7.5	Options	Smith Barney
Diversicare Inc	Health care services	Oct-91	7.5	Nov-91	11.5	35%	7.4	Sale	Bear Stearns
Duracell Inter Inc	Batteries	Mar-91	8.5	May-91	15	43%	342.3	Options	Merrill Lynch
Haemonetics Corp	Blood collection	Jan-91	11.11	May-91	22	50%	67.5	Options	First Boston
Hi-Lo Automotive Inc	Auto aftermarket parts	Dec-90	6	May-91	13	54%	27.1	Options	Dillon Reed
IDEXX Laboratories Inc	Mfg biotech systems	Apr-91	13	Jun-91	15	13%	14.5	Options	Lehman
Little Switzerland Inc	Specialty retailer	Jun-91	10	Jul-91	12	17%	27	Options	First Boston
Liuski International Inc	Microcomputer distributor	May-91	5.25	Aug-91	7	25%	4.6	Options	Vantage
Lunar Corporation	Bone disease products	May-90	12.75	Aug-90	12	−6%	5.9	Options	Smith Barney

Menley & James Inc	Mfg pharmaceuticals	Nov-91	7.89	Jan-92	13	39%	−14.1	Options	Smith Barney
Meris Laboratories Inc	Clinical laboratory	Jun-91	6	Jul-91	9.25	35%	4.3	Options	Robertson Stevens
NAMIC USA Corp	Medical products	Aug-91	5	Nov-91	18	72%	12.6	Sale	First Boston
OESI Power Corp	Geothermal projects	Feb-91	8	May-91	14	43%	9	Options	Kidder Peabody
Platinum Technology	Software products	Feb-91	7.15	Apr-91	15	52%	4.1	Options	Hambrecht & Quist
TakeCare Inc	HMO	Jan-91	10	Mar-91	19	47%	20.5	Options	First Boston
Tanknology Envrnmntl	Environmental services	Feb-91	7.5	Jun-91	11	32%	15.3	Options	First Boston
Target Therapeutics Inc	Disposable med devices	Oct-91	8.75	Jan-92	18	51%	5.8	Options	Alex. Brown
The Failure Group Inc.	Consulting Firm	Apr-90	9.22	Aug-90	13	29%	19.3		
Thermo Electron Tech	High tech R & D	Apr-91	8.33	Jul-91	12	31%	13	Options	Lehman
TRM Copy Ctrs Corp	Self-serve copiers	Oct-91	6	Dec-91	8.5	29%	5	Options	Montgomery
Valley Systems Inc	Industrial cleaning	Jan-91	3	Jun-91	5	40%	2.9	Options	Laidlaw
Wellfleet Commun	Internetworking products	Jun-91	9.75	Jul-91	17	43%	12.1	Options	Goldman Sachs
Zilog Inc	Integrated circuits	Jan-91	8	Feb-91	11	27%	29	Options	Alex. Brown
Average						34%	$24.31		
Median						33%	$8.50		

Source: John D. Emory, Sr., *Business Valuation Review* (December 1992): 210; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

(1) 1 Minus (last transaction price divided by offering price).

(2) All options granted were stated to be at the Common Stock's fair market value or reasonably should have been.

Exhibit 9.6 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, February 1992–July 1993; Adjusted: October 19, 2002

		Last Transaction		Public Offering		(1)% Discount from Public Offering	Prior to Offering (Millions $)			Lead
Company	**Principal Business**	**Date**	**Price**	**Date**	**Price**	**Price**	**Equity**	**Sales**	**Type (2)**	**Underwriter**
3CI Complete Compliance Corporation	Medical waste	Jan-92	$4.00	Apr-92	$6.00	33%	$6	$6	O	Laidlaw Equities
Absolute Entertainment	Mfg interactive software	Dec-92	4.8	Apr-93	10	52%	1	13	O	Needham & Co.
Access Health Marketing	Info retrieval service	Sep-91	3	Feb-92	7	57%	6	10	O	Alex. Brown & Sons
Amtrol Inc	Mfg plumbing/heating prod	Dec-92	11.55	Mar-93	15	23%	17	148	S	Smith Barney
Auspex Systems, Inc	Mfg semiconductors	Feb-93	6	May-93	12	50%	27	51	O	Goldman Sachs
Back Bay Restaurant Grp	Restaurants	Dec-91	14	Mar-92	17	18%	4	56	O	Tucker Anthony
Banyan Systems Inc	Mfg software	May-92	6	Aug-92	10.5	43%	32	100	O	Robertson Stephens
BHC Financial, Inc.	Provide data processing	Dec-92	8	Apr-93	14	43%	27	0	O	Montgomery Sec.
BioSafety Systems, Inc	Healthcare gloves/masks	Oct-92	1.5	Feb-93	6	75%	2	11	O	Stonegate Securities
Biosys	Mfg pharmaceutical prod	Dec-91	7.65	Mar-92	12	36%	5	1	S	Kemper Securities
Brauns Fashions Corp	Women's clothing stores	Nov-91	1.88	Mar-92	7	73%	5	64	O	Piper Jaffray
Brookstone	Own/operate novelty stores	Jan-93	8	Mar-93	10.5	24%	6	118	O	Robertson Stephens
Brooktrout Technology	Integrated voice/fax sys	Aug-92	8.5	Oct-92	10	15%	2	10	O	Tucker Anthony
The Buckle	Women's clothing stores	Sep-91	9	May-92	13.5	33%	20	87	O	William Blair
Calif Culinary Academy	Culinary academy/school	Mar-93	4.18	Jun-93	6.5	36%	−1	10	O	Paulson Investment
Catalina Marketing Corp	Mrkting consulting serv	Jan-92	10	Mar-92	20	50%	10	33	O	PaineWebber
Catalytica	Mfg indl process catalysts	Dec-92	1.8	Feb-93	7	74%	5	10	O	Lehman Brothers
CDWComputer Centers	Discount software	Dec-92	6.77	May-93	12.5	46%	1	155	O	William Blair
Chico's	Women's clothing stores	Dec-92	8.16	Mar-93	14	42%	5	33	O	Robert W. Baird
ChipSoft	Publish tax software	Dec-91	2.04	Apr-92	12.5	84%	2	33	O	Robertson Stephens
Cmmnty Hlth Computing	Healthcare info sys	Nov-92	3	Mar-93	10	70%	12	43	O	Montgomery Sec.
Compuware Corporation	Develop/retail software	Oct-92	15	Dec-92	22	32%	33	175	O	Morgan Stanley

Cygne Designs, Inc	Women's clothing	Apr-93	4	Jul-93	10	60%	3	145	O	PaineWebber
Delta Queen Steamboat	Operate river cruise	Jan-92	3.25	Mar-92	13.5	76%	9	51	O	Stephens, Inc.
Discovery Zone, Inc	Children's playgrounds	Apr-93	15	Jun-93	22	32%	23	13	O	Merrill Lynch
Electronics for Imaging	Mfg imaging equipment	Aug-92	4.33	Oct-92	12.75	66%	8	18	S	Robertson Stephens
ERO, Inc	Children's products	Jan-92	6.46	Apr-92	16.5	61%	–1	88	O	Donaldson, Lufkin
GBC Technologies	Computers, periph equip	Nov-92	6	Dec-92	11	45%	4	80	O	Raymond James
Glacier Water	Water vending machines	Oct-91	5.78	Mar-92	11	47%	1	23	O	Sutro & Co. Inc.
Hampshire Group, Ltd	Mfg sweaters & hose	Mar-92	9.9	Jun-92	9.5	–4%	$12	$88	O	Legg Mason
Intermedia Commun of FL	Telecommunications serv	Mar-92	6.6	Apr-92	8	18%	4	5	O	Bear Stearns
Kenfil, Inc	Distributes software	Oct-92	5	Jan-93	7	29%	–3	167	O	Piper Jaffray
LCI International	Telecommunication serv	Mar-93	11.33	May-93	18.25	38%	–32	260	S	Bear Stearns
Liberty Technologies	Diagnostic systems	Dec-92	6	Mar-93	9	33%	5	17	O	Robertson Stephens
Molten Metal Technology	Environmental tech	Jan-93	10.56	Feb-93	14	25%	20	3	O	Oppenheimer & Co.
Mothers Work	Womens' clothing stores	Jan-93	4.62	Mar-93	13	64%	6	23	S	Wheat First Butcher
Nathan's Famous	Fast food restaurants	Dec-92	7	Feb-93	9	22%	13	21	O	Ladenburg Thalman
Norwood Promotional Prod	Hats, caps, printing prod	Jun-93	5.25	Jun-93	11	52%	–5	47	O	Allen & Company
Peak Technologies Grp	Computers, peripherals	May-92	3.44	Aug-92	8.5	60%	6	85	O	William Blair
Platinum Software	Dev modular software	Jul-92	3.33	Oct-92	14	76%	3	16	O	Hambrecht & Quist
Rexall Sundown, Inc	Produce vitamins	Mar-93	9.5	Jun-93	14	32%	13	74	O	Raymond James
RHI Entertainment, Inc	Own film & TV library	Apr-92	7.5	Jul-92	10	25%	17	33	O	Donaldson Lufkin
Rocky Shoes & Boots	Mfg men's footwear	Dec-92	9.5	Feb-93	10	5%	6	32	O	J. C. Bradford & Co.
Starcraft Automotive Corp	Mfg motor homes	Apr-93	5.42	Jul-93	10	46%	7	84	S	Robert W. Baird
Starter	Sports clothing, uniforms	Jan-93	11.5	Apr-93	21.5	47%	32	283	O	Merrill Lynch
Syratech Corporation	Mfg silver flatware	Aug-92	10	Dec-92	17	41%	63	167	O	Allen & Company
Trident Microsystems	Mfg chips, circuit boards	Jul-92	8	Dec-92	17	53%	20	70	O	Alex. Brown & Sons
Wall Data	Network integration sys	Oct-92	1.92	Mar-93	20	90%	9	32	O	Bear Stearns
Wind River Systems	Develop software	Feb-92	6	Apr-93	9.5	37%	7	25	O	Hambrecht & Quist
Average						45%	$9.73			
Median						43%	$6.00			

Source: John D. Emory, Sr., *Business Valuation Review* (March 1994): 6–7; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

(1) 1 Minus (last transaction price divided by offering price).

(2) All options granted were stated to be at the Common Stock's fair market value or reasonably should have been.

Exhibit 9.7 Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, January 1994–June 1995; Adjusted: October 19, 2002

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales		
ABR Information Services, Inc.	Health care benefits administration	Mar-94	$5.16	May-94	$9.75	47%	$4	$8	S	Robert W. Baird & Co
AccuStaff, Inc.	Temporary help	Apr-94	7.5	Aug-94	10.5	29%	5	106	S	JC. Bradford
AD Flex Solutions Inc.	Flexible circuit based instruments	Jun-94	10	Sep-94	13.5	26%	13	60	O	Robertson Stephens
Alternative Resources Corporation	Temporary help	Jan-94	5.43	May-94	14	61%	5	62	O	Montgomery
American Oncology Resources, Inc.	Physician management	Feb-95	8.25	Jun-95	21	61%	51	67	S	Alex. Brown
Cascade	Manufactures network	Mar-94	8	Jul-94	15	47%	12	13	S	Morgan Stanley
CATS Software Inc.	Supplies software	Jan-95	8	Mar-95	12	33%	5	18	O	Hambrecht & Quist
Centennial Technologies Inc.	Manufactures font cartridges	Jan-94	3.6	Apr-94	6	40%	2	6	S	Schneider Securities
Central Tractor Farm & Country Inc.	Specialty retailer	May-94	5.59	Oct-94	15.5	64%	28	215	O	Donaldson Lufkin
Cole Taylor Financial Group	Bank holding company	Jan-94	8.25	May-94	13	37%	91	N/A	O	Chicago Corp.
Corporate Express	Supplies office products	May-94	11	Sep-94	16	31%	89	638	O	Alex. Brown
CRA Managed Care, Inc.	Cost containment services	Jan-95	5.89	May-95	16	63%	−28	128	O	Alex. Brown
Creative Computers, Inc.	Direct marketer of PCs	Nov-94	5.5	Apr-95	17	68%	1	164	O	William Blair
Datalogix International Inc.	Software solutions	Jan-95	3.5	Jun-95	17	79%	10	37	O	Robertson Stephens
Dialogic Corporation	Signal computing products	Nov-93	6.67	Apr-94	11	39%	20	85	O	Hambrecht & Quist
Digital Link	Digital access products	Oct-93	3.33	Jan-94	14	76%	10	23	O	Bear Stearns
Eagle Finance Corp.	Financial services company	Mar-94	3.39	Jul-94	9	62%	4	N/A	O	Chicago Corp.
Happiness Express Inc.	Popular characters	May-94	7	Jul-94	10	30%	4	40	O	Rodman & Renshaw
Harmonic Lightwaves, Inc.	Fiber optic systems	Jan-95	7.2	May-95	13.5	47%	10	24	O	Bear Stearns

Hello Direct Inc.	Sells telecommunications products	Feb-95	8	Apr-95	11.5	30%	4	26	O	Alex. Brown
Lazer-Tron Corporation	Games	Mar-94	7.5	May-94	8	6%	4	13	O	Von Kasper & Co.
Micro Linear Corp.	Integrated circuits	Jun-94	2.75	Oct-94	8.5	68%	27	36	S	Robertson, Stephens
Microtech Research, Inc.	Software tools	Aug-94	3.38	Dec-94	8	58%	10	40	O	Lehman Brothers
Natural Micro Systems Corp.	Telephone products	Sep-93	4.95	Feb-94	9.75	49%	2	11	O	First Albany
Number 9 Visual Tech Corp.	Visual technology	Jan-95	7.37	May-95	15	51%	11	82	S	Robertson, Stephens
OccuSystems, Inc.	Physician management	Jan-95	7	May-95	14	50%	24	100	O	Donaldson Lufkin
Orbit Semiconductor, Inc.	Design & support	Jun-94	3.8	Nov-94	7.5	49%	7	38	O	Robertson, Stephens
Physician Reliance Network, Inc.	Physician management	Sep-94	8.63	Nov-94	14	38%	30	59	S	Smith Barney
Physician Sales and Service	Distribution to physicians	Jan-94	6.94	May-94	11	37%	12	169	O	Alex. Brown
Piercing Pagoda, Inc.	Jewelry retailer	Jun-91	8	Oct-94	11	27%	2	72	O	Wheat First Butcher
Reptron Electronics, Inc.	Integrated electronics	Dec-93	5	Mar-94	13	62%	7	127	O	Prudential
Rouge Steel Co.	Steel manufacturing	Dec-93	10.25	Mar-94	22	53%	80	1,076	S	Morgan Stanley
Serologicals Corp.	Antibody products	Jan-95	6.88	Jun-94	11.5	40%	8	46	O	Smith Barney
Shiva Corporation	Remote connectivity	Sep-94	11.25	Nov-94	15	25%	7	38	S	Goldman Sachs
Sitel Corp.	Telemarketing	Feb-95	11.64	Jun-95	13.5	14%	23	93	O	Alex. Brown
Speedway Motorsports, Inc.	Owns speedways	Dec-94	7.89	Feb-95	18	56%	10	32	S	Wheat First Butcher
Spyglass, Inc.	Web technologies	Mar-95	7.5	Jun-95	17	56%	3	7	O	Alex. Brown
Telematic Corporation	Telephone services	Jun-94	5.5	Nov-94	9.5	42%	2	11	S	Hambrecht & Quist
TheraTx, Incorporated	Rehabilitation programs	Mar-94	7.5	Jun-94	12	38%	36	114	O	Robertson, Stephens
Thompson PBE, Inc.	Distributes auto parts	Jun-94	7.39	Nov-94	11	33%	−4	92	O	William Blair
Tower Automotive, Inc.	Metal stamping	May-94	6.55	Aug-94	11.5	43%	16	195	O	Kidder Peabody
TRISM, Inc.	Special trucking	Oct-93	3.95	Feb-94	14	72%	6	200	O	Alex. Brown
Truck Components, Inc.	Wheel-end components	May-94	3.16	Aug-94	10	68%	22	285	O	Dillon Read
Tylan General, Inc.	Mass flow controllers	Oct-94	6.31	Jan-95	7	10%	11	48	O	Needham
Wandel & Goltermann	Analysis products	Jan-94	10	Apr-94	11	9%	7	27	O	Robinson-Humphrey
Average						45%	$15.62			
Median						47%	$10.00			

Source: John D. Emory, Sr., *Business Valuation Review* (December 1995): 159–160; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

N/A Not Available

(1) 1 minus (transaction price divided by offering price).

(2) As close to transaction as data available.

(3) All options granted were stated to be at the Common Stock's fair market value or reasonably should have been; S Sale transaction, O Options.

Exhibit 9.8A Fair Market Value Transactions That Occurred within Five Months Prior to an Initial Public Offering as Disclosed in the Prospectus, November 1995–April 1997; Adjusted: October 19, 2002

		Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)					
Company	**Principal Business**	**Date**	**Price**	**Date**	**Price**		**Equity**	**Sales**	**(3) Type of Transaction**	**Total IPO Offer (Millions $)**	**Market Cap. (Millions $)**	**Underwriter (Lead)**
99 Cent Only Stores	Deep-discount retailer	May-96	$10.99	May-96	$14.50	24%	$2	$162	O	$62	$206	EVEREN Securities
Aavid Thermal Technologies	Provider of thermal mngt products	Jan-96	9	Jan-96	9.5	5%	4	87	O	22	58	Montgomery
Abacus Direct	Marketing research services	May-96	4.2	Sep-96	14	70%	2	12	O	71	133	Robertson, Stephens
Advanced Fibre Communications	Mfg digital loop carrier system	Jun-96	12.5	Sep-96	25	50%	−8	89	O	113	732	Morgan Stanley
Alternative Living Services	National assisted living comp	May-96	4.62	Aug-96	13	64%	18	13	S	78	169	NatWest Securities
American Medserve	Provider of pharmacy services	Sep-96	9.1	Nov-96	15	39%	23	60	S	80	173	William Blair
American Residential Services	Residential services	Apr-96	10.8	Sep-96	15	28%	17	124	O	63	127	Smith Barney
Applied Analytical Industries	Pharmaceutical products	Apr-96	8.35	Sep-96	16	48%	23	39	O	43	254	Goldman, Sachs
Cal-Maine Foods	Mfg egg products	Oct-96	4.33	Dec-96	7	38%	49	292	O	15	82	Paulson Investment
Catalyst	Warehouse mngt software systems	Jul-95	10	Nov-95	13	23%	−1	18	O	34	106	Robertson, Stephens
CB Commercial	Commercial real	Sep-96	10	Nov-96	20	50%	−107	534	O	87	265	Merrill Lynch
Cost Plus	Home living, entertainment products	Nov-95	11.31	Apr-96	15	25%	36	183	O	42	121	Alex. Brown
DAOU Systems	Computer network sys. for hospitals	Nov-96	4.28	Feb-97	9	52%	1	19	O	18	92	Alex. Brown
Data Processing	Provides info tech	Jan-96	9	Mar-96	14	36%	−2	54	O	37	98	Montgomery

Deltek Systems	Develops integrated bus software	Sep-96	4	Feb-97	11	64%	11	35	S	32	186	Montgomery
Diamond Home Services	Home improvement products	Jun-96	13	Sep-96	29	55%	32	140	O	22	263	William Blair
Document Sciences	Document automation software	Jul-96	10	Sep-96	12	17%	1	13	O	28	12	Deutsche Morgan
Dunn Computer	Customer computer systems	Jan-97	4.15	Apr-97	5	17%	2	17	O	5	25	Network 1 Financial
E*TRADE	Online discount brokerage services	Mar-96	2.33	Aug-96	10.5	78%	22	43	O	59	309	Robertson, Stephens
Essex	Dev electrical wire and cable products	Dec-96	10	Apr-97	17	41%	146	1,332	S	98	491	Goldman, Sachs
Factory Card Outlet	Party supplies, greeting cards	Jul-96	3.3	Dec-96	9	63%	26	103	O	24	60	Alex. Brown
Firearms Training Systems	Simulation systems for arms training	Sep-96	3.25	Nov-96	14	77%	−87	77	S	84	286	Montgomery
Forrester Research	Independent research firm	Sep-96	13	Nov-96	16	19%	4	22	O	32	128	Goldman, Sachs
Hamilton Bancorp	Global trade finance	Nov-96	9.23	Mar-97	15.5	40%	40	25	O	37	147	Oppenheimer
Hibbett Sporting Goods	Full-line sporting goods store	Aug-96	8.48	Oct-96	16	47%	−7	77	O	32	93	Smith Barney
HomeSide	Residential mortgage banking	Nov-96	10.29	Jan-97	15	31%	388	262	S	110	634	Merrill Lynch
Hot Topic	Music licensed, influenced apparel	Jun-96	8.8	Sep-96	18	51%	0	31	O	23	79	Montgomery
Impath	Provides information on cancer	Oct-95	9.5	Feb-96	13	27%	6	14	O	25	64	Salomon Brothers
Infinity Financial Technology	Develops financial software	Aug-96	10.5	Oct-96	16	34%	8	31	S	43	288	Goldman, Sachs
INS	Complex enterprise network svcs	Jun-96	8	Sep-96	16	50%	−3	44	O	40	495	Morgan Stanley
Intelligroup	Info tech services	Jun-96	8	Sep-96	10	20%	−2	35	O	25	107	Cowen & Co.
Intevac	Static sputtering systems	Jun-95	2.18	Nov-95	6	64%	13	33	O	12	72	Robertson, Stephens

(*continued*)

Exhibit 9.8A *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Isocor	Dev elec info exch software	Jan-96	8	Mar-96	9	11%	12	17	O	18	76	Hambrecht & Quist
JDA Software Group	Software for retail orgs	Nov-95	5.25	Mar-96	13	60%	–5	30	O	35	158	Hambrecht & Quist
Kentek Information Systems	Supplier of laser printers	Feb-96	6.49	Apr-96	8	19%	30	68	O	20	55	Janney Montgomery
Kitty Hawk	Air freight charter services	Jun-96	8.62	Oct-96	12	28%	23	142	O	36	125	Smith Barney
Lumisys	Laser-based film digitizers	Aug-95	6	Nov-95	8	25%	–4	15	O	20	50	Hambrecht & Quist
Meta Group	Market assessment company	Aug-95	6.13	Dec-95	18	66%	–4	27	S	43	92	Robertson, Stephens
Metzler Group	Consulting services	Jun-96	12	Oct-96	16	25%	3	19	O	56	165	Donaldson, Lufkin
Millennium Pharmaceuticals	Genomics industry	Feb-96	9	May-96	12	25%	13	23	S	54	274	Goldman, Sachs
MIM Corporation	Pharmacy mgmt organization	May-96	7.5	Aug-96	13	42%	–11	278	O	52	156	PaineWebber
Molecular Devices	Mfgs bioanalytical measurement systems	Sep-95	5.25	Dec-95	11	52%	6	25	O	25	95	UBS Securities
Northwest Pipe Company	Mfg welded steel pipe	Aug-95	4.78	Nov-95	9	47%	15	96	O	15	45	Hanifen, Imhoff
$NuCo_2$	Supplies liquid carbon dioxide	Jul-95	4.4	Dec-95	9	51%	1	7	O	20	48	Raymond James
ONSALE	Sell computers via Internet	Dec-96	5	Apr-97	6	17%	2	14	S	15	98	Montgomery
OrCAD	Develops software products	Dec-95	7.88	Feb-96	11	28%	6	14	O	35	67	Wessels, Arnold

PIA Merchandising Services	Routed merchandising systems	Dec-95	9.81	Feb-96	14	30%	6	105	O	33	76	PaineWebber
Pixar Animation Studios	Digital animation Studio	Aug-95	1.25	Nov-95	22	94%	4	12	O	132	823	Robertson, Stephens
Planet Hollywood	Theme restaurants	Mar-96	14	Apr-96	18	22%	31	296	O	194	1914	Bear, Stearns
PowerCerv	Client/server development tools	Nov-95	4	Mar-96	14	71%	−16	28	S	46	186	Robertson, Stephens
Printware	Designs computer plates	Apr-96	3	Jul-96	6	50%	5	8	O	10	29	RJ Steichen
Procom Technology	Provider of CD-ROM servers	Jul-96	5.17	Dec-96	9	43%	7	83	O	27	99	Montgomery
Q.E.P.	Mfg. specialty tools	Jun-96	7.23	Sep-96	8.5	15%	4	27	O	10	21	Cruttenden Roth
Qualix Group	Software for UNIX and Windows NT	Oct-96	5.62	Feb-97	8	30%	4	25	O	24	81	Hambrecht & Quist
Raster Graphics	Large format color printing systems	May-96	7	Aug-96	8	13%	8	33	O	24	67	Hambrecht & Quist
Renal Care Group	Nephrology services	Jan-96	7.5	Feb-96	18	58%	20	71	O	70	157	Equitable Securities
Restrac	Dev human resource staffing software	Apr-96	4.67	Jul-96	11	58%	3	19	O	28	87	Montgomery
RMH Teleservices	Outbound teleservices	May-96	1.91	Sep-96	12.5	85%	−17	31	S	35	96	Smith Barney
RockShox	Mfg bicycle suspension products	May-96	4.69	Sep-96	15	69%	−38	86	O	72	204	Merrill Lynch
SCB Computer Technology	Information technology services	Oct-95	9.75	Feb-96	15.5	37%	3	40	S	34	106	Morgan Keegan
SeaChange International	Digital video products	Jun-96	7.33	Nov-96	15	51%	1	36	O	30	191	Morgan Stanley
Segue Software	Dev software for automated testing	Dec-95	9	Mar-96	18	50%	1	8	O	50	108	Alex. Brown
Signature Resorts	Developer, operator of timeshare resorts	Jun-96	12	Aug-96	14	14%	48	79	O	74	232	Montgomery
SkyMall	In-flight catalogue company	Sep-96	5.56	Dec-96	8	31%	−14	40	O	16	69	Josephthal Lyon
Smart Modular Technologies	Mfg memory modules, PC card	Aug-95	7	Nov-95	12	42%	21	237	O	36	212	Donaldson, Lufkin

(*continued*)

Exhibit 9.8A *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Specialty Care Network	Physician practice mgmt co.	Oct-96	3	Feb-97	8	63%	11	34	S	26	112	Credit Suisse
Sykes Enterprises	Info technology support systems	Dec-95	7.5	Apr-96	18	58%	10	63	O	59	224	Robert W. Baird
Template Software	Provides software solutions	Sep-96	6	Jan-97	16	63%	10	14	O	34	68	Volpe, Welty
The O'Gara Company	Armor provider for vehicles	Aug-96	6.11	Nov-96	9	32%	4	62	S	18	60	Dillon, Read
The Registry	Provides info tech. consultants	Mar-96	11	Jun-96	17	35%	2	131	O	37	168	Adams, Harkness
Titanium Metals	Titanium sponge and mill products	Mar-96	16.13	Jun-96	23	30%	140	251	S	334	723	Salomon Brothers
Trex Medical	Mfg mammography equipment	Feb-96	10.75	Jun-96	14	23%	63	134	O	35	358	NatWest Securities
Trident	Mfg impulse ink jet subsystems	Sep-95	12	Feb-96	16	25%	–2	20	O	48	111	Prudential Securities
Trusted Information Systems	Security solutions for computers	Aug-96	7.04	Oct-96	13	46%	5	19	O	44	142	J. P. Morgan
United Natural Foods	Distributes natural foods	Jul-96	9.64	Nov-96	13.5	29%	18	381	O	39	167	Smith Barney
USCS International	Provider of customer mgmt software	Apr-96	12.5	Jun-96	17	26%	49	237	O	82	378	Merrill Lynch

Versatility	Provider of client/ server software	Sep-96	10.5	Dec-96	15	30%	2	21	O	33	108	Merrill Lynch
ViaSat	Digital satellite telecomm	Jul-96	4.09	Dec-96	9	55%	6	36	O	20	68	Oppenheimer
VitalCom	Communication networks	Oct-95	5.72	Feb-96	12.5	54%	7	24	S	25	95	Wessels, Arnold
Vivid Technologies	Mfg automated inspection systems	Jul-96	3	Dec-96	12	75%	0	16	S	24	107	Lehman Brothers
Workgroup Technology	Develops software solutions	Nov-95	3.9	Mar-96	15	74%	–4	9	S	53	111	Alex. Brown
Xionics Document Technologies	Technology for office devices	May-96	4.5	Sep-96	12	63%	–7	24	S	36	121	Adams, Harkness
XLConnect Solutions	Professional services for computing	Sep-96	9.35	Oct-96	15	38%	6	95	O	44	243	Alex. Brown
Xylan	High-bandwidth switching systems	Dec-95	5.25	Mar-96	26	80%	16	30	S	109	1025	Morgan Stanley
Average						43%	$13.92					
Median						41%	$4.87					

Source: John D. Emory, Sr., *Business Valuation Review* (September 1997): 128–130; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

(1) 1 minus (transaction price divided by offering price).
(2) As close to transaction as data available.
(3) All options granted were stated to be at the common stock's fair market value or reasonably should have been.
O Option Transaction
S Sale Transaction

Exhibit 9.8B Discounts for Lack of Marketability Arising from Sales Transactions, November 1995–April 1997; Adjusted: October 19, 2002

Company	Principal Business	Last Transaction		Public Offering		(1) % Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Alternative Living Services	National assisted living comp	May-96	4.62	Aug-96	13	64%	18	13	S	78	169	NatWest Securities
American Medserve	Provider of pharmacy services	Sep-96	9.1	Nov-96	15	39%	23	60	S	80	173	William Blair
Deltek Systems	Develops integrated bus software	Sep-96	4	Feb-97	11	64%	11	35	S	32	186	Montgomery
Essex	Dev electrical wire and cable products	Dec-96	10	Apr-97	17	41%	146	1,332	S	98	491	Goldman, Sachs
Firearms Training Systems	Simulation systems for arms training	Sep-96	3.25	Nov-96	14	77%	−87	77	S	84	286	Montgomery
HomeSide	Residential mortgage banking	Nov-96	10.29	Jan-97	15	31%	388	262	S	110	634	Merrill Lynch
Infinity Financial Technology	Develops financial software	Aug-96	10.5	Oct-96	16	34%	8	31	S	43	288	Goldman, Sachs
Meta Group	Market assessment company	Aug-95	6.13	Dec-95	18	66%	−4	27	S	43	92	Robertson, Stephens
Millennium Pharmaceuticals	Genomics industry	Feb-96	9	May-96	12	25%	13	23	S	54	274	Goldman, Sachs
ONSALE	Sell computers via Internet	Dec-96	5	Apr-97	6	17%	2	14	S	15	98	Montgomery

PowerCerv	Client/server development tools	Nov-95	4	Mar-96	14	71%	−16	28	S	46	186	Robertson, Stephens
RMH Teleservices	Outbound teleservices	May-96	1.91	Sep-96	12.5	85%	−17	31	S	35	96	Smith Barney
SCB Computer Technology	Information technology services	Oct-95	9.75	Feb-96	15.5	37%	3	40	S	34	106	Morgan Keegan
Specialty Care Network	Physician practice mgmt co.	Oct-96	3	Feb-97	8	63%	11	34	S	26	112	Credit Suisse
The O'Gara Company	Armor provider for vehicles	Aug-96	6.11	Nov-96	9	32%	4	62	S	18	60	Dillon, Read
Titanium Metals	Titanium sponge and mill products	Mar-96	16.13	Jun-96	23	30%	140	251	S	334	723	Salomon Brothers
VitalCom	Communication networks	Oct-95	5.72	Feb-96	12.5	54%	7	24	S	25	95	Wessels, Arnold
Vivid Technologies	Mfg automated inspection systems	Jul-96	3	Dec-96	12	75%	0	16	S	24	107	Lehman Brothers
Workgroup Technology	Develops software solutions	Nov-95	3.9	Mar-96	15	74%	−4	9	S	53	111	Alex. Brown
Xionics Document Technologies	Technology for office devices	May-96	4.5	Sep-96	12	63%	−7	24	S	36	121	Adams, Harkness
Xylan	High-bandwidth switching systems	Dec-95	5.25	Mar-96	26	80%	16	30	S	109	1025	Morgan Stanley
Average						53%	$31.28					
Median						63%	$7.38					

Source: John D. Emory, Sr., *Business Valuation Review* (September 1997): 128–130; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). Emory & Co., LLC.

(1) 1 minus (transaction price divided by offering price).
(2) As close to transaction as data available.
(3) S Sale Transaction

Exhibit 9.9A Pre-IPO Dot-Com Discount Study, May 1997–March 2000; Adjusted: October 19, 2002

Company	Principal Business	Transaction SIC	Transaction Date	Price	Preferred Common	IPO Date	IPO Price	Discount from IPO Price(1)	Equity(2)	Sales (3)	Net Loss (3)	Total IPO Offer (Mil $)	At Offer Market Cap. (Mil $)	Lead Underwriter
Amazon.com, Inc.	Retailer; books			$6.67	P		$18	63%	$2.80	$30.90	($8.50)	$54	$429	Deutsche Morgan
Ashford.com, Inc.	Retailer; luxury goods	5945	Jul-99	11.43	P	Sep-99	13	12%	30.3	9.3	−4.3	81	479	Goldman
Autobytel.com, Inc.[4]	Vehicle purchasing svcs	7375	Dec-98	13.2	P	Mar-99	23	43%	25.9	23.8	−19.4	104	411	BT Alex. Brown
Autoweb.com, Inc.	Automotive svcs	7549	Jan-99	3.41	P	Mar-99	14	76%	−11.7	13	−11.5	70	328	CS First Boston
Bamboo.com, Inc.[a]	Virtual tours of real estate	7379	Mar-99	2.07	P	Aug-99	7	70%	13	0.6	−16.7	28	143	Prudential Securities
Biznessonline.com	Internet access, related svcs	7375	Feb-99	5.71	P	May-99	10	43%	0.1	6.2	−2.7	29	69	Joseph Stevens
Buy.com[5]	Wholesaler/retailer	5734	Oct-99	9.07	P	Feb-00	13	30%	23	596.8	−130.2	182	1,679	Merrill
COMPS.COM, Inc.[b]	Commercial real estate	7375	Feb-99	3.68	C	May-99	15	75%	7.9	13.1	−2.4	68	182	Volpe Brown Whelan
Deltathree.com	Telephone communication	4813	Oct-99	7.98	C	Nov-99	15	47%	3.8	4.9	−6.1	90	414	Lehman
Drkoop.com, Inc.[6]	Healthcare network	7375	Mar-99	7.43	P	Jun-99	9	17%	−23.2	0.4	−12.7	84	248	Bear, Stearns
drugstore.com, Inc.[7]	Retailer; drugstore	5912	Jun-99	17.65	P	Jul-99	18	2%	72.6	8.4	−39.5	90	762	Morgan Stanley
Exactis.com	Various business svcs	8900	Aug-99	6.5	P	Nov-99	14	54%	−23.1	8.8	−8.3	53	169	Thomas Weisel
Fashionmall.com	Retailer; apparel	7375	Mar-99	4.44	C	May-99	13	66%	1.5	2.4	0.1	39	98	Gruntal & Co.
Garden.com, Inc.	Gardening E-commerce	5961	Apr-99	7.15	P	Sep-99	12	40%	21.9	5.4	−19.1	49	203	Hambrecht & Quist
GoTo.com, Inc.	Online advertising	7379	Apr-99	6.89	P	Jun-99	15	54%	11.1	2.2	−20.7	90	666	Donaldson, Lufkin
Healthcentral.com	Information retrieval svcs	7375	Aug-99	5.2	P	Dec-99	11	53%	27.4	0.7	−12.1	83	217	Lehman
Homegrocer.com	Electronic grocery stores	5411	Nov-99	5.8	P	Mar-00	12	52%	112.1	21.6	−84	264	1,498	Morgan Stanley

HomeStore.com, Inc.[8]	Real estate	6531	Jun-99	9.74	C	Aug-99	20	51%	65	33.2	−57.5	21	1,341	Morgan Stanley
HotJobs.com, Ltd.	Recruiting solutions	7361	May-99	4.12	P	Aug-99	8	49%	−5.1	3.5	−2.2	24	212	Deutsch Banc Alex. B
ImageX.com	Commercial printing	2752	Apr-99	4.2	P	Aug-99	7	40%	−15.1	4	−10.2	21	113	Volpe Brown Whelan
InfoSpace.com, Inc.	Integrator of content svcs	7375	Jul-98	8	C	Dec-98	15	47%	20.7	7.2	−4.8	75	302	Hambrecht & Quist
Iprint.com	Commercial printing	2750	Mar-00	6.92	P	Mar-00	10	31%	−15.7	3.3	−13.4	45	289	CS First Boston
Lifeminders.com	Advertising agencies	7311	Sep-99	6.74	P	Nov-99	14	52%	−17	8	−19.3	59	275	Hambrecht & Quist
Loislow.com, Inc.	Legal information databases	7374	May-99	2.91	P	Sep-99	14	79%	−18.3	5.7	−11.2	56	293	Prudential Securities
Mail.com, Inc.[9]	Provider of email svcs	7375	Mar-99	5	P	Jun-99	7	29%	12.3	2.6	−17.9	48	295	Salomon Smith
MiningCo.com, Inc.[c][10]	News, information svcs	7379	Nov-99	5.48	P	Mar-99	25	78%	−24.7	3.7	−15.6	75	290	Bear, Stearns
Mortgage.com, Inc.	Mortgage svcs	6162	May-99	8	P	Aug-99	8	0%	11	42.1	−8.9	57	332	CS First Boston
MP3.com, Inc.[11]	Music provider	3652	Jun-99	7.17	P	Jul-99	28	74%	10.4	1.8	−1.8	346	1,866	CS First Boston
Multex.com, Inc.	Invstmnt research provider	7375	Dec-98	5	C	Mar-99	14	64%	−37.2	13.2	−9.7	42	296	BancBoston Robertson
Musicmaker.com, Inc.	Music provider	5961	Apr-99	5.71	C	Jul-99	14	59%	−2.2	0.1	−5.2	118	424	Ferris, Baker, Watts
Neoforma.com	Catalog, mail-order houses	5961	Oct-99	5.68	P	Jan-00	13	56%	−18.8	0.6	−34.2	91	733	Merrill
Onvia.com[12]	Information retrieval svcs	7375	Dec-99	11	P	Feb-00	21	48%	26.6	27.2	−42.8	168	1,656	CS First Boston
Partsbase.com	Computer related svcs	7379	Nov-99	2.5	P	Mar-00	13	81%	1.5	0.4	−5.9	46	183	Roth Capital
Pets.com[13]	Retail; pet	5999	Jan-00	9.98	P	Feb-00	11	9%	51.1	6.3	−67.4	83	290	Merrill
Phone.com, Inc.[14]	Wireless telephone software	3661	Apr-99	12	P	Jun-99	16	25%	32	8	−16.9	64	488	CS First Boston
PlanetRx.com, Inc.	Healthcare E-commerce	5912	Jun-99	8.68	P	Oct-99	16	46%	79	0.8	−24.1	96	813	Goldman, Sachs
Priceline.com Inc.	E-commerce svcs	7375	Dec-98	3.2	P	Mar-99	16	80%	55.3	35.2	−112.2	160	2,277	Morgan Stanley
PurchasePro.com, Inc.	E-commerce svcs	7389	Jun-99	3.5	P	Sep-99	12	71%	−10.9	2.8	−10	48	216	Prudential Securities

(*continued*)

Exhibit 9.9A *Continued*

Company	Principal Business	Transaction			Preferred Common	IPO		Discount from IPO				Total IPO Offer	At Offer Market Cap.	Lead
		SIC	Date	Price		Date	Price	Price(1)	Equity(2)	Sales (3)	Net Loss (3)	(Mil $)	(Mil $)	Underwriter
Quepasa.com, Inc.[15]	Spanish portal	7379	Jun-99	6.75	C	Jun-99	12	44%	0.7	0	−10.2	48	165	Cruttenden Roth
Sciquest.com	Nondurable goods	5199	Jul-99	7.46	P	Nov-99	16	53%	−62.8	1.7	−20.2	120	395	Donaldson
ShopNow.com, Inc.[16]	Wholesaler/retailer	7374	Jul-99	9	P	Sep-99	12	25%	36.7	9.1	−25.4	87	402	Dain Rauscher
Shopping.com	Wholesaler/retailer	5963	Sep-97	3	C	Nov-97	9	67%	0	0.1	−1.3	12	36	Waldron & Company
SmarterKids.com	Hobby, toy, game shops	5945	Jul-99	4.18	P	Nov-99	14	70%	−19	1.5	−18.9	63	271	Hambrecht & Quist
Snowball.com[17]	Information retrieval svcs	7375	Jan-00	10	P	Mar-00	11	9%	34.7	6.7	−34.8	69	410	Goldman, Sachs
Software.com, Inc.	Messaging software	7373	Apr-99	6.15	P	Jun-99	15	59%	−11.8	28.8	−6.8	90	610	CS First Boston
Stamps.com, Inc.	Purchasing, printing postage	5961	Feb-99	5.49	P	Jun-99	11	50%	−7.2	0	−7.5	55	382	BancBoston Robertson
TheStreet.com, Inc.	Financial news, commmentary	7374	Feb-99	12	C	May-99	19	37%	−2.8	5.7	−19.9	105	446	Goldman, Sachs
Varsitybooks.com	Retailer, books	5942	Sep-99	6.72	P	Feb-00	10	33%	22.1	11.8	−25.5	41	156	Robertson
VitaminShoppe.com, Inc.	Nutritional information	5961	Jul-99	9.15	P	Oct-99	11	17%	−8.1	6.7	−7.2	50	224	Thomas Weisel
Webstakes.com, Inc.[d]	Promotional marketing	7311	Jun-99	6	P	Sep-99	14	57%	−23.3	5.6	−5.6	50	199	Bear, Stearns
Yesmail.com, Inc.[e]	Email direct marketing	7319	May-99	1.75	P	Sep-99	11	84%	1.9	6.2	−6.7	37	224	Deutsch Banc Alex. B
Average								48%	$8.95					
Median								51%	$1.90					

Source: John D. Emory, Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (September 2000): 111–121; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

Note: See Exhibit 9.9D for footnotes.

Exhibit 9.9B Discounts by SIC Code, Pre-IPO Dot-Com Discount Study, May 1997–March 2000; Adjusted: October 19, 2002

SIC Code	SIC Code Description	Company	Discount from IPO Price (1)
2750	Printing and Publishing	Iprint.com	31%
2752	Commercial Printing, Lithographic	ImageX.com	40%
3652	Phonograph Records, Prerecorded Audio Tapes, Disks	MP3.com, Inc.	74%
3661	Telephone, Telegraph Apparatus	Phone.com, Inc.	25%
		Smarterkids.com	70%
		Mean	**48%**
4813	Telephone Communications, Except Radiotelephone	Deltathree.com	47%
5199	Nondurable Goods, Not Elsewhere Classified	Sciquest.com	53%
5411	Grocery Stores	Homegrocer.com	52%
5734	Computer, Computer Software Stores	Buy.com	30%
5912	Drug, Proprietary Stores	drugstore.com, Inc.	2%
		PlanetRx.com, Inc.	46%
		Mean	**38%**
5942	Book Stores	Varsitybooks.com	33%
5945	Hobby, Toy, Game Shops	Ashford.com, Inc.	12%
5961	Catalog, Mail-Order Houses	Garden.com, Inc.	40%
		Musicmaker.com, Inc.	59%
		Neoforma.com	56%
		Stamps.com, Inc.	50%
		VitaminShoppe.com, Inc.	17%
		Mean	**38%**
5963	Direct Selling Establishments	Shopping.com	67%
5999	Miscellaneous Retail Stores, Not Elsewhere Classified	Pets.com	9%
6162	Mortgage Bankers, Loan Correspondents	Mortgage.com, Inc.	0%
6531	Real Estate Agents, Managers	HomeStore.com, Inc.	51%
7311	Advertising Agencies	Lifeminders.com	52%
		Webstakes.com, Inc.	57%
		Mean	**39%**
7319	Advertising, Not Elsewhere Classified	Yesmail.com, Inc.	84%
7330	Business Services	Exactis.com	54%
7361	Employment Agencies	HotJobs.com, Ltd.	49%
7373	Computer Integrated Systems Design	Software.com, Inc.	59%
7374	Computer Processing, Data Preparation	Loislow.com, Inc.	79%
		ShopNow.com, Inc.	25%
		TheStreet.com, Inc.	37%
		Mean	**55%**
7375	Information Retrieval Services	Amazon.com, Inc.	63%
		Autobytel.com, Inc.	43%
		Biznessonline.com	43%

(*continued*)

Exhibit 9.9B *Continued*

SIC Code	SIC Code Description	Company		Discount from IPO Price (1)
		COMPS.COM, Inc.		75%
		Drkoop.com, Inc.		17%
		Fashionmall.com		66%
		Healthcentral.com		53%
		InfoSpace.com, Inc.		47%
		Mail.com, Inc.		29%
		Multex.com, Inc.		64%
		Onvia.com		48%
		Priceline.com Inc.		80%
		Snowball.com		9%
			Mean	**49%**
7379	Computer Related Services, Not Elsewhere Classified	Bamboo.com, Inc.		70%
		GoTo.com, Inc.		54%
		MiningCo.com, Inc.		78%
		Partsbase.com		81%
		Quespasa.com, Inc.		44%
			Mean	**65%**
7389	Business Services, Not Elsewhere Classified	PurchasePro.com, Inc.		71%
7549	Automotive Services, Except Repair and Car Washes	Autoweb.com, Inc.		76%
			Mean	**74%**

Source: John D. Emory, Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (September 2000): 111–121; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

Note: See Exhibit 9.9D for footnotes.

Exhibit 9.9C Supplementary Schedule, Pre-IPO Dot-Com Discount Study; Adjusted: October 19, 2002

Company	Transaction Price	IPO Price	Discount from IPO	IPO Date Close Price	IPO Date Close Discount	90 Days After IPO Price	90 Days After IPO Discount	180 Days After IPO Price	180 Days After IPO Discount
Amazon.com, Inc.	$6.67	$18	63%	$23.50	72%	$26.38	75%	$50.50	87%
Ashford.com, Inc.	11.43	13	12%	13	12%	14.63	22%	7.06	−62%
Autobytel.com, Inc.	13.2	23	43%	40.25	67%	19.69	33%	14.44	9%
Autoweb.com, Inc.	3.41	14	76%	40	91%	12.75	73%	9	62%
Bamboo.com, Inc.[(a)]	2.07	7	70%	17.56	88%	15.63	87%	31	93%
Biznessonline.com	5.71	10	43%	11.88	52%	7.5	24%	6	5%
Buy.com	9.07	13	30%	25.13	64%	NA	NA	NA	NA
COMPS.COM, Inc.[(b)]	3.68	15	75%	14.25	74%	7.75	53%	7.31	50%
Deltathree.com	7.98	15	47%	29	72%	42.75	81%	NA	NA
Drkoop.com, Inc.	7.43	9	17%	16.44	55%	17.31	57%	17.06	56%
drugstore.com, Inc.	17.65	18	2%	50.25	65%	37	52%	35	50%
Exactis.com	6.5	14	54%	24	73%	22.5	71%	NA	NA
Fashionmall.com	4.44	13	66%	13	66%	6.63	33%	6.16	28%
Garden.com, Inc.	7.15	12	40%	19.06	62%	12.63	43%	7	−2%
GoTo.com, Inc.	6.89	15	54%	22.38	69%	38.13	82%	80.94	91%
Healthcentral.com	5.2	11	53%	9.88	47%	6.81	24%	NA	NA
Homegrocer.com	5.8	12	52%	14.13	59%	NA	NA	NA	NA
HomeStore.com, Inc.	9.74	20	51%	22.75	57%	46.13	79%	97.56	90%
HotJobs.com, Ltd.	4.12	8	49%	7.63	46%	30.13	86%	30.94	87%
ImageX.com	4.2	7	40%	13.94	70%	23.5	82%	23	82%
InfoSpace.com, Inc.	8	15	47%	20	60%	77.5	90%	78.38	90%
Iprint.com	6.92	10	31%	15.75	56%	NA	NA	NA	NA
Lifeminders.com	6.74	14	52%	22.38	70%	35.56	81%	NA	NA
Loislaw.com, Inc.	2.91	14	79%	14.5	80%	39	93%	23.75	88%
Mail.com, Inc.	5	7	29%	11.88	58%	16.25	69%	20.75	76%
MiningCo.com, Inc.[(c)]	5.48	25	78%	47.5	88%	47.5	88%	35	84%
Mortgage.com, Inc.	8	8	0%	7.16	−12%	8.63	7%	5.38	−49%
MP3.com, Inc.	7.17	28	74%	63.31	89%	37.94	81%	31	77%
Multex.com, Inc.	5	14	64%	33.63	85%	26.88	81%	18.25	73%

(*continued*)

Exhibit 9.9C *Continued*

Company	Transaction Price	IPO Price	Discount from IPO	IPO Date Close		90 Days After IPO		180 Days After IPO	
				Price	Discount	Price	Discount	Price	Discount
Musicmaker.com, Inc.	5.71	14	59%	23.94	76%	10.5	46%	5.94	4%
Neoforma.com	5.68	13	56%	52.38	89%	7.75	27%	NA	NA
Onvia.com	11	21	48%	61.5	82%	NA	NA	NA	NA
Partsbase.com	2.5	13	81%	11.38	78%	NA	NA	NA	NA
Pets.com	9.98	11	9%	11	9%	NA	NA	NA	NA
Phone.com, Inc.	12	16	25%	40.13	70%	168.38	93%	309.25	96%
PlanetRx.com, Inc.	8.68	16	46%	26	67%	13	33%	6.25	−39%
Priceline.com Inc.	3.2	16	80%	69	95%	105.5	97%	61.72	95%
PurchasePro.com, Inc.	3.5	12	71%	26.13	87%	188	98%	177.75	98%
Quespasa.com, Inc.	6.75	12	44%	17.13	61%	9.97	32%	15	55%
Sciquest.com	7.46	16	53%	30	75%	80.5	91%	NA	NA
ShopNow.com, Inc.	9	12	25%	12.69	29%	20	55%	15.44	42%
Shopping.com	3	9	67%	9.5	68%	22.44	87%	19.5	85%
SmarterKids.com	4.18	14	70%	14	70%	5.75	27%	NA	NA
Snowball.com	10	11	9%	15.31	35%	NA	NA	NA	NA
Software.com, Inc.	6.15	15	59%	18.06	66%	46.13	87%	88.25	93%
Stamps.com, Inc.	5.49	11	50%	13.69	60%	40	86%	63.06	91%
TheStreet.com, Inc.	12	19	37%	60	80%	17.75	32%	14.5	17%
Varsitybooks.com	6.72	10	33%	9.88	32%	NA	NA	NA	NA
VitaminShoppe.com, Inc.	9.15	11	17%	9.75	6%	8.75	–5%	3.96	−131%
Webstakes.com, Inc.[d]	6	14	57%	NA	NA	NA	NA	NA	NA
Yesmail.com, Inc.[e]	1.75	11	84%	13.06	87%	33.25	95%	NA	NA
Average			48%		63%		63%		49%
Median			51%		68%		74%		74%
Count			51		50		42		34

Source: John D. Emory, Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (September 2000): 111–121; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

Note: Source of pricing information: CommScan, New York, NY. Prices are non split-adjusted. See Exhibit 9.9D for footnotes.

Exhibit 9.9D Footnote Summary, Pre-IPO Dot-Com Study; Adjusted: October 19, 2002

"C"	Common Stock
"P"	Convertible Preferred Stock
NA	Not Available
(1)	1 minus (transaction price divided by offering price).
(2)	Excludes redeemable preferred stock.
(3)	Latest fiscal year, latest 12 months or interim ales annualized for meaningfulness.

The following footnotes highlight additional sale transactions within 5 months prior to the company's IPO.

(4)	Autobytel.com, Inc. also had sales at $13.20 on November 10, 1998 and at $13.20 on December 21 and 24, 1998.
(5)	Buy.com also had a sale at $9.07 in October, 1999.
(6)	Drkoop.com, Inc. also had sales at $7.43 on March 3, 5, and 31, 1999.
(7)	drugstore.com, Inc. also had sales at $19.86 in May, 1999 and at $17.65 in June, 1999.
(8)	HomeStore.com, Inc. also had sales at $9.97 in June, 1999.
(9)	Mail.com, Inc. also had sales at $5.00 in April, 1999.
(10)	MiningCo.com, Inc. also had a sale at $5.48 in December, 1998.
(11)	MP3.com, Inc. also had sales at $4.93 in May 1999 and at $7.17 in June, 1999.
(12)	Onvia.com also had a sale at $6.86 in December 1999.
(13)	Pets.com also had a sale at $9.97 in January 2000.
(14)	Phone.com, Inc. also had a sale at $12.00 in April, 1999.
(15)	Quepasa.com, Inc. also had a sale at $6.50 in June 1999.
(16)	ShopNow.com, Inc. also had sales at $9.00 in May, June, and July 1999.
(17)	Snowball.com also had a sale at $10.00 in January 2000.
(18)	Xoom.com, Inc. also had a sale at $10.80 in July 1998.
(a)	Bamboo.com, Inc. merged with Interactive Pictures in January 2000 to form Internet Pictures Corp. (IPIX).
(b)	COMPS.COM, Inc. was acquired by CoStar Group Inc. in January, 2000.
(c)	MiningCo.com, Inc. changed its name to About.com in May, 1999.
(d)	Webstakes.com, Inc. changed its name to Promotions.com in February, 2000.
(e)	Yesmail.com, Inc. acquired by CMGI Inc. in December, 1999.

Source: John D. Emory, Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (September 2000): 111–121; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2002). © Emory & Co., LLC.

Exhibit 9.10 Pre-IPO Discount Study, May 1997–December 2000; Adjusted: October 19, 2002

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
1-800-FLOWERS.COM, Inc.	E-com flowers and gifts	May-99	$10.32	Aug-99	$21.00	51%	($7.919)	$278.043	P	$126.000	$1,294.055	Goldman, Sachs
3-Dimensional Pharmaceuticals, Inc.	Proprietary drug technologies	Mar-00	$6.30	Aug-00	$15.00	58%	($45.362)	$4.594	O	$75.000	$288.484	Bear, Stearns
AboveNet Communications Inc.	E-commerce solutions	Sep-98	$10.00	Dec-98	$13.00	23%	$12.685	$4.798	P	$65.000	$166.630	CIBC
Accelerated Networks, Inc.	Telecommunications products	Feb-00	$11.14	Jun-00	$15.00	26%	($34.393)	$15.618	P	$60.000	$746.056	Credit Suisse
ACLARA BioSciences, Inc.	Microfluidics	Dec-99	$4.03	Mar-00	$21.00	81%	($26.492)	$2.936	P	$189.000	$654.633	Deutsche Banc Alex.
Advanced Communications Group, Inc.	Telecommunications services	Dec-97	$5.29	Feb-98	$14.00	62%	$36.535	$92.105	C	$112.000	$274.749	PaineWebber
Agency.com Ltd.	Internet professional services	Aug-99	$11.00	Dec-99	$26.00	58%	$24.898	$56.449	C	$153.400	$877.443	Goldman, Sachs
Alliance Fiber Optic Products, Inc.	Fiber optic products	Jul-00	$5.50	Nov-00	$11.00	50%	$1.054	$15.876	P	$44.550	$381.773	Merrill Lynch
Alloy Online, Inc.	Website providing content and com	Feb-99	$3.01	May-99	$15.00	80%	($3.046)	$10.210	P	$55.500	$213.477	BancBoston Robertson
Amazon.com, Inc.	Retailer; books	Feb-97	$6.67	May-97	$18.00	63%	$2.800	$30.900	P	$54.000	$429.457	Deutsche Morgan
Ambassador Eyewear Group, Inc.	Wholesaler of eyewear products	Jan-98	$6.00	Mar-98	$6.00	0%	$0.540	$22.225	O	$7.200	$28.200	H.J. Myers
Andover.Net, Inc.	Web sites operator	Sep-99	$3.35	Dec-99	$18.00	81%	($6.313)	$2.121	P	$72.000	$270.000	WR Hambrecht
ARIS Corporation	IT solutions	Feb-97	$9.75	Jun-97	$15.00	35%	$6.615	$32.880	C	$30.312	$141.359	Deutsche Morgan

Array BioPharma Inc.	Drug research	Aug-00	$6.00	Nov-00	$7.50	20%	$14.533	$8.185	P	$48.750	$164.752	Lehman Brothers
Artisan Components, Inc.	Developer of IP components	Jan-98	$7.00	Feb-98	$10.00	30%	$9.574	$10.856	O	$29.000	$120.741	Deutsche Morgan
Ashford.com, Inc.	Retailer; luxury goods	Jul-99	$11.43	Sep-99	$13.00	12%	$30.300	$9.300	P	$81.250	$479.238	Goldman, Sachs
Ask Jeeves, Inc.	Natural language question answering	Feb-99	$4.33	Jun-99	$14.00	69%	$27.680	$1.709	P	$42.000	$340.892	Morgan Stanley
At Road, Inc.	Telecommunications	Jun-00	$10.00	Sep-00	$9.00	−11%	$57.241	$4.169	P	$63.000	$407.942	Credit Suisse
Autobytel.com, Inc.	Internet vehicle purchasing services	Dec-98	$13.20	Mar-99	$23.00	43%	$25.868	$23.790	P	$103.500	$410.751	BT Alex. Brown
Autoweb.com, Inc.	Internet automotive services	Jan-99	$3.41	Mar-99	$14.00	76%	($11.661)	$13.041	O	$70.000	$328.418	Credit Suisse
Avanex Corporation	Fiber optic products	Oct-99	$0.39	Feb-00	$36.00	99%	($10.498)	$11.426	C	$216.000	$2,251.056	Morgan Stanley
AvantGo, Inc.	Mobile infrastructure software	Aug-00	$8.90	Sep-00	$12.00	26%	$49.021	$8.652	O	$66.000	$400.171	Credit Suisse
Avenue A, Inc.	Internet based advertising	Oct-99	$2.67	Feb-00	$24.00	89%	$21.949	$69.695	C	$126.000	$1,336.368	Morgan Stanley
Avici Systems Inc.	High-speed networking equipment	Apr-00	$15.00	Jul-00	$31.00	52%	($93.109)	$0.504	P	$217.000	$1,427.171	Morgan Stanley
Bamboo.com, Inc.	Virtual tours of real estate	May-99	$2.07	Aug-99	$7.00	70%	$13.026	$0.574	P	$28.000	$142.686	Prudential Securities
Barnesandnoble.com, Inc.	Online retailer of books	Jan-99	$4.06	May-99	$18.00	77%	$148.931	$85.138	O	$450.000	$450.000	Goldman, Sachs
BigStar Entertainment, Inc.	Online films superstore	Apr-99	$3.73	Aug-99	$10.00	63%	$1.546	$2.243	C	$25.000	$85.423	Prudential Securities
BioMarin Pharmaceutical Inc.	Develops medical drugs	Apr-99	$10.00	Jul-99	$13.00	23%	$25.045	$2.294	P	$58.500	$443.616	U.S. Bancorp Piper
BioShield Technologies, Inc.	Develop, market, sell biotech products	Jun-98	$3.00	Sep-98	$10.00	70%	($0.861)	$0.462	C	$13.000	$61.441	Tejas Securities

(*continued*)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Biznessonline.com	Internet access, related services	Feb-99	$5.71	May-99	$10.00	43%	$0.100	$6.200	P	$29.000	$68.904	Joseph Stevens
Blaze Software, Inc.	Software provider	Dec-99	$7.14	Mar-00	$16.00	55%	$12.054	$14.761	P	$64.000	$341.108	Robertson, Stephens
Bluestone Software, Inc.	Internet software	May-99	$2.72	Sep-99	$15.00	82%	($24.180)	$10.879	P	$60.000	$259.121	Deutsche Banc
Breakaway Solutions, Inc.	E-business services	Jul-99	$6.50	Oct-99	$14.00	54%	$12.775	$7.563	P	$42.000	$236.122	Morgan Stanley
Broadcast.com inc.	Broadcaster of streaming internet media	Jun-98	$9.90	Jul-98	$18.00	45%	$28.306	$8.945	O	$45.000	$303.902	Morgan Stanley
BSQUARE Corporation	Software and services	Sep-99	$12.32	Oct-99	$15.00	18%	($0.255)	$32.353	C	$60.000	$482.950	Credit Suisse
BUCA, Inc.	Restaurant group	Dec-98	$7.84	Apr-99	$12.00	35%	($13.500)	$38.483	P	$36.910	$120.620	U.S. Bancorp Piper
Buy.com	Internet wholesaler/ retailer	Oct-99	$9.07	Feb-00	$13.00	30%	$23.048	$596.848	P	$182.000	$1,679.472	Merrill Lynch
CacheFlow, Inc.	Internet caching	Jun-99	$2.00	Nov-99	$24.00	92%	$16.033	$9.839	O	$120.000	$784.105	Morgan Stanley
Cal Dive International, Inc.	Sub sea construction	Apr-97	$9.46	Jul-97	$15.00	37%	$32.728	$83.381	C	$54.000	$211.917	Schroder & Co.
Caldera Systems, Inc.	Software developer	Jan-00	$6.00	Mar-00	$14.00	57%	$29.496	$3.065	P	$70.000	$535.043	Robertson, Stephens
Cardima, Inc.	Develops microcatheter based systems	Mar-97	$5.74	Jun-97	$7.00	18%	($12.656)	$0.678	P	$15.925	$56.536	Bear, Stearns
CareerBuilder, Inc.	Online recruitment	Jan-99	$5.45	May-99	$13.00	58%	($25.866)	$8.758	P	$58.500	$295.451	Credit Suisse
Celebrity Systems, Inc.	Interactive video services	Jul-97	$0.50	Nov-97	$7.50	93%	($5.005)	$2.485	C	$15.000	$30.617	Hamshire Securities
Chemdex Corporation	E-com solutions to the life sciences	Mar-99	$5.72	Jul-99	$15.00	62%	$27.866	$0.194	P	$112.500	$476.633	Morgan Stanley
Click Commerce, Inc.	B-2-B software products	Apr-00	$12.22	Jun-00	$10.00	–22%	($12.281)	$13.542	C	$50.000	$372.815	Morgan Stanley

Cobalt Networks, Inc.	Provide server appliances	Jul-99	$2.50	Nov-99	$22.00	89%	($26.767)	$7.619	O	$110.000	$369.019	Goldman, Sachs
Cognizant Technology Solutions Corp.	Software solutions	Mar-98	$6.92	Jun-98	$10.00	31%	$4.196	$30.726	O	$29.170	$91.138	BancBoston
Collateral Therapeutics	Gene therapy products	Apr-98	$4.92	Jul-98	$7.25	32%	$5.796	$5.821	O	$15.950	$76.071	Bear, Stearns
Com21, Inc.	High-speed communication solutions	Apr-98	$9.00	May-98	$12.00	25%	$19.121	$22.169	P	$60.000	$213.174	Deutsche Morgan
COMPS.COM, Inc.	Commercial real	Feb-99	$3.68	May-99	$15.00	75%	$7.900	$13.100	O	$67.500	$182.463	Volpe Brown
Corsair Communications, Inc.	Hardware and software system	Mar-97	$11.25	Jul-97	$15.00	25%	$17.210	$35.034	P	$37.500	$198.930	Deutsche Morgan
Coyote Sports, Inc.	Develops sports equipment	Jul-97	$4.11	Sep-97	$5.00	18%	$5.514	$18.183	C	$5.250	$18.625	Cohig & Associates
Critical Path, Inc.	Email hosting services	Jan-99	$4.26	Mar-99	$24.00	82%	$15.358	$0.897	P	$108.000	$818.764	BancBoston
Crossroads Systems, Inc.	Provider of storage routers	Aug-99	$10.00	Oct-99	$18.00	44%	($11.603)	$13.005	P	$67.500	$461.393	SG Cowen
Cybergold, Inc.	Internet direct marketing and advertising	May-99	$3.90	Sep-99	$9.00	57%	($8.434)	$2.102	P	$45.000	$174.317	SG Cowen
Cyberian Outpost, Inc.	Internet retailer of computer products	Mar-98	$2.65	Jul-98	$18.00	85%	($6.908)	$30.354	P	$72.000	$396.308	BT Alex. Brown
Cypress Communications, Inc.	Communication services	Sep-99	$4.22	Feb-00	$17.00	75%	($11.651)	$6.217	P	$170.000	$779.559	Bear, Stearns
DA Consulting Group, Inc.	End user software solutions	Dec-97	$6.55	Apr-98	$14.50	55%	$7.934	$44.204	C	$34.800	$94.373	William Blair
Data Return Corporation	Internet hosting	Jul-99	$2.55	Oct-99	$13.00	80%	$4.024	$2.836	C	$81.250	$447.987	Bear, Stearns
Delicious Brands, Inc.	Snack food producer	Aug-98	$8.00	Nov-98	$12.00	33%	($5.514)	$37.674	P	$12.000	$51.394	Network 1 Financial
Deltathree.com	Telephone communication	Oct-99	$7.98	Nov-99	$15.00	47%	$3.800	$4.900	C	$90.000	$413.814	Lehman Brothers
Dendreon Corporation	Therapeutic vaccines	Feb-00	$4.25	Jun-00	$10.00	58%	$6.790	$4.214	P	$45.000	$208.715	Prudential Vector
Digimarc Corporation	Digital watermarking	Aug-99	$5.00	Dec-99	$20.00	75%	($9.753)	$4.478	P	$80.000	$239.665	Robertson, Stephens

(*continued*)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Digital Impact, Inc.	Internet direct marketing	Jul-99	$4.78	Nov-99	$15.00	68%	$9.625	$4.443	P	$67.500	$353.234	Credit Suisse
Digital River, Inc.	E-com solutions	Apr-98	$3.00	Aug-98	$8.50	65%	$10.283	$7.757	P	$25.500	$142.239	BT Alex. Brown
Discovery Partners International, Inc.	Supplier to pharmaceutical companies	Apr-00	$8.00	Jul-00	$18.00	56%	($19.561)	$15.353	P	$90.000	$403.870	Lehman Brothers
Diversa Corporation	Biologically active compounds	Dec-99	$5.76	Feb-00	$24.00	76%	($42.813)	$10.270	O	$174.000	$793.081	Bear, Stearns
Docent, Inc.	Software provider	Aug-00	$7.52	Sep-00	$11.00	32%	($42.938)	$3.084	P	$88.000	$437.926	Deutsche Banc
Drkoop.com, Inc.	Healthcare network	Mar-99	$7.43	Jun-99	$9.00	17%	($23.200)	$0.400	P	$84.375	$247.631	Bear, Stearns
Drugstore.com, Inc.	Retailer; drugstore	Jun-99	$17.65	Jul-99	$18.00	2%	$72.600	$8.400	P	$90.000	$762.238	Morgan Stanley
DSL.net, Inc.	High speed internet access	Jun-99	$3.92	Oct-99	$7.50	48%	($17.802)	$3.500	P	$54.000	$429.997	Deutsche Banc
Echelon Corporation	Control networking technology	Mar-98	$2.00	Jul-98	$7.00	71%	$7.482	$28.787	O	$35.000	$224.879	NationsBanc
Efficient Networks, Inc.	Digital subscriber line equipment	Mar-99	$2.92	Jul-99	$15.00	81%	($33.036)	$7.806	P	$60.000	$542.469	Credit Suisse
eGain Communications Corporation	E-com infrastructure	Jul-99	$8.00	Sep-99	$12.00	33%	$20.483	$1.019	P	$60.000	$333.787	BancBoston
Egreetings Network, Inc.	E-cards	Oct-99	$6.05	Dec-99	$10.00	40%	$8.955	$1.662	P	$60.000	$344.435	Credit Suisse
Equinix, Inc.	Neutral internet business exchange centers	May-00	$15.08	Aug-00	$12.00	−26%	($2.972)	$1.028	P	$240.000	$885.275	Goldman, Sachs
Etinuum, Inc.	E-commerce solutions	Dec-99	$5.96	Mar-00	$12.00	50%	($41.997)	$24.699	P	$54.000	$217.637	Chase
eToys Inc.	Internet retailer of toys	Jan-99	$3.33	May-99	$20.00	83%	($24.098)	$30.000	O	$166.400	$2,035.694	Goldman, Sachs

Evolve Software, Inc.	Internet based solutions	Jul-00	$6.00	Aug-00	$9.00	33%	($40.632)	$10.543	P	$45.000	$328.995	Credit Suisse
Exactis.com	Various business services	Aug-99	$6.50	Nov-99	$14.00	54%	($23.125)	$8.056	P	$53.200	$168.990	Thomas Weisel
Exult, Inc.	HR management services	Feb-00	$2.06	Jun-00	$10.00	79%	$99.748	$10.434	P	$51.000	$845.300	Merrill Lynch
Fashionmall.com	Internet retailer; apparel	Mar-99	$4.44	May-99	$13.00	66%	$1.500	$2.400	C	$39.000	$97.500	Gruntal
FirePond, Inc.	E-business solutions	Sep-99	$4.46	Feb-00	$22.00	80%	($5.354)	$34.285	C	$110.000	$720.538	Robertson, Stephens
First Virtual Corporation	Internet video networking solutions	Feb-98	$8.50	Apr-98	$13.00	35%	$1.909	$18.771	O	$37.440	$201.898	BancBoston
Flycast Communications Corporation	Internet based advertising	Jan-99	$9.04	May-99	$25.00	64%	($16.814)	$12.082	P	$75.000	$352.670	BT Alex. Brown
Focal Communications Corporation	Local exchange carrier	Mar-99	$3.15	Jul-99	$13.00	76%	$21.714	$64.433	C	$129.350	$767.969	Salomon Smith Barney
FogDog, Inc.	Online retailer	Sep-99	$4.34	Dec-99	$11.00	61%	$51.340	$2.826	P	$66.000	$392.318	Credit Suisse
Foundry Networks, Inc.	Develops networking products	Jun-99	$5.33	Sep-99	$25.00	79%	($9.110)	$52.323	P	$125.000	$1,390.898	Deutsche Bank
FreeMarkets, Inc.	B-2-B online auctions	Sep-99	$14.80	Dec-99	$48.00	69%	$37.761	$16.036	P	$172.800	$1,629.838	Goldman, Sachs
FreeShop.com, Inc.	Online direct	Jun-99	$3.97	Sep-99	$12.00	67%	$8.507	$1.251	P	$38.400	$179.462	Deutsche Banc
Frisby Technologies, Inc.	Thermal management products	Dec-97	$5.67	Apr-98	$7.00	19%	$0.475	$1.262	C	$11.200	$34.164	Barington Capital
Gadzoox Networks, Inc.	Produce computer hardware	May-99	$10.00	Jul-99	$21.00	52%	($15.623)	$28.626	P	$73.500	$516.335	Credit Suisse
Gaiam, Inc.	Environmentally conscious services	Jun-99	$4.38	Oct-99	$5.00	13%	$5.216	$37.827	C	$8.525	$52.657	Tucker Anthony
Garden.com, Inc.	Gardening e-commerce	May-99	$7.15	Sep-99	$12.00	40%	$21.879	$5.394	P	$49.200	$203.061	Hambrecht & Quist
Genesis Direct, Inc.	Database-driven retailer	Dec-97	$10.91	May-98	$15.00	27%	($42.518)	$143.453	P	$166.875	$445.930	Bear, Stearns
Genomica Corporation	Software provider	Sep-00	$10.02	Sep-00	$19.00	47%	$15.800	$1.333	O	$122.360	$426.158	CIBC
Global Vacation Group, Inc.	Value-added vacation products	Mar-98	$0.82	Jul-98	$14.00	94%	($44.045)	$24.307	C	$42.000	$206.466	Salomon Smith Barney

(continued)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
GlobeSpan, Inc.	Digital subscriber line chip developer	May-99	$8.21	Jun-99	$15.00	45%	($5.024)	$32.537	P	$48.750	$265.659	BancBoston Robertson
GoTo.com, Inc.	Online advertising	Apr-99	$6.89	Jun-99	$15.00	54%	$11.100	$2.200	P	$90.000	$665.969	Donaldson, Lufkin
Hagler Bailey Inc.	Management consulting	Mar-97	$10.00	Jul-97	$14.00	29%	$8.202	$63.182	O	$44.114	$111.755	Donaldson, Lufkin
Harris Interactive, Inc.	Market research	Oct-99	$7.72	Dec-99	$14.00	45%	($12.184)	$31.790	P	$81.200	$437.463	Lehman Brothers
Harvey Electronics, Inc.	Seller of audio/visual equipment	Nov-97	$3.50	Mar-98	$5.00	30%	$2.176	$15.701	C	$6.000	$16.414	Thornwater
Hawker Pacific Aerospace	Repairs aircraft landing gear	Oct-97	$9.84	Jan-98	$8.00	−23%	$3.674	$39.497	C	$22.133	$46.578	EVEREN
HeadHunter.Net	Online employee recruiting	May-99	$2.00	Aug-99	$10.00	80%	$0.246	$3.235	C	$30.000	$107.445	First Union
HealthCentral.com	Information retrieval services	Aug-99	$5.20	Dec-99	$11.00	53%	$27.377	$0.652	P	$82.500	$216.927	Lehman Brothers
Healtheon Corporation	Internet healthcare workflow	Nov-98	$6.00	Feb-99	$8.00	25%	$30.226	$39.621	P	$40.000	$551.516	Morgan Stanley
High Speed Access Corp.	High speed internet access	Apr-99	$5.00	Jun-99	$12.13	59%	($238.934)	$0.636	P	$176.125	$628.583	Lehman Brothers
Homegrocer.com	Electronic grocery stores	Nov-99	$5.80	Mar-00	$12.00	52%	$112.100	$21.600	P	$264.000	$1,497.747	Morgan Stanley
HomeStore.com, Inc.	Real estate	Jun-99	$9.74	Aug-99	$20.00	51%	$65.000	$33.200	C	$140.000	$1,340.757	Morgan Stanley
Hoover’s, Inc.	Online company and industry information	Jun-99	$7.23	Jul-99	$14.00	48%	$6.760	$9.229	C	$45.500	$159.916	J.P. Morgan
Horizon Offshore, Inc.	Marine construction	Dec-97	$2.92	Apr-98	$13.00	78%	$20.059	$36.144	C	$65.000	$247.994	Salomon Smith Barney

HotJobs.com, Ltd.	Internet recruiting solutions	May-99	$4.12	Aug-99	$8.00	49%	($5.098)	$3.512	P	$24.000	$212.432	Deutsche Banc
Hyseq, Inc.	Develop gene-based products	Mar-97	$6.51	Aug-97	$14.00	54%	$5.575	$0.620	C	$42.000	$171.866	Lehman Brothers
iGo Corporation	Online search engine	Jul-99	$6.82	Oct-99	$12.00	43%	($7.496)	$14.257	P	$60.000	$231.902	BancBoston Robertson
ImageX.com	Commercial printing	Apr-99	$4.20	Aug-99	$7.00	40%	($15.100)	$4.000	P	$21.000	$112.890	Volpe Brown
iManage, Inc.	Provide management software	Nov-99	$4.50	Nov-99	$11.00	59%	$7.954	$15.635	O	$28.600	$235.926	Robertson Stephens
Improvenet, Inc.	Online advice	Dec-99	$13.50	Mar-00	$16.00	16%	$43.862	$2.065	P	$44.160	$263.669	Credit Suisse
Informatica Corporation	Business analytic software	Jan-99	$11.14	Apr-99	$16.00	30%	($20.299)	$33.594	O	$44.000	$229.445	Credit Suisse
Information Advantage, Inc.	Software developer	Aug-97	$3.75	Dec-97	$6.00	38%	($23.683)	$20.833	O	$20.004	$89.714	BancBoston Robertson
InforMax, Inc.	Bioinformatic software solutions	Jun-00	$6.37	Oct-00	$16.00	60%	($3.449)	$12.043	C	$80.000	$298.524	Bear, Stearns
InfoSpace.com, Inc.	Integrator of content services	Aug-98	$8.00	Dec-98	$15.00	47%	$20.661	$7.163	C	$75.000	$301.740	Hambrecht & Quist
inSilicon Corp	Communications technology	Dec-99	$7.36	Mar-00	$12.00	39%	($13.784)	$19.346	O	$42.000	$168.616	Robertson Stephens
Integrated Telecom Express, Inc.	Circuit and software products	May-00	$4.00	Aug-00	$18.00	78%	$1.097	$17.158	O	$100.800	$743.198	Lehman Brothers
Interland, Inc.	Web-based solutions	Mar-00	$5.37	Jul-00	$12.00	55%	($28.959)	$14.380	P	$60.000	$559.772	Bear, Stearns
Intermune Pharmaceuticals, Inc.	Pharmaceuticals	Jan-00	$5.59	Mar-00	$20.00	72%	($7.540)	$0.556	P	$125.000	$418.844	Warburg Dillon Read
Internet Financial Services Inc.	Online brokerage	Jan-99	$4.80	Apr-99	$7.00	31%	$1.788	$10.842	C	$14.000	$53.422	Whale Securities
Internet.com Corporation	Internet media	Mar-99	$2.47	Jun-99	$14.00	82%	$20.265	$5.106	C	$47.600	$327.600	U.S. Bancorp Piper
InterTrust Technologies	Security of digital information	Jun-99	$8.50	Oct-99	$18.00	53%	$4.645	$0.588	P	$117.000	$679.520	Credit Suisse
Interwoven, Inc.	Web content management	Jun-99	$12.74	Oct-99	$17.00	25%	($21.155)	$8.121	P	$53.550	$370.468	Credit Suisse
Iprint.com	Commercial printing	Mar-00	$6.92	Mar-00	$10.00	31%	($15.700)	$3.300	O	$45.000	$289.067	Credit Suisse

(continued)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1) % Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
iXL Enterprises, Inc.	Internet services	Apr-99	$10.00	Jun-99	$12.00	17%	$26.645	$87.160	O	$72.000	$762.574	Merrill Lynch
Kana Communications, Inc.	Communication software	Jul-99	$12.17	Sep-99	$15.00	19%	$6.323	$4.971	P	$49.500	$417.765	Goldman, Sachs
Keynote Systems, Inc.	Measure web site performance	May-99	$4.42	Sep-99	$14.00	68%	($6.620)	$4.700	C	$56.000	$319.041	BancBoston Robertson
L90, Inc.	Internet advertising solutions	Sep-99	$1.57	Jan-00	$15.00	90%	$10.512	$4.697	P	$97.500	$297.172	SG Cowen
Laser Power Corporation	Develops laser optics	Mar-97	$4.63	Jun-97	$5.50	16%	$5.557	$21.469	P	$9.075	$32.188	Cruttenden Roth
LECG, Inc.	Economic consulting services	Oct-97	$2.16	Dec-97	$9.00	76%	$8.596	$40.665	C	$40.500	$117.540	Donaldson, Lufkin
LendingTree, Inc.	Internet loan mediary	Sep-99	$6.30	Feb-00	$12.00	48%	$27.737	$6.964	C	$43.800	$206.583	Merrill Lynch
Lexent, Inc.	Local telecommunications services	May-00	$10.00	Jul-00	$15.00	33%	$19.204	$186.907	O	$90.000	$598.426	Credit Suisse
Liberate Technologies	Software provider	May-99	$6.60	Jul-99	$16.00	59%	$12.226	$17.313	P	$100.000	$657.290	Credit Suisse
LifeMinders.com	Advertising agencies	Sep-99	$6.74	Nov-99	$14.00	52%	($17.002)	$7.973	P	$58.800	$274.833	Hambrecht & Quist
LightSpan Partnership, Inc. The	Educational software	Oct-99	$10.00	Feb-00	$12.00	17%	$33.346	$25.124	P	$90.000	$513.820	Credit Suisse
LivePerson, Inc.	E-commerce services	Jan-00	$8.55	Apr-00	$8.00	−7%	($2.046)	$0.615	P	$32.000	$234.719	Chase H&Q
Loislaw.com, Inc.	Legal information databases	May-99	$2.91	Sep-99	$14.00	79%	($18.307)	$5.675	P	$55.720	$293.153	Prudential Securities
Luminex Corporation	Biological technology	Dec-99	$5.88	Mar-00	$17.00	65%	$11.195	$3.112	P	$76.500	$453.493	Warburg Dillon Read
Mail.com, Inc.	Provider of email services	Mar-99	$5.00	Jun-99	$7.00	29%	$12.300	$2.600	P	$47.950	$294.576	Salomon Smith Barney

Marimba, Inc.	Internet-based software management	Feb-99	$10.00	Apr-99	$20.00	50%	($13.743)	$17.085	O	$80.000	$454.916	Morgan Stanley
Maxygen, Inc.	Molecular evolution	Aug-99	$9.00	Dec-99	$16.00	44%	$33.589	$10.597	P	$96.000	$478.569	Goldman, Sachs
MCK Communications, Inc.	Communication products	Jul-99	$1.63	Oct-99	$16.00	90%	($24.750)	$15.677	C	$54.400	$285.783	BancBoston Robertson
Mede America Corporation	Electronic data interchange products	Oct-98	$8.00	Feb-99	$13.00	38%	($23.750)	$42.290	O	$60.000	$167.367	Salomon Smith Barney
Mediaplex, Inc.	IT solutions	Aug-99	$3.59	Nov-99	$12.00	70%	$19.762	$14.578	P	$72.000	$368.608	Lehman Brothers
Medical Science Systems, Inc.	Develop genetic tests	Sep-97	$5.00	Nov-97	$9.00	44%	($1.464)	$0.166	C	$16.200	$49.842	Nutmeg Securities
Micromuse Inc.	Software solutions	Nov-97	$6.43	Feb-98	$12.00	46%	($14.455)	$12.895	C	$38.400	$178.811	Deutsche Morgan
MiningCo.Com, Inc.	Internet news and information services	Dec-98	$5.48	Mar-99	$25.00	78%	($24.662)	$3.722	P	$75.000	$290.295	Bear, Stearns
Mortgage.com, Inc.	Mortgage services	May-99	$8.00	Aug-99	$8.00	0%	$11.000	$42.100	P	$56.500	$332.026	Credit Suisse
MP3.com, Inc.	Online music sales	Jun-99	$7.17	Jul-99	$28.00	74%	$10.359	$1.828	P	$345.723	$1,865.853	Credit Suisse
Multex.com, Inc.	Investment research provider	Dec-98	$5.00	Mar-99	$14.00	64%	($37.200)	$13.200	C	$42.000	$295.571	BancBoston Robertson
Musicmaker.com, Inc.	Music provider	Apr-99	$5.71	Jul-99	$14.00	59%	($2.200)	$0.100	C	$117.600	$423.815	Ferris, Baker, Watts
N2H2, Inc.	Internet filtering services	May-99	$3.70	Jul-99	$13.00	72%	($1.836)	$4.385	C	$65.000	$267.769	CIBC
National Information Consortium, Inc.	Internet government services facilitator	May-99	$8.85	Jul-99	$12.00	26%	$9.787	$39.718	C	$156.000	$629.784	Hambrecht & Quist
NationsRent, Inc.	Equipment rentals	Jun-98	$5.39	Aug-98	$8.00	33%	$32.094	$22.230	C	$290.740	$344.950	Bear, Stearns
Neoforma.com	Catalogue, mail-order houses	Oct-99	$5.68	Jan-00	$13.00	56%	($18.771)	$0.618	P	$91.000	$732.743	Merrill Lynch
Netpliance, Inc.	Internet applications	Dec-99	$6.67	Mar-00	$18.00	63%	$12.917	$0.026	P	$144.000	$1,087.847	Donaldson, Lufkin
NetRatings, Inc.	Internet audience measurement	Sep-99	$6.28	Dec-99	$17.00	63%	($10.728)	$1.591	P	$68.000	$252.829	Lehman Brothers
Network Engines, Inc.	Server applications	Mar-00	$6.00	Jul-00	$17.00	65%	($18.898)	$15.381	P	$11.050	$559.702	Donaldson, Lufkin
Netzee, Inc.	Internet banking	Sep-99	$10.50	Nov-99	$14.00	25%	$1.832	$2.474	C	$62.274	$271.542	Humphrey
New Focus, Inc.	Fiber optic products	Dec-99	$3.25	May-00	$20.00	84%	$28.868	$27.883	P	$100.000	$1,166.858	Credit Suisse
Nextel Partners, Inc.	Wireless communication	Dec-99	$1.85	Feb-00	$20.00	91%	$170.616	$32.720	O	$470.000	$4,734.212	Goldman, Sachs

(*continued*)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Nextlink Communications, Inc.	Local telephone exchange	Jun-97	$7.93	Sep-97	$17.00	53%	($74.026)	$35.313	O	$258.400	$856.778	Salomon Brothers
Niku Corporation	Internet software	Nov-99	$5.00	Feb-00	$24.00	79%	($13.828)	$2.991	P	$192.000	$1,657.062	Goldman, Sachs
Nogatech, Inc.	Computer chips for video	Jan-00	$7.32	May-00	$12.00	39%	($4.555)	$10.931	P	$42.000	$176.816	WR Hambrecht
NorthPoint Communications Group, Inc.	High-speed local network services	Mar-99	$6.67	May-99	$24.00	72%	($6.534)	$0.931	O	$360.000	$2,904.987	Goldman, Sachs
Numerical Technologies, Inc.	Proprietary technologies	Jan-00	$10.67	Apr-00	$14.00	24%	$12.405	$5.492	P	$77.476	$407.148	Credit Suisse
OmniSky Corporation	Wireless service	May-00	$8.91	Sep-00	$12.00	26%	($35.657)	$2.100	P	$109.200	$781.355	Credit Suisse
OmniVision Technologies, Inc.	Semiconductor imaging devices	Mar-00	$10.00	Jul-00	$13.00	23%	($7.313)	$40.253	O	$65.000	$275.477	Robertson, Stephens
OnDisplay, Inc.	Software applications	Aug-99	$9.52	Dec-99	$28.00	66%	($21.130)	$7.691	P	$98.000	$537.536	Robertson, Stephens
ONI Systems Corp.	Networking equipment	Jan-00	$6.32	May-00	$25.00	75%	$78.699	$6.102	P	$200.000	$3,091.704	Goldman, Sachs
Onvia.com	Information retrieval services	Dec-99	$11.00	Feb-00	$21.00	48%	$26.600	$27.200	P	$168.000	$1,655.796	Credit Suisse
Oplink Communications, Inc.	Fiber optic products	Jul-00	$5.00	Oct-00	$18.00	72%	$10.825	$39.048	O	$246.600	$2,767.738	Robertson, Stephens
ORATEC Interventions, Inc.	Medical devices	Jan-00	$10.50	Apr-00	$14.00	25%	($29.385)	$31.365	O	$56.000	$286.876	Merrill Lynch
Orchid BioSciences, Inc.	Genetic technologies	Jan-00	$4.50	May-00	$8.00	44%	($8.285)	$1.793	P	$48.000	$255.915	Credit Suisse
Organic, Inc.	Internet professional services	Nov-99	$2.67	Feb-00	$20.00	87%	$31.342	$58.771	O	$33.851	$1,577.144	Goldman, Sachs

Organic Food Products, Inc.	Manufactures organic foods	May-97	$3.00	Aug-97	$4.00	25%	$2.904	$11.057	O	$5.200	$26.392	Sentra
Paradyne Networks, Inc.	Communication products	Mar-99	$2.43	Jul-99	$17.00	86%	$32.142	$209.824	C	$102.000	$516.912	Donaldson, Lufkin
PartsBase.com	Computer related services	Nov-99	$2.50	Mar-00	$13.00	81%	$1.542	$0.352	P	$45.500	$183.138	Cruttenden Roth
PeoplePC, Inc.	Internet access	Apr-00	$5.25	Aug-00	$10.00	48%	($120.810)	$20.999	P	$85.000	$1,132.290	Chase H&Q
Pets.com	Retail; pet related	Jan-00	$9.98	Feb-00	$11.00	9%	$51.120	$6.313	P	$82.500	$290.317	Merrill Lynch
Phone.com, Inc.	Wireless telephone software	Apr-99	$12.00	Jun-99	$16.00	25%	$31.998	$7.998	C	$64.000	$488.110	Credit Suisse
Pilot Network Services, Inc.	E-commerce security	May-98	$6.00	Aug-98	$14.00	57%	($14.746)	$12.576	O	$45.500	$192.440	Credit Suisse
PlanetRx.com, Inc.	Healthcare E-commerce	Jun-99	$8.68	Oct-99	$16.00	46%	$79.000	$0.800	P	$96.000	$813.318	Goldman, Sachs
Plug Power, Inc.	Develop generators	Jul-99	$6.67	Oct-99	$15.00	56%	$32.306	$7.688	C	$90.000	$633.127	Goldman, Sachs
PNV Inc.	Telecommunications provider	Aug-99	$10.50	Nov-99	$17.00	38%	$59.216	$10.110	P	$63.750	$267.279	CIBC
Predictive Systems, Inc.	Network consulting	Sep-99	$12.00	Oct-99	$18.00	33%	$12.761	$39.024	C	$72.000	$405.761	BancBoston Robertson
Preview Travel, Inc.	Online travel services	Sep-97	$9.00	Nov-97	$11.00	18%	$14.251	$13.095	O	$27.500	$128.198	Hambrecht & Quist
Priceline.com Inc.	E-commerce services	Dec-98	$3.20	Mar-99	$16.00	80%	$55.300	$35.200	P	$160.000	$2,277.127	Morgan Stanley
Proxicom, Inc.	Internet solutions	Feb-99	$6.00	Apr-99	$13.00	54%	$6.996	$42.405	P	$58.500	$310.714	BT Alex. Brown
PurchasePro.com, Inc.	E-commerce services	Jun-99	$3.50	Sep-99	$12.00	71%	($10.940)	$2.820	P	$48.000	$216.120	Prudential Securities
Quantum Effect Devices, Inc.	High-performance processors	Dec-99	$10.00	Jan-00	$16.00	38%	$16.496	$31.462	O	$5.952	$414.600	Morgan Stanley
Quepasa.com, Inc.	Spanish portal	Jun-99	$6.75	Jun-99	$12.00	44%	$0.700	$0.000	C	$48.000	$165.310	Cruttenden Roth
Quest Software, Inc.	Software solutions	Apr-99	$2.36	Aug-99	$14.00	83%	($13.751)	$49.044	C	$61.600	$533.744	BancBoston Robertson
Quokka Sports, Inc.	Internet sports programming	Jun-99	$9.00	Jul-99	$12.00	25%	$18.612	$4.665	P	$60.000	$523.877	Merrill Lynch
Ramp Networks	Internet access solutions	Mar-99	$6.59	Jun-99	$11.00	40%	($35.824)	$11.097	P	$44.000	$220.625	BancBoston Robertson

(*continued*)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1) % Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
Ravenswood Winery, Inc.	California wine	Dec-98	$7.94	Apr-99	$10.50	24%	$12.347	$19.087	C	$10.500	$47.784	WR Hambrecht
Red Hat, Inc.	Software and services	Apr-99	$6.28	Aug-99	$14.00	55%	($0.196)	$12.036	P	$84.000	$935.691	Goldman, Sachs
Resonate, Inc.	Software products	Jul-00	$16.80	Aug-00	$21.00	20%	($35.937)	$14.676	P	$84.000	$551.586	Goldman, Sachs
Retek, Inc.	B-2-B software solutions	Oct-99	$10.00	Nov-99	$15.00	33%	$41.080	$72.963	O	$82.500	$682.500	Credit Suisse
Rita Medical Systems, Inc.	Medical devices	Mar-00	$1.67	Jul-00	$12.00	86%	$28.837	$5.633	O	$43.200	$164.867	Salomon Smith Barney
Saba Software, Inc.	Software provider	Jan-00	$5.36	Apr-00	$15.00	64%	$24.961	$6.660	C	$60.000	$642.768	Goldman, Sachs
Sagent Technology, Inc.	Software products	Feb-99	$9.00	Apr-99	$9.00	0%	$1.671	$20.364	C	$45.000	$213.024	Donaldson, Lufkin
SalesLogix Corporation	Software products	Apr-99	$6.65	May-99	$9.00	26%	$15.679	$18.783	C	$29.925	$161.388	Hambrecht & Quist
Salon.com	Internet media	Apr-99	$3.88	Jun-99	$10.50	63%	$5.353	$2.921	O	$26.250	$112.672	WR Hambrecht
Sangamo Biosciences, Inc.	Genetic development	Jan-00	$2.25	Apr-00	$15.00	85%	$7.882	$2.182	P	$52.500	$312.811	Lehman Brothers
Scient Corporation	E-Business systems innovation	Feb-99	$10.85	May-99	$20.00	46%	$29.977	$20.675	P	$60.000	$685.991	Morgan Stanley
Sciquest.com	Nondurable goods	Jul-99	$7.46	Nov-99	$16.00	53%	($62.800)	$1.700	P	$120.000	$394.650	Donaldson, Lufkin
SERENA Software, Inc.	Software change management	Sep-98	$6.72	Feb-99	$13.00	48%	$34.881	$42.804	C	$78.000	$314.655	Hambrecht & Quist
ServiceWare Technologies, Inc.	Software solutions provider	Jun-00	$7.02	Aug-00	$7.00	0%	$13.481	$25.177	P	$31.500	$164.776	C.E. Unterberg
ShopNow.com, Inc.	Wholesaler/retailer	Jul-99	$9.00	Sep-99	$12.00	25%	$36.736	$9.050	P	$87.000	$402.056	Dain Rauscher Wessels
Shopping.com	Wholesaler/retailer	Sep-97	$3.00	Nov-97	$9.00	67%	($0.026)	$0.112	C	$11.700	$36.018	Waldron & Co.

Silknet Software, Inc.	Software provider	Feb-99	$7.32	May-99	$15.00	51%	($16.878)	$10.714	P	$45.000	$224.971	Credit Suisse
SkillSoft Corporation	Training courses via computer	Aug-99	$1.50	Jan-00	$14.00	89%	$0.079	$2.371	C	$43.400	$176.169	Credit Suisse
SmartDisk Corporation	Digital data products	Jul-99	$8.00	Oct-99	$13.00	38%	($6.133)	$25.344	C	$39.000	$201.806	BancBoston Robertson
SmarterKids.com	Hobby, toy, game shops	Jul-99	$4.18	Nov-99	$14.00	70%	($19.006)	$1.477	P	$63.000	$271.105	Hambrecht & Quist
Snowball.com	Information retrieval services	Jan-00	$10.00	Mar-00	$11.00	9%	$34.700	$6.700	P	$68.750	$409.700	Goldman, Sachs
Software.com, Inc.	Messaging software	Apr-99	$6.15	Jun-99	$15.00	59%	($11.800)	$28.800	P	$90.000	$610.076	Credit Suisse
Software.net Corp.	Online Reseller of software	Apr-98	$2.60	Jun-98	$9.00	71%	($13.443)	$19.840	P	$45.000	$238.918	Donaldson, Lufkin
Somnus Medical Technologies, Inc.	Radiofrequency medical devices	Aug-97	$3.00	Nov-97	$10.50	71%	$4.956	$1.100	O	$42.000	$134.570	J.P. Morgan
Sonus Networks, Inc.	Voice infrastructure products	Mar-00	$16.40	May-00	$23.00	29%	($32.695)	$1.093	P	$115.000	$1,389.682	Goldman, Sachs
SpeechWorks International, Inc.	Software provider	Apr-00	$7.86	Jul-00	$20.00	61%	($34.432)	$15.808	P	$95.000	$579.997	Chase H&Q
SQL Financials International, Inc.	Client server financial software	Feb-98	$3.67	May-98	$10.00	63%	($24.945)	$29.823	O	$25.000	$90.594	NationsBanc
Stamps.com, Inc.	Purchasing, printing postage	Feb-99	$5.49	Jun-99	$11.00	50%	($7.227)	$0.000	P	$55.000	$382.486	BancBoston Robertson
StorageNetworks, Inc.	Data storage service	Feb-00	$22.75	Jun-00	$27.00	16%	$158.947	$10.495	P	$243.000	$2,390.232	Goldman, Sachs
Streamline.com, Inc	Internet orders delivered to homes	Apr-99	$7.00	Jun-99	$10.00	30%	($18.593)	$8.731	O	$45.000	$177.739	Banc of America
Synquest, Inc.	Supply chain solutions	May-00	$8.00	Aug-00	$7.00	−14%	($93.366)	$24.192	C	$35.000	$194.535	Bear, Stearns
Talarian Corporation	Software developer	Mar-00	$12.00	Jul-00	$16.00	25%	($10.783)	$11.281	C	$67.200	$304.881	Lehman Brothers
Talk City, Inc.	Online services	Apr-99	$8.00	Jul-99	$12.00	33%	($28.359)	$2.308	P	$60.000	$290.109	Lehman Brothers
Telaxis Communications Corporation	Telecommunication equipment	Sep-99	$2.50	Feb-00	$17.00	85%	($31.394)	$6.443	C	$68.000	$260.649	Credit Suisse
Telemate.Net Software, Inc.	Software provider	Jun-99	$6.67	Sep-99	$14.00	52%	($6.737)	$5.691	C	$49.000	$100.440	SoundView Technology
Telik, Inc.	Biopharmaceuticals	Mar-00	$6.00	Aug-00	$7.00	14%	$8.295	$3.078	P	$35.000	$152.366	Warburg Dillon Read
Telocity, Inc.	Online services	Dec-99	$5.24	Mar-00	$12.00	56%	($48.282)	$0.187	P	$132.000	$1,005.602	Merrill Lynch

(*continued*)

Exhibit 9.10 *Continued*

Company	Principal Business	Last Transaction		Public Offering		(1)% Discount from Public Offering Price	(2) Prior to Offering (Millions $)		(3) Type of Transaction	Total IPO Offer (Millions $)	Market Cap. (Millions $)	Underwriter (Lead)
		Date	Price	Date	Price		Equity	Sales				
TenFold Corporation	Software and services company	Apr-99	$12.60	May-99	$17.00	26%	$4.178	$50.995	O	$79.900	$575.881	Goldman, Sachs
Terayon Communication Systems, Inc.	Cable modem systems	Apr-98	$6.50	Aug-98	$13.00	50%	($3.871)	$11.401	O	$39.000	$210.870	BT Alex. Brown
TheStreet.com, Inc.	Financial news, commentary	Feb-99	$12.00	May-99	$19.00	37%	($2.800)	$5.700	C	$104.500	$445.583	Goldman, Sachs
TIBCO Software Inc.	Software solutions	Jun-99	$6.00	Jul-99	$15.00	60%	$17.640	$66.975	O	$109.500	$881.228	Goldman, Sachs
Tier Technologies, Inc.	IT services	Jul-97	$5.25	Dec-97	$8.50	38%	$4.163	$26.886	O	$28.900	$74.766	Adams, Harkness
Turnstone Systems, Inc.	Communication products	Sep-99	$5.00	Jan-00	$29.00	83%	$11.891	$27.196	O	$87.000	$851.216	Goldman, Sachs
United Road Services, Inc.	Towing and transport services	Jan-98	$3.36	May-98	$13.00	74%	($0.104)	$46.542	C	$85.800	$153.380	Donaldson, Lufkin
Universal Access, Inc.	B-2-B intermediary	Nov-99	$6.10	Mar-00	$14.00	56%	$52.042	$14.259	C	$154.000	$1,201.330	Goldman, Sachs
US Internetworking, Inc.	Software application services	Dec-98	$3.36	Apr-99	$21.00	84%	($2.467)	$13.938	P	$126.000	$816.234	Credit Suisse
US LEC Corporation	Local exchange carrier	Feb-98	$10.40	Apr-98	$15.00	31%	$5.756	$6.457	C	$82.500	$396.454	Salomon Smith Barney
UTStarcom, Inc.	Communications equipment	Dec-99	$8.13	Mar-00	$18.00	55%	$165.720	$187.516	P	$180.000	$1,607.529	Merrill Lynch
V.I. Technologies, Inc.	Develop blood products and systems	Feb-98	$8.39	Jun-98	$12.00	30%	$11.263	$17.457	C	$36.000	$143.270	Cowen & Company
VA Linux Systems, Inc.	Internet solutions	Sep-99	$3.86	Dec-99	$30.00	87%	$16.201	$30.123	P	$132.000	$1,191.048	Credit Suisse
Value America, Inc.	Internet retailer	Nov-98	$3.50	Apr-99	$23.00	85%	($31.564)	$41.544	O	$126.500	$999.002	BancBoston Robertson
VeriSign, Inc.	Digital certificate solutions	Nov-97	$8.00	Jan-98	$14.00	43%	$12.469	$9.382	C	$42.000	$282.117	Morgan Stanley
Versata, Inc.	Software provider	Nov-99	$5.56	Mar-00	$24.00	77%	$19.418	$12.582	P	$92.400	$911.251	Thomas Weisel
Varsitybooks.com	Retailer, books	Sep-99	$6.72	Feb-00	$10.00	33%	$22.063	$11.821	P	$40.750	$156.102	Robertson Stephens
Via Net.Works, Inc.	Internet access	Jan-00	$9.76	Feb-00	$21.00	54%	($13.245)	$25.709	C	$300.300	$1,198.445	Donaldson, Lufkin
Viant Corporation	Internet consulting	Feb-99	$6.39	Jun-99	$16.00	60%	$17.886	$23.833	P	$48.000	$327.484	Goldman, Sachs

Virata Corporation	Communication processor	Oct-99	$8.71	Nov-99	$14.00	38%	$5.882	$9.812	C	$70.000	$272.610	Credit Suisse
Visual Networks, Inc.	Wide area network service	Sep-97	$4.76	Feb-98	$12.50	62%	($11.567)	$23.651	C	$43.750	$213.268	Goldman, Sachs & Co.
VitaminShoppe.com, inc.	Nutrition information	Jul-99	$9.15	Oct-99	$11.00	17%	($8.133)	$6.684	P	$50.000	$223.950	Thomas Weisel
WebEx Communications, Inc.	Multimedia communication services	Mar-00	$12.50	Jul-00	$14.00	11%	$22.726	$8.334	P	$49.000	$505.751	Goldman, Sachs
Webstakes.com, Inc.	Promotional marketing	Jun-99	$6.00	Sep-99	$14.00	57%	($23.349)	$5.590	P	$50.050	$199.377	Bear, Stearns
Wink Communications	Electric commerce on television	Jun-99	$8.00	Aug-99	$16.00	50%	$57.392	$0.847	C	$76.000	$464.410	Donaldson, Lufkin
Wit Capital Group, Inc.	Internet investment banking and	Apr-99	$1.43	Jun-99	$9.00	84%	$47.500	$5.865	C	$68.400	$635.845	Bear, Stearns
Yesmail.com, Inc.	Email direct marketing solutions	May-99	$1.75	Sep-99	$11.00	84%	$1.853	$6.179	P	$37.400	$223.565	Deutsche Bank Alex.
ZymeTx, Inc.	Development stage biotechnology	Jul-97	$4.00	Oct-97	$8.00	50%	$1.373	$0.010	P	$18.400	$50.205	Capital West
Average						50%	$4.15					
Median						52%	$2.85					

Source: John D. Emory, Sr., F. R. Dengel III, and John D. Emory Jr., *Business Valuation Review* (December 2001): 4–20; John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., Business Valuation Review (December 2002). © Emory & Co., LLC.

(1) 1 minus (transaction price divided by offering price).

(2) As close to transaction as data available.

(3) All options granted were stated to be at the common stock's fair market value or reasonably should have been.

Exhibit 9.11 Emory Studies (after 2002 revision)

Study	# of IPO Prospectuses Reviewed	# of Qualifying Transactions	Mean Discount	Median Discount
1997–2000*	1,847	266	50%	52%
1995–1997	732	84	43	41
1994–1995	318	45	45	47
1992–1993	443	49	45	43
1990–1992	266	30	34	33
1989–1990	157	17	46	40
1987–1989	98	21	38	43
1985–1986	130	19	43	43
1980–1981	97	12	59	68
Total	4,088	543	46%	47%

Source: Presentation by John Emory Sr. and John Emory Jr. at the IBA 25th annual national conference, Orlando, Florida, June 3, 2003.

*1997–2000 Expanded Study.

Exhibit 9.12 Emory Studies 1980–2000 (after 2002 revision) Sale vs. Option Transactions

	All Transactions	Sale Transactions	Option Transactions
Mean	46%	50%	43%
Median	47%	52%	42%
Count	543	282	261

Source: Presentation by John Emory Sr. and John Emory Jr. at the IBA 25th annual national conference, Orlando, Florida, June 3, 2003.

Exhibit 9.13 Emory Studies 1980–2000 (after 2002 revision) Broken Down by Time before IPO

Discounts versus Time between Transactions and IPO			
Days	**Mean**	**Median**	**Count**
0–30	30%	25%	18
30–60	40%	38%	72
60–90	42%	43%	162
90–120	49%	50%	161
120–153	55%	54%	130
Total			543

Source: Presentation by John Emory Sr. and John Emory Jr. at the IBA 25th annual national conference, Orlando, Florida, June 3, 2003.

NOTES

1. We are indebted to Emory & Co. and especially John Emory Jr. for providing the detailed data in Exhibits 9.1 through 9.10.
2. John D. Emory, "The Value of Marketability as Illustrated in Initial Public Offerings of Common Stock—January 1980 through June 1981," *ASA Valuation* (June 1986): 66.
3. John D. Emory, "The Value of Marketability as Illustrated in Initial Public Offerings of Common Stock—February 1992 through July 1993," *Business Valuation Review* (March 1994): 3.
4. ©Emory Business Valuation, LLC, *Dot-Com Pre-IPO Study* (2000).

Chapter 10

Valuation Advisors Discount for Lack of Marketability Study*

Description of Study
Results of Study
Summary

DESCRIPTION OF STUDY

The Valuation Advisors' Lack of Marketability Discount Study is a database that was developed by Brian Pearson of Valuation Advisors, LLC (VAL), and compares the initial public offering (IPO) stock price to pre-IPO common stock, common stock option, and convertible preferred stock prices. The look-back period of the transactions in the database is up to two years prior to the IPO. These market-based transactions demonstrate the lack of marketability discount generated by the pre-IPO transactions because of their illiquidity when entered into by the privately held company prior to the successful IPO.

This study is a Web-based tool used to quantify lack of marketability discounts and is updated monthly. The study includes pre-IPO transactions from 1995 to the present. In addition to using the study to determine and defend your business valuation discounts, it can also be used to develop industry information and possible guideline companies for use in the market-based valuation approach, and to analyze venture capital investments. You can search the database by specifying any of the following variables:

- Revenues
- Assets
- Operating income
- Operating profit margin
- Time period (by three-month intervals or year)
- Common stock, Common stock options or Convertible preferred stock
- Individual four-digit SIC (Standard Industry Classification) code
- Individual three and up to six-digit NAICS (North American Industry Classification System) code
- An industry (a range of SIC or NAICS codes)

Exhibit 10.1 is a typical Valuation Advisors' transaction report. Exhibit 10.2 is the legend for the report.

*Readers of this book can purchase the Valuation Advisors' Discount for Lack of Marketability Study for $50 off the regular subscription price. Go to www.bvresources.com/bvmarketdata and be sure to enter priority code DPZED upon checkout to get this special discount.

Exhibit 10.1 Valuation Advisors' Lack of Marketability Discount Study Transaction Report

Company	
Company	Brittania Bulk Holdings, Inc.
Product, Service or Business	Drybulk Shipping
SIC	4412 Deep Sea Foreign Transportation of Freight
NAICS	483111 Deep Sea Freight Transportation

Transaction Data		**Financial Data**	
Pre-IPO Timeframe	0–3 mth(s)	Net Sales	$566,641,000
Transaction Date	6/2/2008	Marketability Discount	20.667%
Transaction Price Per Share	$11.90	Total Assets	$491,201,000
CPS, S or O	O	Operating Income	$66,743,000
IPO Date	6/17/2008	Operating Profit Margin	11.779%
IPO Price Per Share	$15.00		

N/A = Not Available

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Exhibit 10.2 Legend for Valuation Advisors' Lack of Marketability Discount Study Data

Reports	Excel Format	Definition
Pre-IPO Timeframe	PreIPOTransactionTimeframe	IPO date—Transaction date
Transaction Date	TransactionDate	The date a sale or issuance of stock or options occurred
Transaction Price Per Share	TransactionPrice	The price of the stock or option
Transaction Type	CPSSO	CPS = convertible preferred stock, S = common stock, and O = stock option
IPO Date	IPODate	The date shares of the company were sold to the public for the first time
IPO Price Per Share	IPOPrice	The price of the stock paid by the initial public investors to acquire their shares
Net Sales	Revenues	Total sales for the year as shown on the income statement closest to the IPO date
Marketability Discount	MarketabilityDiscount	The difference between the IPO price per share and the price on a given transaction date
Total Assets	Assets	The total assets on the balance sheet at the date nearest the IPO date
Operating Income (Loss)	OperatingIncome	The income of the Company on the income statement nearest the IPO date, but before interest or other extraordinary items
Operating Profit Margin	OperatingProfitMargin	Operating Income (Loss) divided by Net Sales

For example, if valuing a 20-store profitable restaurant chain with $25 million revenue as of December 31, 2007, one might enter the following selection criteria:

Revenue	$2.5 million to $250 million
Operating Income	>0
Time Period	2003–2007
Stock, Options, and Convertibles	All
SIC	5812

If the analyst finds that these criteria produced too few companies, they can be broadened. The tighter the range, the fewer transactions are necessary, whereas the greater the dispersion the more transactions are necessary. If the analyst has enough transactions, she might narrow one or more of the criteria.

Interestingly, except for financial institutions (which tend to sell at lower discounts), the industry is one of the less important criteria. More important criteria for the analyst will likely be operating income and revenue.

As of October 2008, the Valuation Advisors' Lack of Marketability Discount Study contained over 3,800 transactions and over 1,600 companies dating from 1995 to 2008. With the ability to search all of the data online, appraisers have instant access to market-based data that provides empirical support for lack of marketability discounts. The study is updated monthly as new companies go public; therefore, the database continues to expand with new information.

RESULTS OF STUDY

The study breaks down the number of transactions by length of time that the private transaction occurred prior to the IPO: 1–90 days prior, 91–180 days prior, 181–270 days prior, 271–365 days prior, and 1–2 years prior. Results for the years 1999–2007 are shown in Exhibit 10.3.

Exhibit 10.3 Valuation Advisors' Lack of Marketability Discount Study Transaction Summary Results by Year from 1999–2007

Time of Transaction before IPO	1–90 Days	91–180 Days	181–270 Days	271–365 Days	1–2 Years
1999					
Number of transactions	148	174	103	91	174
Median Discount	30.8%	54.2%	75.0%	76.9%	82.2%
2000					
Number of transactions	129	176	116	91	141
Median Discount	28.7%	45.1%	61.5%	68.9%	76.6%
2001					
Number of transactions	15	17	18	17	48
Median Discount	14.7%	33.2%	33.4%	52.1%	51.6%
2002					
Number of transactions	9	13	7	16	36
Median Discount	6.2%	17.3%	21.9%	39.5%	55.0%

Exhibit 10.3 *Continued*

Time of Transaction before IPO	1–90 Days	91–180 Days	181–270 Days	271–365 Days	1–2 Years
2003					
Number of transactions	12	22	24	21	44
Median Discount	28.8%	22.3%	38.4%	39.7%	61.4%
2004					
Number of transactions	37	74	63	59	101
Median Discount	16.7%	22.7%	40.0%	56.3%	57.9%
2005					
Number of transactions	18	59	58	62	99
Median Discount	14.8%	26.1%	41.7%	46.1%	45.5%
2006					
Number of transactions	25	76	69	72	106
Median Discount	20.7%	20.8%	40.2%	46.9%	57.2%
2007					
Number of transactions	46	76	92	79	124
Median Discount	11.1%	29.4%	36.3%	47.5%	53.1%
1999–2007					
Number of transactions	439	687	550	508	873
Median Discount	25.3%	36.1%	49.4%	60.8%	65.8%

Source: The Valuation Advisors' Lack of Marketability Discount Database, available online at www.bvmarketdata.com.

Note how strikingly the discounts diminish as the time period to the IPO lessens. This provides strong evidence that the perceived holding period is a major factor influencing the magnitude of the discount for lack of marketability, especially since all of these companies eventually went public. Think of the typical minority stockholder in a privately held company with no chance of ever going public and what the discount may be!

As of this writing, Business Valuation Resources has about a 10-page free download of frequently asked questions about the Valuation Advisors' Lack of Marketability Study located on its FAQ page at BVMarketdata.com.

SUMMARY

As of this writing, the Valuation Advisors Discount for Lack of Marketability Study contains data on over 3,800 transactions in stocks of private companies prior to an Initial Public Offering (IPO) from 1995 to the present. This is updated monthly and available online from *Business Valuation Resources*.

Median discounts from the IPO price for transactions over a year prior to the IPO ranged from 45.5 percent in 2005 to 82.0 percent in 1999. The discounts decreased quite consistently as the transactions came closer in time to the IPO. This demonstrates both the magnitude of typical discounts for lack of marketability for minority interests in private companies and the impact of the length of the perceived holding period on the size of the discount.

Analysts can search the database and select companies with characteristics as close as possible to their subject company in terms of size, profitability, industry, holding period, and other relevant criteria.

Chapter 11

Factors Affecting Discounts for Lack of Marketability for Minority Interests

Size of Distributions
- The *Partnership Re-Sale Discount Studies*
- Comparison of the Subject Interest to Public Limited Partnership Interests
- The FMV Opinions Study

Prospects for Liquidity
- Restricted Stock Studies Pattern
- Specific Restricted Stock and Pre–Initial Public Offering Study Findings
  - Securities and Exchange Commission Institutional Investor Study
  - Standard Research Consultants Study
  - Management Planning Study
  - Emory Pre–Initial Public Offering Studies
- The *Partnership Re-Sale Discount Studies* Findings

Pool of Potential Buyers
- Strength of Ultimate Trading Market
  - Securities and Exchange Commission Institutional Investor Study
  - Standard Research Consultants Study
- Block Size
  - Silber Study
  - Management Planning Study
  - FMV Opinions Study

Risk Factors
- Level and Volatility of Issuer's Earnings
  - Securities and Exchange Commission Institutional Investor Study
  - Standard Research Consultants Study
  - Management Planning Study
  - Johnson Study
  - FMV Opinions Study
- Size of Issuer
  - Securities and Exchange Commission Institutional Investor Study
  - Standard Research Consultants Study
  - Management Planning Study
  - FMV Opinions Study
  - Johnson Study

Summary

This chapter was updated from the first edition by Alina V. Niculita.

This chapter draws on the material presented in Chapters 5, 6, 7, 8, 9 and 10, organizing the findings in terms of the relevant factors impacting the magnitude of the discount for lack of marketability for minority interests. It also draws on material in Chapters 21 and 27, in which net asset value is the base to which the discount is applied.

While the classification in this chapter is somewhat arbitrary, and there is indeed some overlap among factors, the empirical data suggest that the primary drivers of the magnitude of the discount for lack of marketability are as follows:

- Size of distributions (dividends, withdrawals)
- Prospects for liquidity (probable length of holding period)
- Pool of potential buyers (also affecting prospects for liquidity)
- Risk factors (affecting the investors' required rate of return during the holding period, that is, the discount rate)
- Growth prospects (affecting the eventual potential sale price, that is, terminal value)

SIZE OF DISTRIBUTIONS

Privately placed bonds and preferred stocks sell at little or no discount compared with publicly traded bonds and preferred stocks. Why is this so? It is because investors are receiving their returns as they go along in the form of interest and dividends, and these payments are in fixed amounts, so the investors know when and how much they expect to receive.

Distributions on common equity investments (for instance, common stocks and partnership interests) generally are not fixed, unlike the interest on bonds or the dividends on preferred stock. Nevertheless, the higher (and the more certain) the distribution, the lower the discount, whether the base from which the discount is taken is a publicly traded guideline group of securities or net asset value.

Unfortunately, neither the extensive restricted stock studies nor the pre-IPO studies shed any light on the impact of the size of distributions. The reason is that virtually all of the stocks in both categories of studies are nondividend paying. One thing those studies *do* reveal is that discounts for lack of marketability when there are *no* distributions are quite high, with a median of around 45 percent in the pre-IPO studies.

For guidance on the size of discounts relative to various levels of distributions, the analyst must turn to other studies, such as the *Partnership Re-Sale Discount Study.* Most of these studies relate to discounts from net asset value. In addition, there are very few transactions in the FMV Opinions Study in stocks of dividend-paying companies that we present in the next section.

THE *PARTNERSHIP RE-SALE DISCOUNT STUDIES*

A limited partnership interest in a public real estate limited partnership is an investment in an entity that itself has an interest in an operating real estate project (for instance, office buildings, industrial/warehouse facilities, research and development facilities, business parks, apartments and retirement centers, shopping centers, outlet malls and other retail-use space, manufactured housing communities, mobile home parks, hotels

and other lodging facilities, restaurants, and mini-warehouses/self-storage facilities). For valuation purposes, appraisers use public market information related to secondary market transactions (see the following description) in limited partnership units that are similar to, but not the same as, the subject interest. They then take into consideration the unique characteristics of the subject interest and the fact that no public market exists for it. In deriving price-to-value discounts, appraisers frequently utilize a study conducted by Partnership Profiles, Inc., and reported in two publications: the *Minority Interest Discount Database* (an online searchable database) and in the *Guideline Partnership Reports* (also available online).

Many appraisers may be more familiar with the previous form of presentation of the Partnership Profiles data. The *Partnership Re-Sale Discount Studies* published annually by Partnership Profiles, Inc. from 1992 through 2004 were featured in the May/June issue of its bi-monthly newsletter known as *Direct Investments Spectrum* and *The Perspective*.[1] Those historical articles can still be accessed in past issues of the newsletters, as well as in the 3rd edition of the book *Comprehensive Guide for the Valuation of Family Limited Partnerships* by Bruce A. Johnson, Spencer Jefferies, and James R. Park.[2]

Both the online database and the self-contained guideline partnership reports published by Partnership Profiles, Inc include partnerships owning real estate assets. All of the partnerships included in this price-to-value discount study are publicly registered with the Securities and Exchange Commission (SEC), although none of the partnerships is publicly traded on any recognized securities exchange. Instead, units of the partnerships are bought and sold in the so-called limited partnership secondary market. This market is comprised of 10 to 12 independent securities brokerage firms that act primarily as intermediaries in matching buyers and sellers of units in unlisted partnerships of all types.

In a typical price-to-value discount study, the most recent unit net asset values reported by the sample group of partnerships are compared with the weighted average prices at which investors purchase units in these partnerships in the partnership secondary market during the two-month period of April and May of each year.

Partnership unit values used in the study are reported by the partnerships and represent either valuations prepared internally by general partners, independent valuations prepared by third-party appraisers retained on behalf of the partnerships, or some combination of the two. Each unit value generally represents an estimate of the total amount of the cash that would be distributed to limited partners on a per-unit basis, based on a hypothetical sale of the partnership's real estate assets and the liquidation of the partnership.

The results of the price-to-value discount studies are consistent over the years reported by Partnership Profiles in that the two most important factors considered by secondary market buyers in pricing units of real estate partnerships are (1) whether the partnership is consistently paying periodic cash distributions and (2) the degree of debt financing utilized by the partnership. This is evidenced by the relatively low price-to-value discounts of debt-free insured mortgage and triple-net-lease programs, which consistently deliver high cash-distribution yields to buyers. At the other end of the discount spectrum are debt-laden partnerships, which are unable to pay cash distributions on a current basis and have no real prospects of doing so in the foreseeable future.

The results shown in Exhibit 11.1 are from the 2004 issue of the *Partnership Re-Sale Discount Study* (the last one published under that format), from the highest distributions down through the lowest.

Exhibit 11.1 The *Partnership Re-Sale Discount Study* Results

Partnership Category	No. of Partnerships	Average Discount	Average Yield
Insured Mortgages	5	14%	9.1%
Triple-Net-Lease	23	14%	9.7%
Equity—Distributing (low or no debt)	15	16%	8.6%
Equity—Distributing (moderate to high debt)	19	29%	6.9%
Equity—Nondistributing	12	38%	0%
Undeveloped Land	5	33%	0%

Source: The *Partnership Re-Sale Discount Study* 2004.

As can be seen, the average discounts range from 14 to 16 percent for the highest-distributing group up to 29 to 38 percent for those with no distributions.

Spencer Jefferies, of Partnership Profiles, discussed the results as follows:

> Valuation professionals attribute the fact that minority interest in non-listed real estate partnerships are priced at discount from net assets values in the secondary market to two factors, both of which are discussed below.
>
> First, while the partnership secondary market does provide a market for minority interests in otherwise non-traded limited partnerships, this market does not offer the liquidity, of, say, the New York Stock Exchange where investors can convert their securities into cash in a matter of days. According to an internal study by American Partnership Board, the leading secondary market firm in terms of trading volume, the average amount of time required to secure a buyer for the units of publicly-registered partnership and release the net sale proceeds to the seller was approximately 60 days from the time the seller's paperwork was approved. (This study was based upon transactions processed by APB during the first half of 1999.) . . .
>
> The second factor that accounts for why partnership interests trade in the secondary market at discounts is that these are non-controlling, minority interest in every sense. This means that the owner of the interest has no control or influence over the affairs of the partnership. Indeed, the prospectus for every public limited partnership ever formed contains a statement that says something to the effect that "all decisions with respect to the management of the partnership will be made exclusively by the general partner." As would be expected, buyers of minority interest in limited partnerships are unwilling to pay "full value" for an interest in a partnership over which they have no management influence or control. . . .
>
> Although it is not possible to precisely quantify the amount of discount attributable to marketability versus lack of control considerations, it is the opinion of *Direct Investments Spectrum*, along with many appraisers, that most of the overall discount is due to lack of control issues. While the partnership secondary market is certainly not a recognized securities exchange, it is a market where there are usually multiple bidders who stand ready to purchase the units of virtually any publicly-registered partnership that has value . . . , it is typically not a matter of whether the units can be sold, but a matter of how long it takes to get the net sale proceeds in the hands of the seller.
>
> It therefore follows that most of the overall price-to-value discount inherent in the pricing of partnership interests changing hands in the secondary market is due to lack of control considerations. But whether a proper allocation of the lack of control versus the marketability component of the total discount is, say, 70/30 or 80/20 is difficult to quantify. Some valuation professionals believe that the issues of control and marketability are so interrelated that

> it is simply not possible to ascertain exactly how much of the total discount is attributable to lack of control versus marketability.
>
> It is common practice for appraisers using the discount data reported in this study when valuing a minority interest in a FLP or some other illiquid investment involving real estate to adjust these discounts upward to account for the fact that the subject of their valuation is less marketable than the partnership interests included in this study. Within the valuation profession there are various theories and methodologies concerning how this additional *discount for marketability* should be determined.[3]

The analyst should also consider whether there is any indication of offers to acquire a limited partnership interest prior to the date of reported transactions. As often noted in the studies, price-to-value discounts typically shrink considerably when a partnership announces definitive, near-term liquidation plans. Accordingly, the study generally excludes any partnership that has announced definitive plans to liquidate within the next 12 months.

There does not appear to be any correlation between the size of the discount and the nature of the property. This conclusion is supported by the work of Christian L. Bendixen, ASA,[4] based on several multivariate regression analyses he performed on the 1997 Partnership Profiles, Inc. database of real estate limited partnerships. Bendixen concluded that, with respect to price-to-value discounts, there was little statistical significance due to the property variable. His findings corroborated the 1997 Partnership Profiles, Inc. findings regarding the yield and debt variables, which showed high statistical significance.

COMPARISON OF THE SUBJECT INTEREST TO PUBLIC LIMITED PARTNERSHIP INTERESTS

In comparing subject interests to limited partnership investments in publicly registered real estate partnerships, major differences include, but are not necessarily limited to, the following:

- Generally, no market currently exists for the subject interest since it generally is not registered with the SEC, and there are no plans to do so. The limited partnership interests of the public real estate partnerships are registered with the SEC and trade in a secondary market, comprised of 10 to 12 independent brokerage firms, most of which operate as intermediaries in matching buyers and sellers of publicly registered limited partner interests. Subject interests are therefore less easily converted into cash than investments in publicly registered limited partnerships, thus impairing their marketability.
- As private companies not subject to SEC financial reporting requirements, subject companies' financial information normally is not disclosed, further impairing the marketability of such interests.
- Most public limited partnerships often own a diversified portfolio of real estate investments in multiple states. The subject private interest may own only one building. This lack of diversification increases the risk associated with an investment in the subject interest as compared with an investment in the public limited partnerships. This impairs the marketability of the subject interest relative to a limited partner investment in a public real estate limited partnership.

THE FMV OPINIONS STUDY

As of the time of this writing, there were 26 transactions in stocks of dividend-paying companies and 445 transactions in stocks of non–dividend paying companies in the *FMV Restricted Stock Study*. The median discount for those companies paying dividends was 13.1 percent as compared to those companies not paying dividends having a median discount of 20.0 percent. The following is an excerpt from *Determining Discounts for Lack of Marketability—A Companion Guide to the FMV Restricted Stock Study* current as of 2007 regarding the relevance of dividends to the marketability discount:

> Dividends are important for a few reasons. They may mitigate the illiquidity discount by itself, in addition to the fact that they indicate higher profits and lower risk. Significant dividend payments can be a factor that shortens the duration of the security. Current income tends to lower illiquidity; by "front-loading" some of the economic benefits the security holder can expect to accrue. Also, public companies paying dividends tend to have lower volatility.

PROSPECTS FOR LIQUIDITY

An extremely important factor driving the magnitude of the discount for lack of marketability is the prospect for liquidity within a known time frame, the shorter the better. In other words, the shorter the expected holding period, and the more certain the prospective transaction, the lower the discount. This factor is widely demonstrated by the empirical data. It is, of course, far more important for entities that do not make distributions, since the ultimate payoff is the only return that can be expected.

For the owner of a stock or partnership interest, liquidity can be achieved in several ways:

- Sale of all or part of the underlying asset(s) and payout of the proceeds
- Registration of the interest in an initial public offering, or lifting of restrictions on a block of restricted stock of a public company
- Sale of the entity and:
  - Receipt of cash proceeds
  - Receipt of stock that is more liquid than interests in the selling company

RESTRICTED STOCK STUDIES PATTERN

The history of the restricted stock studies, as detailed in Chapter 6, certainly drives home the point that increased prospects for liquidity mean lower discounts for lack of marketability. From 1966 through the end of the 1980s, average discounts for restricted stock consistently ran about 33 to 35 percent. Then, when the rules changed in 1990, creating a more liquid market for restricted stocks, average discounts dropped to the low 20s percent. Finally, in 1997, when the required holding period was reduced from two years to one year, the Columbia Financial Advisors study found an average discount of only 13 percent.

SPECIFIC RESTRICTED STOCK AND PRE–INITIAL PUBLIC OFFERING STUDY FINDINGS

Securities and Exchange Commission Institutional Investor Study

The study found that discounts were related to the resale constraints applicable to the restricted securities. Essentially, any provisions that reduced the time or expense involved in reselling the stock tended to reduce the discount.

Standard Research Consultants Study

The Standard Research Consultants study reported that the longer the time needed to dispose of the restricted stock, the greater the discount.

Management Planning Study

The Management Planning, Inc. (MPI) study reported ‘‘some confirming tendency’’ to affirm the following expectations:

- **Number of Quarters to Dribble-Out.** The expectation was that shorter calculated dribble-out periods would suggest lower discounts because of the shorter period of time until liquidity could be achieved. Exhibit 11.2 shows that the greater the number of quarters needed to sell the block (based on trading volume), generally the higher the discount.
- **Number of Weeks Trading Volume to Sell.** The expectation was that longer calculated periods would suggest higher discounts because of the longer period of time until liquidity could be achieved.

Emory Pre–Initial Public Offering Studies

The John Emory pre-IPO studies covered transactions going back five months prior to completion of a public offering. As shown in Exhibit 9.13D, the discounts tended to drop as the transactions occurred closer to the IPO.

THE *PARTNERSHIP RE-SALE DISCOUNT STUDY* FINDINGS

Over the last several years, more than 500 SEC-registered limited partnerships have liquidated, merged, or ‘‘rolled up’’ into a more marketable security. In anticipation of the possibilities of such liquidating events, average discounts from net asset value have

Exhibit 11.2 Relationship between Quarters to Sell Block (Based on Trading Volume) and Discount, Management Planning Study

	Quarters to Sell Block (Trading Volume)	Median Discount	Average Discount
First Quartile	22 to 483	34.4%	31.7%
Second Quartile	9 to 20	29.3%	28.4%
Third Quartile	4 to 9	27.3%	26.0%
Fourth Quartile	1 to 3	21.4%	23.2%

shrunk sharply. When a partnership announces plans to liquidate, the discount immediately declines significantly. This is compelling evidence that the expected holding period has an important impact on the discount for lack of marketability.

POOL OF POTENTIAL BUYERS

Closely related to the prospects of liquidity for the entity is the pool of potential buyers for the block itself. As would be expected, the larger the pool of potential buyers, the lower the discount for lack of marketability, and vice versa.

STRENGTH OF ULTIMATE TRADING MARKET

The more liquid the market in which the unrestricted stock traded, the lower the discount, and vice versa.

Securities and Exchange Commission Institutional Investor Study

The SEC study identified two factors that reflected the impact of the pool of potential buyers as reflected in the strength of the ultimate trading market:

> **The dollar amount of securities sales** (trading volume). Companies with the lowest dollar amount of sales of their securities during the test period accounted for most of the transactions with higher discounts, while they accounted for only a small portion of transactions involving lower discounts.
>
> **Trading market**. Discounts were greatest on restricted stocks with identical unrestricted securities traded over-the-counter, followed by those with unrestricted counterparts listed on the American Stock Exchange, and then by those with unrestricted counterparts listed on the New York Stock Exchange.[5]

Standard Research Consultants Study

The authors found that higher trading volume of the unrestricted stock was associated with lower discounts. They commented that the greater the company's trading volume, the greater the likelihood that, upon expiration of the resale restrictions, the restricted stock can be sold publicly without disrupting the market for the issuer's unrestricted stock.

BLOCK SIZE

The larger the block, the smaller the pool of potential buyers. Also, the block size affects the holding period, and as a result, the prospects for liquidity. This is because, during the periods covered by the restricted stock studies, restricted stock had to be held for two years (pre-1997) or one year (after 1996) after the transaction date, and then was subject to a dribble-out provision according to the volume limit provisions of Rule 144. Under certain assumptions, a block of 20 percent or more could be subject to a dribble-out period of more than five years in addition to the holding period under the provisions of Rule 144.

Silber Study

The Silber study indicated some sensitivity to block size, with larger blocks tending to have higher discounts.

Management Planning Study

The MPI study found that block size divided by shares outstanding did not have a consistent effect on the size of the discount. However, the study found that a larger block size divided by trading volume was generally associated with a higher discount.

FMV Opinions Study

According to the FMV Opinions, Inc. (FMV) study, the discount was highest with an average of 26.2 percent and a median of 25.6 percent for blocks of stock valued at less than $10 million but decreased to an average of 13.9 percent and a median of 11.7 percent as the size of the block exceeded $10 million. ‘‘The data indicates that the discount increases with longer holding periods expressed in terms of larger percentage size blocks.’’[6] For blocks of stock of less than 20 percent ownership, the median discount was 18.7 percent, while the blocks greater then 30 percent had a median discount of 39.0 percent, a 20 percentage point differential. The median discount for block sizes greater than 25 percent is 34.9 percent.[7]

RISK FACTORS

The studies confirm what one would expect, in that higher levels of risk are associated with higher discounts for lack of marketability. This makes sense, since the potential negative impact of risk factors is exacerbated by the inability to readily sell the investment. Risk is imbedded in the discount rate in the income approach and in the valuation multiples in the market approach when estimating the base value to which the discount for lack of marketability is applied. But high risk also makes it more difficult to sell the interest. Therefore, it is not ‘‘double dipping’’ to count the risk again as a factor exacerbating the discount for lack of marketability.

LEVEL AND VOLATILITY OF ISSUER’S EARNINGS

The studies show that high levels of earnings and stability of earnings are factors associated with lower discounts, while losses and/or high earnings volatility are associated with higher discounts.

Securities and Exchange Commission Institutional Investor Study

The companies with the lowest dollar amount of earnings during the test period accounted for most of the transactions with higher discounts, while they accounted for only a small portion of transactions involving lower discounts. Issuers’ earnings are far more related to size of discounts than are issuers’ sales. For example, there were no transactions in restricted stocks of public companies with earnings deficits in the fiscal years

preceding the dates of the transactions. The greater influence of earnings than of sales on the size of the discounts is probably due to the more proximate relationship of earnings than of sales to the riskiness of the investment.

Standard Research Consultants Study

Approximately 60 percent of the transactions analyzed in the study were in the stock of companies reporting net losses in the fiscal year prior to the placement date. Profitability in the fiscal year preceding the placement did not seem to influence the discount; the 11 companies showing a profit in the year preceding the year of the restricted sale had a median discount of 45 percent while the 17 that were unprofitable during the prior year had a median discount of 46 percent.

However, the *pattern* of earnings of the issuer did seem to matter. On average, companies that were profitable in each of the five years prior to the date of placement appeared to sell restricted stock at substantially smaller discounts than did those with two, three, or four unprofitable years during the five-year period. This correlation is best shown in Exhibit 11.3.

Management Planning Study

The expectation was that companies with lower earnings stability would lead to higher discounts and vice versa. As Exhibit 11.4 shows, the companies with the greatest earnings stability generally did have the lowest discounts (although stability of earnings was not among the factors with the most explanatory power, as discussed in Chapter 6).

The analysis also tended to confirm the expectation that companies with higher earnings would have lower restricted stock discounts than companies with lower earnings, as seen in Exhibit 11.5.

Exhibit 11.3 Standard Research Consultants Study

Profitable Years of Latest Five	Median Discount
5	34%
2 to 4	39%
0 or 1	46%

Exhibit 11.4 Management Planning Study—Stability of Earnings

Discounts Relative to Stability of Earnings (Ranked Highest to Lowest)	Median	Mean
First Quartile	16.7%	19.3%
Second Quartile	30.4%	29.8%
Third Quartile	24.2%	25.3%
Fourth Quartile	34.6%	35.6%

Exhibit 11.5 Management Planning Study—Level of Earnings

Discounts Relative to Level of Earnings (Ranked Highest to Lowest)	Median	Mean
First Quartile	16.7%	20.6%
Second Quartile	27.5%	28.4%
Third Quartile	31.1%	29.8%
Fourth Quartile	30.9%	31.0%

Exhibit 11.6 Johnson Study—Net Income

	Average Discount
Sorted by Current Year Net Income	
Current Year Net Income	16%
Negative Net Income	23%
Sorted by Previous Year Net Income	
Positive Net Income	16%
Negative Net Income	23%

Johnson Study

The Johnson data further supported the notion that the level of earnings impacts the discount, as seen in Exhibit 11.6.

FMV Opinions Study

The FMV data regards profitability as an indicator of firm risk because the stock of a money-making firm is usually regarded as a less risky investment than the stock of a money-losing firm. The FMV study finds that firms with greater earnings tend to have lower discounts when placing shares privately, as low as a median of 12.8 percent for the top decile of net income. By comparison, firms with net income between a negative $1 million and a positive $0.4 million exhibited a median discount of 24.4 percent. The average and median discount for all firms with negative earnings equals 22.8 percent and 21.0 percent, respectively. The average and median discount for firms with positive earnings equals 20.2 percent and 16.4 percent, respectively.

SIZE OF ISSUER

Many studies have documented the fact that smaller size increases risk. The empirical data bears out the conclusion that higher risk associated with smaller size, as measured by either revenue or market capitalization is associated with higher discounts.

Securities and Exchange Commission Institutional Investor Study

The companies with the lowest dollar amount of sales during the test period accounted for most of the transactions with higher discounts, while they accounted for only a small portion of transactions involving lower discounts.

Standard Research Consultants Study

The authors indicated that the size of the issuer (in terms of revenues) had an inverse relationship to the size of the discount.

Management Planning Study

In general, the analysis indicated a tendency to confirm the expectation that companies with greater revenues would have lower restricted stock discounts than companies with lower revenues, because larger companies generally are viewed as less risky than smaller companies. Management Planning, Inc. noted, however, that several of the largest companies in terms of revenues had discounts well in excess of the discounts of several of the smallest companies, as seen in Exhibit 11.7.

FMV Opinions Study

The FMV study also corroborated the conclusion of the SEC study that the size of the discount is often a function of the size of the subject company in terms of market value, revenues, assets, and book value.

Before including the one-year holding period transactions, FMV reported that discounts appear to increase as the capitalization of a corporation decreases below $50 million compared with corporations having capitalizations in excess of $100 million. For capitalization below $50 million, the average discount was 27.3 percent, and the median was 26.7 percent, while for capitalization over $100 million, the average discount was 14.8 percent, and the median discount was 11.1 percent. Including the transactions with a one-year holding period, the average discount for all transactions in firms smaller than $50 million in market capitalization is 28.9 percent; the median is 28.0 percent.

When looking at size in terms of revenues, in general, the higher the revenues, the lower the discount. For firms less than $10 million in revenue the average discount was 26.5 percent, and the median discount was 25.7 percent, compared to firms with greater than $50 million in revenue, which had an average discount of 16.1 percent and a median discount of 14.4 percent. When looking at size in terms of assets, the average discount for companies with less than $10 million in total assets in the FMV Study had an average discount of 31.5 percent and a median discount of 30.0 percent. The same relationship holds for book value of equity. Firms with high shareholders' equity tend to have low discounts when placing shares privately. For firms showing negative book value the average discount was 30.4 percent, and the median discount was 27.3 percent.

Exhibit 11.7 Management Planning Study—Level of Revenues

Discounts Relative to Level of Revenues (Ranked Highest to Lowest)	**Median**	**Mean**
First Quartile	19.3%	21.7%
Second Quartile	24.8%	25.3%
Third Quartile	28.0%	31.4%
Fourth Quartile	32.7%	31.4%

Exhibit 11.8 Johnson Study—Sales

	Average Discount
Sorted by Current Year Sales	
Greater than $12.7 million (median annual sales for companies examined)	18%
Less than $12.7 million	22%

Johnson Study

As shown in Exhibit 11.8, the Johnson data also supports the tendency for smaller companies to sell at higher discounts.

SUMMARY

Factors affecting the magnitude of the discount for lack of marketability for minority interests include:

- Size of distributions during holding period
- Prospects for liquidity (length of likely holding period)
- Size of potential pool of buyers for the interest
- Block size
- Risk factors affecting the issuing company during the holding period

Within each of the above are several subfactors.

Owners of blocks of minority stock with some limited degree of control may have the ability to influence the above factors and thus mitigate to some extent the discount for lack of marketability. Most analysts believe that prospects for growth in value mitigate the discount for lack of marketability, but none of the studies address this factor.

This chapter has summarized empirical studies, which have documented the reality of the foregoing factors. The dispersion of discounts in all the studies is very wide. To the greatest extent possible, the analyst should examine these factors for the subject company and judge discounts for lack of marketability accordingly, rather than just assuming that the broad averages of discount for lack of marketability studies automatically apply to any given company or interest in a company.

NOTES

1. As of the time of this writing, the *Partnership ReSale Discount Study* has been replaced with a new report called the *2007 Executive Summary Report*. This report is not available for order separately but it is included with an annual subscription to the database. The *2007 Executive Summary Report* is a 20-page report that provides a detailed analysis of the current state of price-to-value discounts based on the prices at which minority interests in real estate partnerships traded in the secondary market in the first half of 2007, together with a historical look at discounts. This summary reports price-to-value discounts for each partnership included in the

survey as well as average price-to-value discounts for the entire group of partnerships and based upon five categories including: (i) Equity—Distributing (low to no debt); (ii) Equity—Distributing (moderate to high debt); (iii) Equity—Non-Distributing; (iv) Undeveloped Land; and (v) Triple-Net-Lease. (www.partnershipprofiles.com)

2. Johnson, Bruce A., Spencer Jefferies, and James R. Park. *Comprehensive Guide for the Valuation of Family Limited Partnerships,* 3rd ed. Dallas: Partnership Profiles, 2006.
3. *Direct Investment Spectrum*, May/June 2004, pages 7–9 (included in the 3rd edition of the *Comprehensive Guide for the Valuation of Family Limited Partnerships* by Bruce A. Johnson, Spencer Jefferies, and James R. Park.
4. The 1997 Partnership Profiles, Inc. database of real estate limited partnerships.
5. "Discounts Involved in Purchases of Common Stock (1966–1969)," *Institutional Investor Study Report of the Securities and Exchange Commission*, H.R. Doc. W. 64, part 5, 92nd Cong., 1st Session, 1971, 2444–2456.
6. FMV Opinions, Inc., "Determining Discounts for Lack of Marketability a Companion Guide to the FMV Restricted Stock Study," www.bvmarketdata.com.
7. *Id.*

Chapter 12

Discounts for Lack of Marketability for Controlling Interests

Discounts for Lack of Marketability for Controlling Interests: A Controversial Concept
"Control, Marketable" Is an Oxymoron
Bases from Which Controlling Interest Discounts for Lack of Marketability May Be Deducted
- Buyout Price as Control Value Basis
- Public Offering Value of Stock as Control Value Basis
- Net Asset Value as Control Value Basis

Factors Affecting Controlling Interest Discounts for Lack of Marketability
- Flotation Costs
- Professional and Administrative Costs
  - Accounting Costs
  - Legal Costs
  - Appraisals
  - Management Time
- Risk of Achieving Expectations
- Lack of Ability to Hypothecate
- Transaction Costs

Public versus Private Company Acquisition Multiples
- Mergerstat Statistics
- Phillips, Freeman Study
- Koeplin, Sarin, and Shapiro Study
- Officer Study
- De Franco, Gavious, Jin and Richardson Study
- Possible Explanations for Private Company Discount
  - Relative Quality of Accounting
  - Relative Exposure to Market

Court Treatment of Controlling Interest Discounts for Lack of Marketability
Summary

It is often necessary to agree on the cash equivalent value today (or as of some date certain) for a controlling interest in a closely held business, whether or not the business will actually be sold. Examples of this cash equivalency analysis include federal estate

taxes (in the case of death of controlling equity holder) or the value of a closely held business as marital property (in the case of a divorce).

In many reported decisions, the U.S. Tax Court has recognized that discounts for lack of marketability for controlling ownership interests in closely held companies are appropriate. The courts have used language such as the following:[1]

> Even controlling shares in a nonpublic corporation suffer from lack of marketability because of the absence of a ready private placement market and the fact that flotation costs would have to be incurred if the corporation were to publicly offer its stock.

The rationale for a marketability discount on controlling interests of closely held companies is that "[t]he controlling owner of a closely held business who wishes to liquidate his or her controlling ownership interest generally faces the following transactional considerations:

- Uncertain time horizon to complete the offering or sale
- Cost to prepare for and execute the offering or sale
- Risk concerning eventual sale price
- Noncash and deferred transaction proceeds
- Inability to hypothecate (that is, the inability to borrow against the estimated value of the stock)"[2]

All of the above considerations make the sale of the controlling interest in a closely held business risky, difficult, and costly. For this reason, many valuators believe that such controlling interests suffer from some measure of lack of marketability that needs to be represented via a discount adjustment to value.

Discounts for lack of marketability (DLOMs) for controlling interests are an entirely different story from discounts for lack of marketability for minority interests. For one thing, until recently, unlike in minority interest transactions, there has been no empirical transaction database from which to draw guidance for quantifying discounts for lack of marketability for controlling interests.

Second, while there is some overlap, the list of factors that affect the size of the DLOM for controlling interests is considerably different from the factors affecting minority interest DLOMs.

Addressing marketability discounts for controlling interests, Chris Mercer concludes as follows:

- "The marketability discount applicable to minority interests is clearly different than any "illiquidity discount" or "marketability discount" applicable to controlling interests.
- The two discounts (if, in fact, the latter exists) are applicable to different valuation bases.
- By obvious inference, market evidence applicable to minority interests, which comes from publicly traded minority interests, would not be relevant in assessing the magnitude of any "illiquidity discount" or "marketability discount" applicable to controlling interest transactions, which occur in a different market entirely than the public securities markets."[3]

I agree.

Where DLOMs are appropriate for controlling interests, they typically are much smaller than those for minority interests. Discounts for lack of marketability for controlling interests allowed in the U.S. Tax Court range from 3 to 35 percent, compared with the more typical 30 to 45 percent for minority interests.

DISCOUNTS FOR LACK OF MARKETABILITY FOR CONTROLLING INTERESTS: A CONTROVERSIAL CONCEPT

The whole concept of DLOMs for controlling interests is still controversial in the minds of some. There are those who believe that there should *never* be a discount for lack of marketability for controlling interests. Others have espoused the notion that whether a DLOM is appropriate for a controlling interest depends on how the control value was derived.

As we examine what sound like very diverse positions, however, we find that much of the disagreement turns out to be more semantic than real.

"CONTROL, MARKETABLE" IS AN OXYMORON

A few take the position that there is no DLOM for controlling interests.[4] Even these people recognize, however, that it is impossible to call your friendly broker and sell your company instantly and receive cash in three days. They call this problem a lack of *liquidity* rather than marketability. As discussed in Chapter 1, we treat this as a semantic distinction without any difference as a practical matter.

As discussed in earlier chapters, the benchmark for marketability is being able to call your broker, sell the stock instantly at a nearly exactly known price, and receive cash in three business days. Since this is not possible with a controlling interest, it seems to me that there is no such thing as "control, marketable." This observation applies whether the company is public or private.

It is only for minority interests that the levels-of-value chart (Exhibit 12.1, repeated here for convenience) makes a distinction between "marketable" and "nonmarketable." I know of no company, public or private, that could meet the benchmark criteria for marketability, that is, a known sale price and cash in three days. Therefore, I submit that the expression "control, marketable" is an oxymoron.

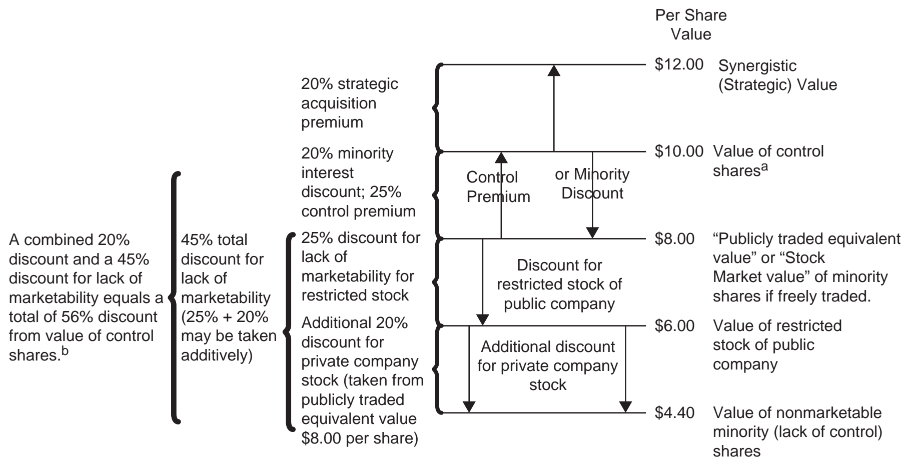
In 2000 *The Business Broker* published the results of its fourth annual national survey of business brokers, which included responses to issues such as the lengths of time it took to sell businesses in the years 1999 and 2000. The survey revealed that the average time it took for a business to sell was approximately six months from listing to closing.[5] That ignores the time needed to prepare the business for listing, the average discount of the sale price from the listing price, and all the businesses that were listed but never sold.

Obviously, a controlling interest does not enjoy the same level of marketability that a publicly traded minority interest enjoys.

BASES FROM WHICH CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY MAY BE DEDUCTED

As emphasized throughout this book, a discount is meaningless until the base to which it is applied is made clear. The three bases most often encountered from which a controlling interest discount for lack of marketability is deducted are:

Exhibit 12.1 Levels of Value in Terms of Characteristics of Ownership



Notes:

[a]Control shares in a privately held company may also be subject to some discount for lack of marketability, but usually not nearly as much as minority shares.

[b]Minority and marketability discounts normally are multiplicative rather than additive. That is, they are taken in sequence:

$10.00	Control Value
– 2.00	Less: Minority interest discount (.20 x $10.00)
$ 8.00	Marketable minority value
– 3.60	Less lack of Marketability discount (.45 x $8.00)
$ 4.40	Per share value of non-marketable minority shares

Source: Jay E. Fishman, Shannon P. Pratt, and J. Clifford Griffith, *PPC's Guide to Business Valuations*, 18th ed. (New York: Practitioner Pub Co., 2008), Exhibit 8-8.

1. Control buyout value (cash equivalent basis)[6]
2. Publicly traded stock value
3. Net asset value

Unfortunately, these bases and their implications may not always be as clear-cut as one might hope.

BUYOUT PRICE AS CONTROL VALUE BASIS

The price that the control owner could expect to receive upon sale is a logical basis for a DLOM. This price could be estimated by the market approach, observing sales of similar companies. This value also could be estimated by the income approach, discounting or capitalizing estimated cash flows (or some other measure of income) that a control owner

could expect to realize. Another possible way of estimating a buyout price is the excess earnings method.[7]

PUBLIC OFFERING VALUE OF STOCK AS CONTROL VALUE BASIS

Unlike a minority stockholder, a controlling stockholder may register for a public offering of the stock. Thus, the estimated potential public trading price could be the basis for a control value.

When public markets are strong, especially for the industry in which the company operates, the potential public trading price could be as much as or more than the control owner could expect to receive for the sale of the company. Therefore, under such conditions, a control owner might maximize the price by going public. However, the owner is not likely to be able to sell (or even register) *all* the stock, so the balance retained should be discounted in value as restricted stock. Alternatively, if buyouts of public companies are rampant in the industry, one might estimate a control value by using the guideline public company method plus some premium for control.

NET ASSET VALUE AS CONTROL VALUE BASIS

Net asset value usually is construed to represent a control rather than a minority value. This is because the control owner has the option of liquidating, hypothecating, or otherwise utilizing the assets, an option not available to the minority owner. The assets usually are valued at their realizable value, either on a liquidation or going-concern premise of value, whichever is more appropriate for the given assignment.

The factors discussed in this chapter affecting the potential discount are also applicable when net asset value is the control value basis.

FACTORS AFFECTING CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY

We noted earlier that two of the bases from which controlling interest DLOMs might be applied are:

1. A buyout price
2. A public offering price

In order to receive proceeds on any of the above bases, the company generally must accomplish several tasks:

- Create accounting records satisfactory to buyers and/or regulatory authorities.
- Incur legal expenses to document company attributes, often including representations and warranties regarding the state of various aspects of the company (for instance, contingent liabilities).
- Utilize substantial management time to facilitate the above and cure negative factors that would be undesirable to the typical buyer (for instance, ease nonperforming relatives off the payroll).
- Find a buyer or buyers (easier for some kinds of companies than for others).

The buyout price reflects accomplishment of the above tasks.

If a company is being valued as of a certain effective date (for instance, for taxes, a divorce, or a minority oppression suit) using any of the control valuation bases discussed earlier, rarely has it completed any of the above items as of the valuation date. The costs of accomplishing these tasks form part of the DLOM when comparing value at a given date to expected proceeds from any of the foregoing bases of value.

Furthermore, accomplishing these necessary steps takes time. Therefore, eventual expected proceeds need to be discounted to account for the time value of money. In some cases, the time value of money may be offset by expected positive cash flows during the holding period.

Very importantly, all the bases of value for the controlling interest are *estimates*. Risk-averse investors could not reasonably be expected to pay 100 percent of the estimated future proceeds, so the expected proceeds need to be discounted to reflect the uncertainty of the amount and timing of proceeds to be realized.

Finally, transaction costs usually are deducted from the price before arriving at net proceeds. Such costs may or may not be deducted in arriving at fair market value. Tax Court cases are mixed on this issue.

Remember that *fair market value* (FMV) means (1) cash equivalent (2) as of some specific effective valuation date. It is *not* what you might receive at some time in the future *after* you have spent thousands or millions of dollars ''fixing'' the company to make it more saleable. To arrive at FMV today, all such costs need to be deducted from proceeds ultimately expected and then adjusted to present value for the time necessary to complete them and also for risks (for instance, market changes in interim). Of course, such costs may have been deducted before arriving at the value of 100 percent of the company, in which case they should not be deducted again.

FLOTATION COSTS

The costs of going public, called *flotation costs* (that is, the costs of floating a public offering), often form the basis for the DLOM from an estimated public offering price. The major fixed costs required are audit fees, legal fees to register with the Securities and Exchange Commission (SEC), and printing costs for the preliminary and final offering circulars. These costs combined usually run well into six figures for smaller companies and seven figures or more for larger companies.

The major variable cost is underwriters' fees. These typically approach 15 percent of expected proceeds for smaller companies, scaling downward by a few percentage points for larger companies. The total cost of flotation for a smaller company—that is, the size of a few million dollars—can easily exceed 20 percent of expected proceeds.

PROFESSIONAL AND ADMINISTRATIVE COSTS

At any given time, very few companies are ready for sale. Frequently, a company must incur some or all of the following costs to prepare for sale.

- **Accounting Costs.** Few small, privately owned companies routinely prepare financial statements that are both comprehensive and reliable enough to satisfy

most buyers. Some additional accounting usually is required, often an audit, for multiple years.

- **Legal Costs.** Extensive legal documentation is required for a transfer of ownership. This expense varies greatly from one situation to another, but it is never low.
- **Appraisals.** If the company owns real estate, tangible personal property, or significant intangible assets, buyers often insist on independent appraisals. Such appraisals are performed not just to satisfy the buyers and possible financing sources, but often also to facilitate the allocation of purchase price, which has major tax consequences for both buyer and seller, who must agree on the allocation, at least in an asset sale. Many deals founder on this issue.
- **Management Time.** Working with outside professionals and potential buyers, as well as tending to all the internal details of preparing for a sale, can absorb much or even most of top management's time and attention during the process. This usually incurs a significant opportunity cost in terms of distracting management from other productive efforts for a period of many months.

RISK OF ACHIEVING EXPECTATIONS

It is important to remember that each of the bases for control value involves estimates of what eventually can be realized. The control interest seller bears the risk of:

- Whether the sale or liquidation plan chosen can be accomplished
- If so, how long it will take
- How much the actual proceeds will be relative to the estimate

The degree of these uncertainties will vary greatly from one company to another and is a major factor in quantifying a DLOM. Investors shun risk. The discount rate to reach a present value from the expected proceeds must reflect both the time value of money and a substantial premium for the risk of not achieving expectations.

LACK OF ABILITY TO HYPOTHECATE

A controlling interest in a private company does not necessarily, or even usually, make the stock acceptable collateral for a bank loan. When a control owner offers his or her stock as collateral, he or she should expect the friendly banker to accept it, as long as it is accompanied by a personal guarantee plus publicly traded stock worth 125 percent of the loan value.

TRANSACTION COSTS

In most cases there will be a commission due to an intermediary. If not, the company usually will have expended considerable funds in locating and negotiating with buyers. Depending on the situation, courts may or may not allow transaction costs as a factor in quantifying the DLOM. (For a case that did allow transaction costs, see *Estate of Borgatello v. Commissioner* in a subsequent section.)

PUBLIC VERSUS PRIVATE COMPANY ACQUISITION MULTIPLES

There is a great deal of evidence that controlling interests in private companies should have a DLOM because they almost always are acquired at lower valuation multiples than are otherwise comparable public companies.

MERGERSTAT STATISTICS

In support of this hypothesis, proponents cite Mergerstat statistics, as shown in Exhibit 12.2.

PHILLIPS, FREEMAN STUDY[8]

John Phillips and Neill Freeman challenged this conclusion in a 1995 article examining a relevant selection of the Mergerstat data and presented their own conclusion as follows:

> We confirmed that differences in size, industry, and profitability explain much of the difference between the P/E [price/earnings] multiples of different companies. Our results suggest that the difference between median public and private P/E multiples reflects differences between these variables in the composition of the two samples, public and private. Therefore, once adjustments are made for differences in size, profitability and industry, no additional adjustment for marketability appears justified for controlling interests.

The Phillips and Freeman research makes a worthwhile contribution to DLOM theory. However, it is neither comprehensive nor rigorous enough to answer once and for all

Exhibit 12.2 Median P/E Offered: Public versus Private, 1991–2007

Year	Acquisitions of Public Companies		Acquisitions of Private Companies	
1991	15.9	(93)	8.5	(23)
1992	18.1	(89)	17.6	(15)
1993	19.7	(113)	22.0	(14)
1994	19.8	(184)	22.0	(18)
1995	19.4	(239)	15.5	(16)
1996	21.7	(288)	17.7	(31)
1997	25.0	(389)	17.0	(83)
1998	24.0	(362)	16.0	(207)
1999	21.7	(434)	18.4	(174)
2000	18.0	(379)	16.0	(130)
2001	16.7	(261)	15.3	(80)
2002	19.7	(161)	16.6	(83)
2003	21.2	(198)	19.4	(107)
2004	22.6	(188)	19.0	(108)
2005	24.4	(230)	16.9	(127)
2006	23.7	(294)	21.4	(65)
2007	24.9	(300)	21.6	(64)

Source: Mergerstat Review 2001, 2006, and 2008 (FactSet Mergerstat, LLC). To purchase, visit www.BVresources.com or call (503) 291-7963.

Note: () denotes number of transactions reporting P/E.

the question as to the impact of the public versus private company factor. Mergerstat collects and analyzes data for transactions over $100 million, based entirely on data filed with the SEC. The *Mergerstat/BVR Control Premium Study* compiles information on public companies of all sizes that have been acquired. Data are assembled at BVMarket-Data.com regarding sales of both private and public companies under $100 million, with data collected from business intermediaries as well as the SEC.

KOEPLIN, SARIN, AND SHAPIRO STUDY[9]

In a study published in 2000, John Koeplin, Atulya Sarin, and Alan Shapiro conducted a study of matched pairs of private and public company acquisitions between 1984 and 1998 (excluding financial companies and regulated utilities). Of the matched pairs, 87 percent were in the same 4-digit SIC code. Comparing growth of earnings, the earnings of the U.S. closely held companies grew faster than their publicly-traded counterparts in the three years prior to the registration.

Exhibit 12.3 compares the sizes of private versus public domestic firms in terms of sales and assets. Exhibit 12.4 shows the implied private company discount (PCD) in terms of median valuation multiples.

OFFICER STUDY[10]

In a study published in 2007, Micah Officer compares valuation multiples paid for the private firms and unlisted subsidiaries of public firms with multiples paid for public firms. He also broke it down between cash versus stock acquisitions.

Officer looks to see if the PCD is a function of alternative sources of liquidity for the selling owners. For example, during easy credit periods (lower spread between corporate interest rate and federal funds rate), the PCD is lower (PCD = 14 percent for closely held firms and 25 percent for unlisted subsidiaries) than during times of more costly debt financing (PCD = 23 percent for closely held firms and 34 percent for unlisted subsidiaries).

Exhibit 12.3 Descriptive Statistics of Sample Domestic Transactions (Koeplin et al. Study)

	Private Firms (1)	Public Firms (2)
Net Sales	$56.3	$91.2
Assets	$40.6	$60.1

$ millions
(1) Median of 84 closely held companies acquired.
(2) Median of 84 matched public companies acquired.

Exhibit 12.4 Private Company Discounts (Koeplin et al. Study)

	PCD (1)
Enterprise Value/EBIT	30%
Enterprise Value/EBITDA	18%
Enterprise Value/Sales	<1% (2)

(1) Based on median multiples for domestic acquisitions.
(2) Difference not statistically significant.

Exhibit 12.5 Descriptive Statistics of Sample Transactions (Officer Study)

	Private Firms (1)	Unlisted Sub (2)	Public Firms (3)
Assets	$52.5	$255.2	$292.6

$ millions
(1) Median of 417 closely held companies acquired.
(2) Median of 416 unlisted subsidiaries acquired.
(3) Median of 4,206 public firms acquired.

Exhibit 12.6 Private Company Discounts (Officer Study)

	Private Firms (1)	Unlisted Sub (2)
Average—cash acquisitions	22%	28%
Average—stock acquisitions	12%	28%
Average—overall	17%	28%

(1) Based on average difference in multiples (price paid for equity to book value of equity, price paid for equity to earnings, enterprise value to EBITDA and enterprise value to sales) paid for private firms and comparable public firms (difference in arithmetic average of multiples).
(2) Based on average difference in multiples (price paid for equity to book value of equity, price paid for equity to earnings, enterprise value to EBITDA and enterprise value to sales) paid for unlisted subs and comparable public firms (difference in arithmetic average of multiples).

While you might hypothesize that during periods of above average initial public offering (IPO) activity, the PCD might be lower (as going IPO is an alternative method of gaining liquidity), Officer finds no evidence that the PCD varies with IPO activity.

Exhibit 12.5 shows average sizes in terms of assets for private firms, unlisted subsidiaries, and public firms. Exhibit 12.6 shows the implied private company discounts broken down by cash acquisitions versus stock acquisitions.

DE FRANCO, GAVIOUS, JIN, AND RICHARDSON STUDY[11]

In the most comprehensive study to date, contained in a 2007 working paper, Gus De Franco, Ilanit Gavious, Justine Jin, and Gordon Richardson compiled a database consisting of 664 acquired privately held companies from *Pratt's Stats* and 2225 acquired public firms from *Compustat*. Exhibit 12.7 shows the comparative sizes in terms of sales and assets.

The authors calculate the PCD in terms of capitalization rates (rather than multiples to ensure that the denominators are always positive numbers). They performed a multifactor regression analysis to control for differences in size, sales, growth, R&D expenditures as a

Exhibit 12.7 Descriptive Statistics of Sample Transactions (De Franco et al. Study)

	Private Firms (1)	Public Firms (2)
Net Sales	$15.8	$130.1
Assets	$8.7	$131.1

$ millions
(1) Median of 673 closely held companies acquired.
(2) Median of 2,249 public companies acquired.

Exhibit 12.8 Private Company Discounts (De Franco et al. Study)

	PCD (1)
Enterprise Value/EBITDA	37%
Enterprise Value/Sales	21%

(1) Based on mean of capitalization rates.

percent of sales, and EBITDA as a percent of sales. Exhibit 12.8 shows the implied private company discount in terms of enterprise value to EBITDA and enterprise value to sales.

The results of these three studies are consistent with studies of the rates of return realized by shareholders of acquiring companies.[12] These studies generally conclude that shareholders of public acquiring firms benefit from the companies acquiring closely held firms or nonpublic subsidiaries of public firms when compared to shareholders of public acquiring firms acquiring public companies.

POSSIBLE EXPLANATIONS FOR PRIVATE COMPANY DISCOUNT

The relative size of the private companies was smaller than the public companies, and size of company has been positively correlated with size of valuation multiples.[13] But all of the authors were aware of this, and each made attempts to control for size differences.

Relative Quality of Accounting

Public companies are subject to more stringent audit requirements than are private companies, so buyers probably view the public companies' accounting as more reliable. One study even showed that the stature of the accounting firm doing the audit was correlated with the multiples paid, even in public companies.[14]

Relative Exposure to Market

Probably the greatest reason for differences in multiples paid is the relative degree of exposure to the market. All public companies have exposure to the market through quotation systems, SEC filings, and various reporting services. Companies interested in making acquisitions can screen available databases in search of a company with the criteria they are looking for.

Few private companies enjoy such constant media exposure, especially in the financial press. Most keep their financial results top secret. And there is the confidentiality paradox of most control owners, who implore their investment banker or intermediary to "find me a buyer for my company, but don't let anyone know that it's for sale."

COURT TREATMENT OF CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY

The U.S. Tax Court clearly has recognized DLOMs for controlling interests. In fact, when DLOMs have been an issue in the U.S. Tax Court, they have been accepted far more often than they have been rejected. The Tax Court statement quoted most often on

this issue is from the 1982 case, *Estate of Andrews v. Commissioner:* "Even controlling shares in a nonpublic corporation suffer from lack of marketability because of the absence of a ready private placement market and the fact that flotation costs would have to be incurred if the corporation were to publicly offer its stock."[15]

However, the Tax Court has been uneven in its application of DLOMs for controlling interests. I believe that this apparent inconsistency arises largely from three sources:

1. Differences in the facts and circumstances from one case to another, even though the differences may not be fully apparent from the summary of facts included in the written opinion
2. The quality of the expert testimony presented to the court, especially its direct relevance to the facts and circumstances of the case at hand
3. Which judge is deciding the case

As an aside, these three reasons should always be kept in mind when considering court cases. They lead inescapably to the conclusion that court decisions are often distorted by imperfections in information. This is one reason why appraisers, who should rely on market data, must avoid citing court cases as relevant evidence. In legal parlance, they are not probative for appraisers. For examples of cases that either allow or deny controlling interest discounts for lack of marketability, see Chapter 15.

SUMMARY

Discounts for lack of marketability are very real for controlling interests. However, the reasons for them and, consequently, the analysis needed to quantify them are quite different from those for discounts for lack of marketability for minority interests. The lack of benchmark data exacerbates the measurement problem.

The base from which the discount is taken usually is an estimate of what could be realized in a sale of the controlling interest at some future time. Courts have widely accepted discounts for lack of marketability for controlling interests, but they expect relevant and adequate evidence and analysis to support the discount.

NOTES

1. *Estate of Andrews v. Commissioner*, 79 T.C. 938 (1982).
2. Shannon P. Pratt, Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw-Hill, 2008), p. 441–442.
3. Z. Christopher Mercer, *Quantifying Marketability Discounts: Developing and Supporting Marketability Discounts in the Appraisal of Closely Held Business Interests* (Memphis: Peabody Publishing, LP, 1997), p. 344.
4. See Z. Christopher Mercer, "Should Marketability Discounts Be Applied to Controlling Interests of Private Companies?" *Business Valuation Review* (June 1994): 55–65.
5. *The Business Broker* 18, no. 9 (September 1999): 4.

6. If the standard of value is fair market value, it must be cash or cash equivalent. If part of consideration received was not in cash, the face value must be adjusted to a cash equivalent value before deducting a discount for lack of marketability.
7. For discussions of estimating control value by these various methods, see Fishman, Pratt, et al., *PPC's Guide to Business Valuations*, 18th ed. (Fort Worth: Practitioners Publishing Company, 2008), and Shannon P. Pratt, with Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw-Hill, 2008).
8. John R. Phillips and Neill W. Freeman, "Do Privately-Held Controlling Interests Sell for Less?" *Business Valuation Review*, vol. 14, no. 3 (September 1995): 102.
9. John Koeplin, Atulya Sarin, and Alan C. Shapiro, "The Private Company Discount," *Bank of America Journal of Applied Corporate Finance* 12, no. 4 (Winter 2000): 94–101.
10. Micah S. Officer, "The Price of Corporate Liquidity: Acquisition Discounts for Unlisted Targets," *Journal of Financial Economics* 83 (2007): 571–598.
11. Gus De Franco, Ilanit Gavious, Justine Yiqiang Jin, and Gordon D. Richardson, "The Existence and Explanations for the Private Company Discount," Working paper, April 27, 2007.
12. See for example, James Ang and Ninon Kohers, "The Take-over Market for Privately Held Companies: The US Experience," *Cambridge Journal of Economics* 25 (2001): 723–748; Kathleen Fuller, Jeffry Netter, and Mike Stegemoller, "What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions," *Journal of Finance* 62 no. 4 (2002): 1763–1793; Paul Draper and Krishna Paudyal, "Acquisitions: Private versus Public," *European Financial Management* 12 no. 1 (2006), 57–80.
13. Pratt and Niculita, *Valuing a Business*, pp. 261–330.
14. *Id.*, 11.
15. *Estate of Andrews v. Commissioner,* 79 T.C. 938 (1982).

Chapter 13

The Quantitative Marketability Discount Model: A Shareholder Level DCF Model[1]

By Z. Christopher Mercer and Travis W. Harms

Introduction
The Structure of the Shareholder Level DCF Model
A Visual Representation of the Shareholder Level DCF Model
Factors Contributing to Marketability Discounts
  Base Case (Shareholder Value Equal to Enterprise Value)
  Impact of Agency Costs
  Impact of Incremental Holding Period Risks
  Combined Impact on Overall Marketability Discount
  Review of Analysis
Summary

INTRODUCTION

The Quantitative Marketability Discount Model (QMDM), a shareholder level discounted cash flow model, is a valuation method within the income approach. The QMDM provides a standardized format for analyzing, projecting, and discounting relevant shareholder cash flows that is applicable to almost any subject nonmarketable minority interest.[2]

The QMDM inputs are analogous to those used in traditional enterprise level discounted cash flow models. The two sets of assumptions are compared in Exhibit 13.1.

Each of the discounted cash flow inputs (from the enterprise model on the left side of the exhibit) are tailored to the considerations of minority shareholders in private enterprises (on the right side). Although the QMDM directly values the subject nonmarketable minority interest, it is not used in isolation, but rather in conjunction with a contemporaneous valuation of the subject enterprise because the shareholder level expectations regarding cash flows, risk, and growth are inextricably linked to the corresponding expectations with respect to the enterprise.

Exhibit 13.1 Enterprise and Shareholder Level DCF Assumptions

Enterprise Level DCF Assumptions	Shareholder Level DCF (QMDM) Assumptions
1. Forecast Period	1. Range of Expected Holding Periods
2. Projected Interim Cash Flows (during forecast period)	2a. Expected Distribution/Dividend Yield 2b. Expected Growth in Distributions/Dividends 2c. Timing (Mid-Year or End of Year)
3. Projected Terminal Value (at end of forecast period)	3a. Growth in Value over Holding Period 3b. Premium or Discount to Projected Enterprise Value
4. Discount Rate	4. Range of Required Holding Period Returns

THE STRUCTURE OF THE SHAREHOLDER LEVEL DCF MODEL

The basic structure of the two-stage enterprise level discounted cash flow model, which we expressed mathematically in terms of cash flow (CF), growth (g), and risk (r) follows in Exhibit 13.2.

PVICF, the first term in Exhibit 13.2, is the present value of the interim cash flows during a finite forecast period ending in year f. The second term, PVTV, represents the present value of the terminal value. The terminal value is the value of all future cash flows after year f (into perpetuity), or the projected value of the enterprise at the end of year f. The term r in the model is the enterprise discount rate appropriate for the risk of the expected cash flows, which are growing at the interim rate of g_e and the long-term rate of g (for the terminal period calculation).

The same two-stage discounted cash flow model structure can be used at the shareholder level, as shown in Exhibit 13.3.

Exhibit 13.2 The Two-Stage Enterprise DCF Model

$$\boldsymbol{V_e} = \underset{i=1}{\overset{f}{Sum}} \underbrace{\left[\frac{CF(1+g_e)^i}{(1+r)^i}\right]}_{\textbf{PVICF}} + \underbrace{\left[\frac{CF(1+g_e)^{(f+1)}/(r-g)}{(1+r)^f}\right]}_{\textbf{PVTV}}$$

Exhibit 13.3 The Two-Stage Shareholder DCF Model

$$\boldsymbol{V_{sh}} = \underset{i=1}{\overset{f}{Sum}} \underbrace{\left[\frac{CF_{sh}(1+g_d)^i}{\left(1+R_{hp}\right)^i}\right]}_{\textbf{PVICF}} + \underbrace{\left[\frac{V_e(1+g_v)^f(1+\mathrm{P/D\%})}{\left(1+R_{hp}\right)^f}\right]}_{\textbf{PVTV}}$$

Exhibit 13.3 includes each of the shareholder level discounted cash flow inputs enumerated in Exhibit 13.1.

1. *Range of Expected Holding Periods.* The expected holding period is year f in the equation, which is the final year for which discrete cash flow projections are made and the year in which the terminal value is expected to be received.

2a. *Expected Distribution/Dividend Yield.* The expected distribution/dividend yield defines the initial expected shareholder cash flow (CF_{sh}) in terms of the current enterprise value (V_e).

2b. *Expected Growth in Distributions/Dividends.* The expected growth in distributions/dividends defines the subsequent interim shareholder cash flows in terms of an annual growth rate (g_d) relative to the initial expected shareholder cash flow (CF_{sh}). (Assumptions 1 and 2a–2b specify the numerator in the first term in Exhibit 13.3, or expected distributions during the expected holding period of a nonmarketable asset.)

2c. *Timing (Mid-Year or End-of-Year).* The present value of the projected interim cash flows depends on when shareholders expect to receive them. The timing assumption is manifested in the discounting periods denoted as i in the denomination in Exhibit 13.3.

3a. *Growth in Value over Holding Period.* The assumed growth in value over the holding period (g_v) defines the terminal enterprise value in terms of an anticipated annual capital appreciation rate from the current enterprise value (V_e).

3b. *Premium or Discount to Projected Enterprise Value.* The most likely expectation in a shareholder level discounted cash flow model is that the projected terminal value to be received by the minority shareholder is the marketable minority value. In certain circumstances, however, the appraiser may wish to specify that the minority shareholder will receive a terminal value in excess of, or below, the projected enterprise value. This potential premium or discount (P/D percent) is applicable to the projected terminal enterprise value. (Assumptions 3a and 3b specify the numerator of the second term in Exhibit 13.3.)

4. *Range of Required Holding Period Returns.* The required holding period return (R_{hp}) is the discount rate of the shareholder level discounted cash flow model. The shareholder level discount rate is the sum of the enterprise discount rate and appropriate holding period premiums necessary to compensate the minority investor for accepting the extra risks associated with investing in a nonmarketable security. (Assumption 4, when applied in the equation in Exhibit 13.3, yields the PVICF and the PVTV, which together comprise V_{sh}.)

Exhibits 13.2 and 13.3 together illustrate that illiquid minority interests (V_{sh}) can be valued under the income approach using the very same discounted cash flow model as that used to value enterprises (V_e).

As shown in Exhibit 13.4, the marketability discount is defined by the relationship between the values determined in Exhibits 13.2 and 13.3.

Exhibit 13.4 The Marketability Discount

$$MD = 1 - \frac{V_{sh}}{V_e}$$

Given this discussion, the concept that the marketability discount is not a valuation input, but rather a valuation result, should be clear. In Exhibit 13.4, the marketability discount (MD) describes the relationship between V_{sh}, or shareholder level value, and V_e, or enterprise value. Exhibit 13.4 also illustrates the futility, using inadequate transactional data from restricted stock studies, of estimating MD directly (and therefore, V_{sh} indirectly). It is preferable to estimate V_{sh} directly in the context of V_e to determine MD, rather than to attempt to determine V_{sh} indirectly by estimating MD.

Exhibits 13.2, 13.3, and 13.4, also illustrate what can cause value determined for a particular interest of an enterprise (shareholder level value) to be less than the value of the enterprise. The reasons can be summarized as follows:

- Cash flow to shareholders is less than cash flow of the enterprise ($CF_{sh} < CF$). As noted in the discussion of the Integrated Theory in Chapter 3 of *Business Valuation: An Integrated Theory* (2nd edition),[3] there are two potential agency costs that may create a differential between cash flow to shareholders and enterprise cash flows.
  - *Non–pro rata distributions*. Agency costs are incurred by minority shareholders when there are non–pro rata distributions to certain shareholders, such as controlling shareholders, who take bonuses in excess of normalized compensation. These funds are not available for pro rata distributions, nor are they available for reinvestment, which drives the expected growth in value.
  - *Suboptimal reinvestment*. Suboptimal reinvestment occurs when the management of an enterprise reinvests funds at less than its cost of capital. An important assumption of the Gordon Model is that all enterprise cash flows are either distributed or are reinvested in the enterprise at the enterprise discount rate. It is the reinvestment of earnings that drives the growth of earnings (and value), particularly over defined time horizons, at rates greater than the long-term expected growth in core earnings. Suboptimal reinvestment dampens the expected growth in value and therefore V_{sh}, implying greater marketability discounts, other things remaining the same.
- Incremental risks faced by minority investors exceed the risks of the enterprise ($R_{hp} > R$). In developing marketable minority valuation indications (enterprise level), appraisers develop equity discount rates. These discount rates reflect the appraisers' assessments of the risks related to achieving expected cash flows and growth. Those risks are embodied in the enterprise discount rate, R, and in the enterprise valuation. Minority investors in nonmarketable interests face additional risks, including the uncertainties of the expected holding period (which may be long and uncertain), restrictions on transfer, and, in the case of tax pass-through entities, potential exposure to adverse cash flow (if the entity fails to make tax pass-through distributions).

Any combination of agency costs, or incremental shareholder risks, contributes to reducing V_{sh} relative to V_e, and therefore, to increasing the marketability discount, other things being equal.

A VISUAL REPRESENTATION OF THE SHAREHOLDER LEVEL DCF MODEL

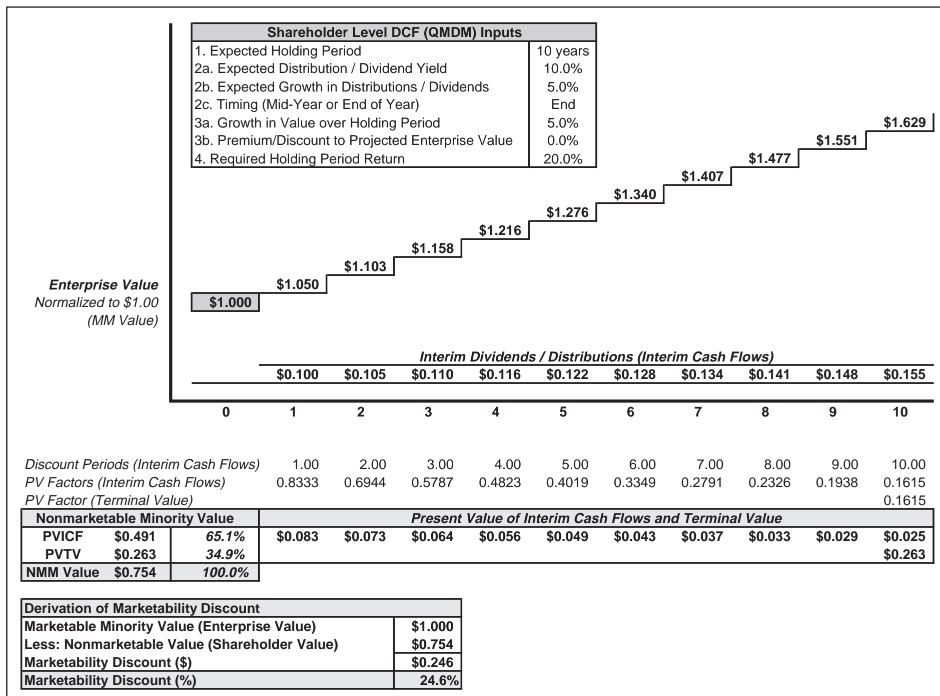
The function of the various QMDM inputs is perhaps more easily demonstrated with a visual representation of the underlying discounted cash flow model using a simple example in Exhibit 13.5. At this point, readers are asked to accept the reasonableness of the assumptions in the example. How to determine and support QMDM assumptions follows.

In practice, we compute shareholder level values (and corresponding marketability discounts) over a range of potential holding periods and required holding period returns. Exhibit 13.5 depicts the nonmarketable minority value and marketability discount for only a single set of assumptions for ease of presentation.

1. *Expected Holding Period.* The expected holding period of 10 years establishes the length of the discrete forecast period and the point at which the projected terminal value is expected to be received (that is, when the investment is expected to become marketable).

2a. *Expected Distribution/Dividend Yield.* For ease of exposition and illustration, we develop the shareholder level value relative to a base enterprise value of \$1.00 ($V_e = \$1.00$). In this example, the expected distribution/dividend yield of 10.0 percent establishes the initial shareholder cash flow of \$0.100 (\$1.00 enterprise value × 10.0 percent expected yield).

Exhibit 13.5 Visual Representation of the QMDM



2b. *Expected Growth in Distributions/Dividends.* The expected growth in distributions/dividends of 5.0 percent defines the subsequent interim shareholder cash flows expectations relative to the initial expected cash flow of $0.10.

2c. *Timing (Mid-Year or End-of-Year).* In this example, the end-of-year cash flow assumption defines the discount periods for the interim cash flows as 1.00 years, 2.00 years, and so on.

3a. *Growth in Value over Holding Period.* The assumed growth in value over the holding period of 5.0 percent establishes the terminal enterprise value of $1.629 (1.05^10).

3b. *Premium or Discount to Projected Enterprise Value.* In this example, there is no assumed premium or discount to the projected enterprise value. Had there been, the specified discount or premium would have been applied to the terminal enterprise value of $1.629.

4. *Required Holding Period Returns.* The required holding period return of 20.0 percent defines the present value factors applicable to each of the projected interim cash flows and terminal value.

The QMDM inputs define the projected cash flows and corresponding present value factors of the shareholder level discounted cash flow model. The mechanics of applying the present value factors to the various cash flows is no different from that of the enterprise level discounted cash flow model, as the bottom portion of Exhibit 13.5 makes clear. The indicated value of the subject nonmarketable minority interest (V_{sh} = $0.754) is the sum of the present value of the projected interim cash flows ($0.491) and the present value of the projected terminal value ($0.263). The corresponding marketability discount of 24.6 percent calculated at the bottom of Exhibit 13.5 describes, rather than defines, the relationship between the shareholder and enterprise levels of value.[4]

FACTORS CONTRIBUTING TO MARKETABILITY DISCOUNTS

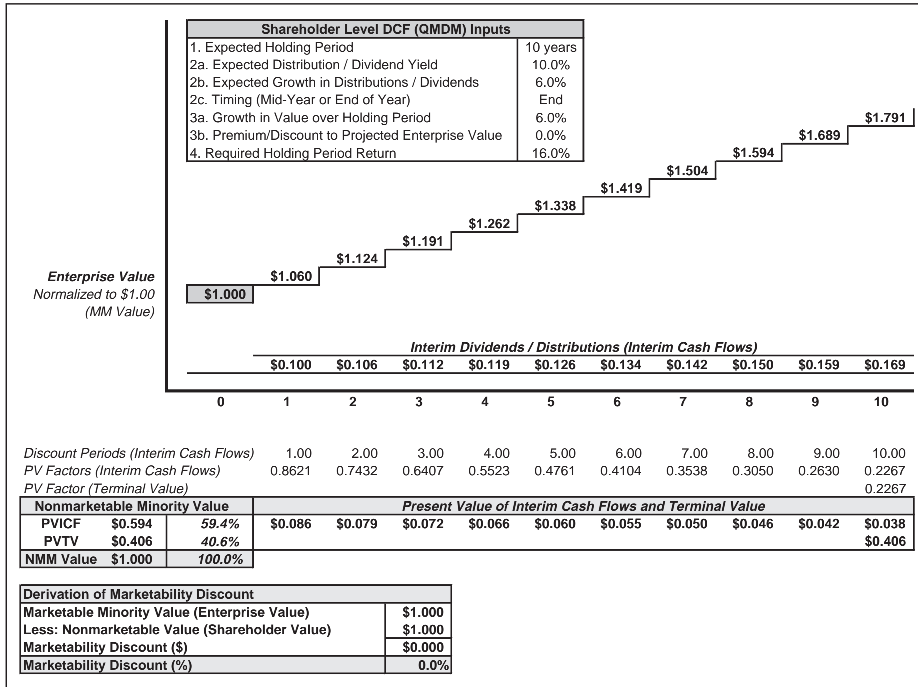
While discussing the shareholder level of value in the context of the Integrated Theory, we noted that marketability discounts arise because of the existence of two particular economic factors: agency costs (in the form of non–pro rata distributions to shareholders and/or suboptimal reinvestment of corporate cash flows) and the incremental risks faced by minority investors in private enterprises. Using the previous visual representation, we can illustrate the impact of these two factors upon the marketability discount in Exhibits 13.6, 13.7, and 13.8.

BASE CASE (SHAREHOLDER VALUE EQUAL TO ENTERPRISE VALUE)

First, we consider the hypothetical case in which neither of the economic factors giving rise to marketability discounts is present, such that the shareholder value is equal to the corresponding enterprise value.

Assume that the base enterprise value implies growth in core earnings of 6.0 percent and a total required return, or discount rate, of 16.0 percent. If there are no agency costs or incremental risks associated with owning a nonmarketable minority interest in the enterprise, the inputs to the shareholder level discounted cash flow model (and the resulting discount) would be those presented in Exhibit 13.6:

Exhibit 13.6 The QMDM with No Agency Costs or Incremental Risks



Shareholder Level DCF (QMDM) Inputs	
1. Expected Holding Period	10 years
2a. Expected Distribution / Dividend Yield	10.0%
2b. Expected Growth in Distributions / Dividends	6.0%
2c. Timing (Mid-Year or End of Year)	End
3a. Growth in Value over Holding Period	6.0%
3b. Premium/Discount to Projected Enterprise Value	0.0%
4. Required Holding Period Return	16.0%

	0	1	2	3	4	5	6	7	8	9	10
Enterprise Value Normalized to $1.00 (MM Value)	$1.000	$1.060	$1.124	$1.191	$1.262	$1.338	$1.419	$1.504	$1.594	$1.689	$1.791
Interim Dividends / Distributions (Interim Cash Flows)		$0.100	$0.106	$0.112	$0.119	$0.126	$0.134	$0.142	$0.150	$0.159	$0.169
Discount Periods (Interim Cash Flows)		1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
PV Factors (Interim Cash Flows)		0.8621	0.7432	0.6407	0.5523	0.4761	0.4104	0.3538	0.3050	0.2630	0.2267
PV Factor (Terminal Value)											0.2267
Present Value of Interim Cash Flows and Terminal Value											
		$0.086	$0.079	$0.072	$0.066	$0.060	$0.055	$0.050	$0.046	$0.042	$0.038
											$0.406

Nonmarketable Minority Value		
PVICF	$0.594	*59.4%*
PVTV	$0.406	*40.6%*
NMM Value	$1.000	*100.0%*

Derivation of Marketability Discount	
Marketable Minority Value (Enterprise Value)	$1.000
Less: Nonmarketable Value (Shareholder Value)	$1.000
Marketability Discount ($)	$0.000
Marketability Discount (%)	0.0%

The absence of agency costs can be seen by comparing the total projected sources of return to the nonmarketable minority investor (cash flow yield and capital appreciation) to the base enterprise discount rate. Non–pro rata distributions impair the cash flow yield that is available to the nonmarketable minority investor, while suboptimal reinvestment reduces the anticipated rate of capital appreciation, or growth in value. In this example, the sum of the expected distribution/dividend yield (10.0 percent) and the growth in value over the holding period (6.0 percent) is equal to the enterprise discount rate (16.0 percent).

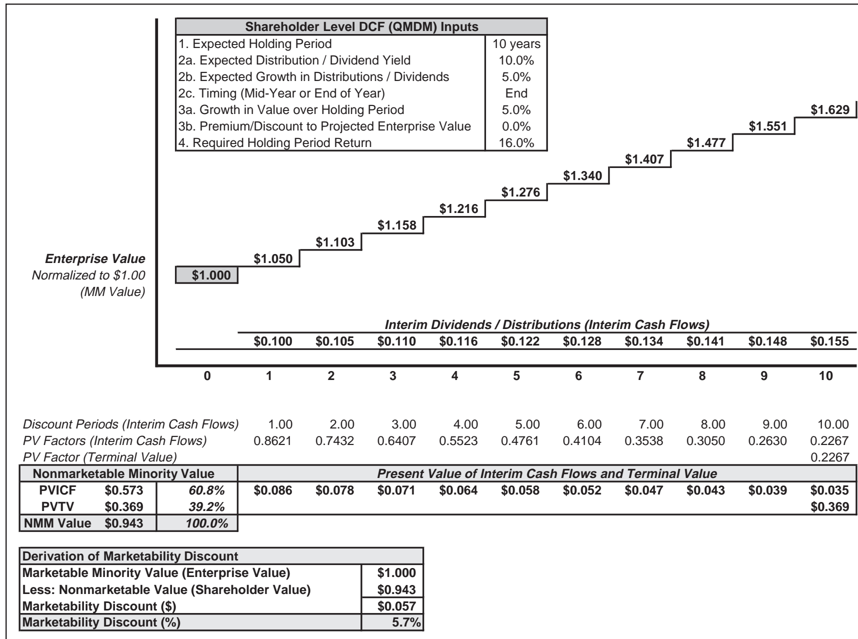
If there are no incremental risks associated with ownership of a nonmarketable minority interest in the subject enterprise, the required holding period return will equal the enterprise discount rate. In other words, investors in the subject nonmarketable minority interest do not earn a premium return relative to the enterprise, or as-if-freely-traded, return. In this example, the required holding period return of 16.0 percent equals the enterprise discount rate.

In the absence of both agency costs and incremental risks for enduring ownership of a nonmarketable minority interest, the shareholder level discounted cash flow model yields a conclusion of $1.00, implying no discount to the base enterprise value (as calculated at the bottom of Exhibit 13.6).[5]

IMPACT OF AGENCY COSTS

We can now isolate the impact of expected agency costs over the anticipated holding period on the marketability discount. In the example case, the appraiser expects a modest

Exhibit 13.7 The QMDM with Agency Costs



level of suboptimal reinvestment of corporate cash flows, resulting in a downward adjustment in the growth in value (and distributions/dividends) to 5.0 percent from 6.0 percent.[6]

As a result, Assumption #2b and #3a are changed from 6.0 percent in Exhibit 13.6 to 5.0 percent in Exhibit 13.7.

The impact of suboptimal reinvestment is seen in the projected terminal value, which is $1.629, compared to $1.791 in the absence of agency costs (Exhibit 13.6). In value terms, the agency costs account for a marketability discount of 5.7 percent, excluding the effect of any incremental holding period premium (as calculated at the bottom of Exhibit 13.7).

This example confirms that the effect of suboptimal reinvestment is not limited to the returns realized by nonmarketable minority investors. Unlike other agency costs against which controlling shareholders may receive an indirect benefit (that is, excess owner's compensation), suboptimal reinvestment also reduces the returns achieved by the controlling shareholder. In other words, despite controlling the enterprise, the returns of the majority owners also suffer from suboptimal reinvestment over time.

This does not imply, however, that the effect of suboptimal reinvestment should not be a component of the marketability discount. The public company equivalent, or marketable minority, value relative to which marketability discounts are measured is predicated on both normalized current operations and normalized reinvestment practices. The marketability enjoyed by public company minority investors assures that suboptimal reinvestment is not anticipated. Note that this does not mean that certain investments made by public companies will not turn out badly, but rather that such poor performance

is not anticipated. If it were, the public share price would be bid down to a level at which incumbent management would be subject to removal, and new managers more responsive to the interests of the shareholders installed.[7]

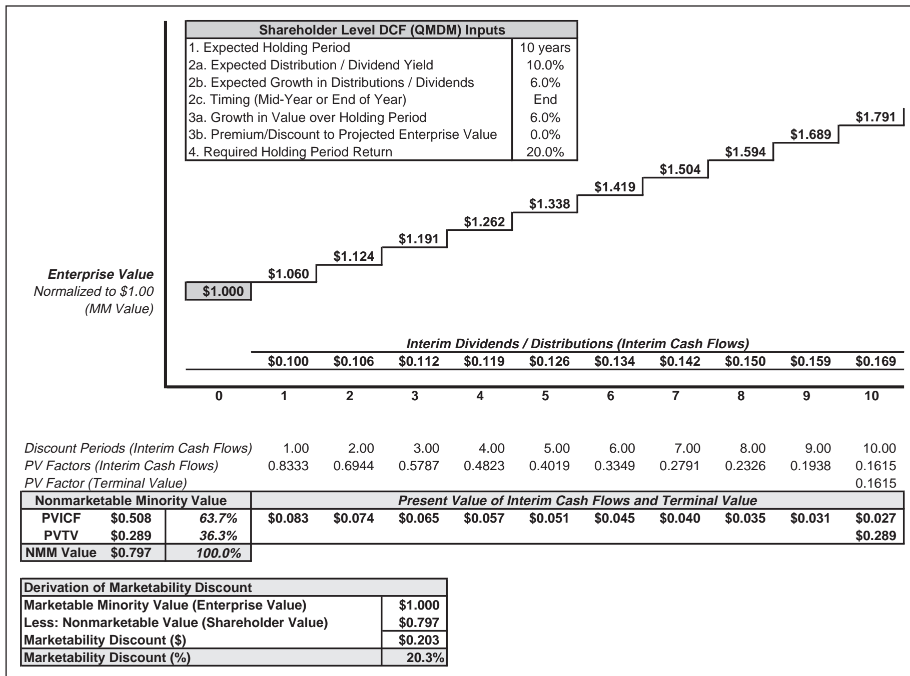
IMPACT OF INCREMENTAL HOLDING PERIOD RISKS

We can also isolate the impact of incremental holding period risks over the expected holding period on the marketability discount. In the example case, the appraiser concludes that the incremental holding period risks justify a 4.0 percent increment to the base enterprise discount, resulting in a required holding period return of 20.0 percent in Assumption #4. To isolate the impact of incremental holding period risks, we reset the expected growth in value (and distributions/dividends) to 6.0 percent in Assumption #2b and #3a. These changes are reflected in Exhibit 13.8.

The impact of the incremental holding period risks is manifested in the lower present value factors. Excluding the impact of agency costs, the return premium reflecting the incremental holding period risks generates a marketability discount of 20.3 percent (as calculated at the bottom of Exhibit 13.8).

Conceptually, the observed discounts in restricted stock transactions of public companies reflect only this component of the overall marketability discount applicable to minority interests in private enterprises. In practice, we are not dogmatic on this point, because the sample of public companies that issue restricted shares consists primarily of small, financially distressed firms trading in relatively inefficient markets for which the

Exhibit 13.8 The QMDM with Incremental Risks



Shareholder Level DCF (QMDM) Inputs	
1. Expected Holding Period	10 years
2a. Expected Distribution / Dividend Yield	10.0%
2b. Expected Growth in Distributions / Dividends	6.0%
2c. Timing (Mid-Year or End of Year)	End
3a. Growth in Value over Holding Period	6.0%
3b. Premium/Discount to Projected Enterprise Value	0.0%
4. Required Holding Period Return	20.0%

	0	1	2	3	4	5	6	7	8	9	10
Interim Dividends / Distributions (Interim Cash Flows)		$0.100	$0.106	$0.112	$0.119	$0.126	$0.134	$0.142	$0.150	$0.159	$0.169
Discount Periods (Interim Cash Flows)		1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
PV Factors (Interim Cash Flows)		0.8333	0.6944	0.5787	0.4823	0.4019	0.3349	0.2791	0.2326	0.1938	0.1615
PV Factor (Terminal Value)											0.1615

Nonmarketable Minority Value			Present Value of Interim Cash Flows and Terminal Value									
PVICF	$0.508	*63.7%*	$0.083	$0.074	$0.065	$0.057	$0.051	$0.045	$0.040	$0.035	$0.031	$0.027
PVTV	$0.289	*36.3%*										$0.289
NMM Value	$0.797	*100.0%*										

Derivation of Marketability Discount	
Marketable Minority Value (Enterprise Value)	$1.000
Less: Nonmarketable Value (Shareholder Value)	$0.797
Marketability Discount ($)	$0.203
Marketability Discount (%)	20.3%

discipline described earlier may not be strong enough to eliminate the potential for substantial agency costs.

COMBINED IMPACT ON OVERALL MARKETABILITY DISCOUNT

Combining the lower anticipated growth in value and distributions/dividends with the higher required holding period return yields the initial shareholder level discounted cash flow model presented in Exhibit 13.5. Note that the overall marketability discount (24.6 percent) is modestly less than the sum of the agency costs and incremental holding period risk components (5.7 percent + 20.3 percent = 26.0 percent) because of the interaction of the lower present value factors and lower projected cash flows.

This analysis suggests that the qualitative discussion of the marketability discount applicable to a subject nonmarketable minority interest ought to emphasize the nature and persistence of specific agency costs borne by the shareholders and the specific holding period risks for which the hypothetical willing buyer would demand compensation in the form of a higher required return.

REVIEW OF ANALYSIS

We can summarize this analysis of the shareholder level DCF model with the following table, reordered to present the enterprise value (0 percent marketability discount) first. Then, suboptimal reinvestment alone is presented, where the resulting impairment to growth in value generates a marketability discount of 5.7 percent. Next, incremental risk alone is presented where the required holding period return generates a marketability discount of 20.3 percent. Finally, we see the combined impact of both suboptimal reinvestment and incremental risk, where the calculated marketability discount is 24.6 percent.

Exhibit 13.9 illustrates that each assumption of the QMDM is important. It also illustrates that the various assumptions interact and influence calculated marketability discounts.

Exhibit 13.9 Impact of Agency Costs and Incremental Risk on Marketability Discount

		(1)	(2)	(3)	(4)
1. Expected Holding Period	Years	10	10	10	10
2a. Expected Distribution / Dividend Yield	Yield	10.0%	10.0%	10.0%	10.0%
2b. Expected Growth in Distribution / Div. Yield	Growth	6.0%	5.0%	6.0%	5.0%
2c. Timing (Mid-Year or End of Year)	Timing	E	E	E	E
3a. Growth in Value over Holding Period	G_v	6.0%	5.0%	6.0%	5.0%
3b. Premium or Discount to Marketable Value	Prem/Disc.	0.0%	0.0%	0.0%	0.0%
4. Required Holding Period Returns	Low	16.0%	16.0%	20.0%	20.0%
Marketability Discount		0.0%	5.7%	20.3%	24.6%

(1) Enterprise Value (Exhibit 13.6)

(2) Suboptimal Reinvestment Only (Exhibit 13.7)

(3) Incremental Risk Only (Exhibit 13.8)

(4) Suboptimal Reinvestment and Incremental Risk (Exhibit 13.5)

The marketability discount in column four of 24.6 percent includes the combined effect of agency costs and incremental shareholder level risks. This discount is lower than the so-called normal range of 30 to 40 percent or more. Why? Note the expected dividend/distribution yield of 10.0 percent in Assumption #2a. The high current dividend yield serves to mitigate what could otherwise be a substantially higher marketability discount.

SUMMARY

We have explored the relationship between the enterprise and shareholder levels of value within the context of the Integrated Theory. The Quantitative Marketability Discount Model is a shareholder level discounted cash flow model standardized to accommodate the valuation of nearly all nonmarketable minority interests.

Shareholder level valuation is driven by the same factors as enterprise level valuation: expected cash flow, growth, and risk. Nonmarketable minority interests are generally worth less than the corresponding pro rata portion of enterprise value because of a combination of agency costs (which can affect both the level of, and growth rate in, cash flows) and incremental holding period risks (which cause the required holding period return to exceed the enterprise discount rate).

NOTES

1. Adapted from the book, *Business Valuation: An Integrated Theory*, 2nd ed. (John Wiley & Sons, 2008) by Z. Christopher Mercer, ASA, CFA and Travis W. Harms, CPA/ABV, CFA. For a more comprehensive discussion of the QMDM, see *Business Valuation: An Integrated Theory*, 2nd ed. (John Wiley & Sons, 2008), available at www.mercercapital.com or www.wiley.com.
2. Z. Christopher Mercer, *Quantifying Marketability Discounts* (Memphis, TN: Peabody Publishing, LP, 1997).
3. Note 1 supra.
4. In the context of Exhibit 13.4:

$$\mathbf{MD} = \left(1 - \frac{V_{sh}}{V_e}\right) = \left(1 - \frac{\$0.754}{\$1.00}\right) = (1 - 75.4\%) = 24.6\%$$

5. Enterprise value is determined using the Gordon Model:

$$\boldsymbol{V_e} = \frac{CF_1}{r - g} = \frac{\$0.10}{16\% - 6\%} = \$1.00$$

6. An appraiser might make a similar assumption if the enterprise has historically been accumulating excess assets and there is an expectation for a continuation of this policy over the expected holding period.
7. We do not suggest that examples of "empire building" or other agency costs are never observed in public companies over even lengthy periods of time, but rather that such examples are exceptions to the typical market discipline faced by public company managers.

Chapter 14

Marketability Discounts in the Courts—Minority Interests

Gift and Estate Tax Cases
- Cases Involving Corporate Stock
  - *Mandelbaum v. Commissioner*
  - *Huber v. Commissioner*
  - *Estate of Jelke v. Commissioner*
  - *Estate of Deputy v. Commissioner*
  - *Estate of Green v. Commissioner*
  - *Estate of Thompson v. Commissioner*
  - *Okerlund v. United States*
  - *Hess v. Commissioner*
  - *Estate of Davis*
  - *Estate of Brookshire*
  - *Barnes v. Commissioner*
- Cases Involving Partnership Interests
  - *Estate of Jones v. Commissioner*
  - *McCord v. Commissioner*
  - *Lappo v. Commissioner*
  - *Estate of Kelley v. Commissioner*
  - *Peracchio v. Commissioner*

Employee Stock Ownership Plan Case
- *Howard v. Shay*

Dissenting Shareholder Cases
- Cases Denying Discount for Lack of Marketability
  - *Cavalier Oil Corp. v. Harnett*
  - *Pueblo Bancorporation v. Lindoe, Inc.*
  - *Brown v. Arp and Hammond Hardware Co.*
  - *Pro Finish USA Ltd. v. Johnson.*
  - *Sieg Co. v. Kelly*
  - *Blitch v. Peoples Bank*
  - *Swope v. Siegel-Robert, Inc.*
- Case Accepting Discount for Lack of Marketability
  - *English v. Atromick Int'l Inc.*
- Applicability of Discount for Lack of Marketability to Be Determined on Case-by-Case Basis Where Extraordinary Circumstances Are Present
  - *Matthew G. Norton Co v. Smyth*
  - *Lawson Mardon Wheaton, Inc. v. Smith*
  - *Weigel Broadcasting Co. v. Smith*

This chapter was updated from the first edition by Noah J. Gordon.

Discounts for Lack of Marketability Not Addressed
HMO-W, Inc. v. SSM Health Care System
Minority Oppression Cases
Marital Dissolution Cases
Cases Denying Discount for Lack of Marketability
Howell v. Howell
Hanson v. Hanson
Baltrusis v. Baltrusis
Brown v. Brown
Mexic v. Mexic
Ferraro v. Ferraro
In re the Marriage of Connor
Cases Allowing Discount for Lack of Marketability
Erp v. Erp
In re the Marriage of Tofte
Michael v. Michael
Crismon v. Crismon
Ferguson v. Ferguson
Rattee v. Rattee
Ellis v. Ellis
Summary

This chapter deals with discounts for lack of marketability (DLOMs) in court cases involving valuation of noncontrolling interests. The cases selected are representative of the wide diversity of court decisions on the topic, especially from one legal context to another, but also within a given legal arena. In many cases, the diversity of opinions is explained by the relative strength of the evidence and expert testimony presented to the court. Court cases involving DLOMs for controlling interests are addressed in Chapters 12 and 15.

As with Chapter 4, this chapter is organized by type of case in varying courts because of differing rules of law:

- Gift and estate tax
- Employee stock ownership plan (ESOP)
- Dissenting shareholder
- Shareholder oppression
- Marital dissolution

Most business appraisers and courts treat discounts for lack of control and discounts for lack of marketability as separate items. Nevertheless, appraisers and courts sometimes lump the two factors into a single discount.

This chapter does not purport to be an exhaustive treatise of the many court cases involving DLOMs for noncontrolling interests.[1] That would be far too great a task for the scope of this book. What this chapter does is present a representative sample that will show the diversity of opinions in each of the several areas of litigation listed above. Although only marketability issues are discussed in this chapter, most of the cases also involved other valuation issues and frequently another discount or premium issue.[2]

GIFT AND ESTATE TAX CASES

The U.S. Tax Court has a long history of allowing discounts for lack of marketability for noncontrolling interests in closely held companies. We have separated stock cases from partnership cases because, in many instances, the minority value of the partnership interest (to which the DLOM normally is applied) is often based on transactions in the secondary market for limited partnership interests that are registered with the Securities and Exchange Commission (SEC). This market is less liquid than the public stock markets, implying that the transaction prices might already reflect some portion of a discount for lack of marketability. See Chapter 21 for additional case references.

CASES INVOLVING CORPORATE STOCK

Mandelbaum v. Commissioner.[3] This is probably the most famous case on discounts for lack of marketability. The parties stipulated to a freely traded (marketable) minority value, so the only issue was the discount for lack of marketability.

The expert for the taxpayer cited seven restricted stock studies along with the John Emory (Baird & Co.) and other pre-IPO studies. (These studies were discussed in Chapters 5, 6, and 9.) The court used the studies cited as a starting point (35 percent average discount for restricted stock studies and 45 percent average discount for private transactions prior to IPOs). The expert listed nine factors that might cause the marketability discount for a given instance to be higher or lower than the benchmark averages, concluding that, on balance, the facts and circumstances in the particular case led to a lower discount for lack of marketability than the benchmark averages. He decided on a 30 percent discount.

The factors cited in the case were:

- Financial statement analysis
- Dividend policy
- Nature of the company, its history, its position in the industry, and its economic outlook
- Management
- Amount of control in the transferred shares
- Restrictions on transferability
- Holding period for the stock
- Company's redemption policy
- Costs associated with a public offering

The above factors have often been referred to since as the "*Mandelbaum* factors." Many in the appraisal community believe that some of them, such as financial statement analysis, nature of the company, and management, constitute "double counting" because they would be reflected in the freely traded value. The court recognized this issue but felt that the factors also impacted the discount for lack of marketability.

Huber v. Commissioner.[4] The United States Tax Court in this case for the first time allowed a 50 percent discount for lack of marketability. The court permitted such a high discount on its finding that sales of shares between some 250 family members (many of

whom were distantly related) and trusts who were shareholders in JM Huber Corporation—one of the largest family-held businesses in the country, reporting over $500 million in annual sales—were arm's length transactions and supported the prices used for gift tax returns. The prices used in the 90 stock transactions at issue, which occurred over several years for various purposes, were based on appraised values, including a 50 percent discount for lack of marketability that had been consistently applied by an independent third-party appraiser.

The variety of the shareholder relationships was, according to the court, "a positive indicator of the existence of arm's length sales." The court also rejected the "hypothetical" notion that offering the stock for public sale would have obtained an optimum price. Because there was "no basis to suggest" an available market where a potential buyer would purchase Huber shares at higher than the independently appraised values, these values—including the discounts—were the "best reference" available.

Estate of Jelke v. Commissioner.[5] In this case, the court rejected the estate's expert's use of restricted stock studies, determining they were not sufficiently similar to the subject company. The IRS expert relied on the *Mandelbaum* factors to arrive at a 10 percent discount for lack of marketability. Performing its own *Mandelbaum* analysis, the court concluded a 15 percent marketability discount, reasoning that a lower than average discount was justified. On appeal, the Eleventh Circuit affirmed the discount.[6]

Estate of Deputy v. Commissioner.[7] In this case, involving the valuation of interests in a company held by an FLP, the IRS concluded a 25 percent DLOM based on restricted stock studies. The taxpayer's expert applied a matrix his company created to replicate an investor's decision process and determined a combined 44 percent lack of marketability and minority interest discount. The Tax Court preferred the taxpayer's approach because it focused on the company's unique attributes, but questioned the matrix's weighting scheme. After independently analyzing each category in the matrix, the court concluded a 30 percent combined DLOM and minority discount.

Estate of Green v. Commissioner.[8] The experts in this case disagreed widely on the appropriate DLOM. The estate's expert relied on restricted stock studies indicating discounts ranging from 31 to 45 percent, and also relied on pre-IPO studies that indicated a range between 43 and 45.7 percent, as well as several transactions involving the stock of the subject company. Based on all these, the taxpayer's expert concluded a 40 percent DLOM. The IRS expert used one restricted stock study (MPI study) that included only two transactions with revenues that were comparable to those of the subject company. Those transactions had an average discount of 43 percent. The court noted that the MPI study indicates a "clear correlation between the size of a company's gross income and the size of the lack of marketability discount." Rejecting the IRS expert's 25 percent discount, the court concluded a 35 percent discount, which was at the higher end of the IRS expert's range, and was "consistent with the average discount that [taxpayer's expert] derived from the restricted stock studies." The court also indicated that it believed the pre-IPO studies used by the taxpayer's expert were "entitled to some consideration," but did not justify a discount greater than 35 percent.

Estate of Thompson v. Commissioner.[9] In this case, the issue was the value of a 20 percent interest in a publishing company. The estate's experts used a capitalization of

income method and applied a 45 percent DLOM. The IRS's expert used two methods—the discounted cash flow method and the comparable public company method—and found a 30 percent DLOM. Although the court criticized both experts for their lack of experience and for the general credibility of their valuations, the court seemed to adopt the IRS's position and concluded a 30 percent DLOM.

Okerlund v. United States.[10] This was a Court of Federal Claims case. To support discounts for lack of marketability on two valuation dates, both parties' experts used data that relied on restricted stock studies and pre-IPO studies. Although the data were similar, there was a 15 percent gap between the respective experts' DLOM conclusions for both dates—30 percent for the IRS, 45 percent for the taxpayer. The court found, however, that the taxpayer expert's analysis was far more detailed and persuasive than the IRS expert's, and commended the taxpayer's expert for emphasizing the pre-IPO studies, which, the court determined, were more comparable to the subject company. The court concluded a 40 percent DLOM for one date and 45 percent for the other.

Hess v. Commissioner.[11] The Tax Court accepted a 25 percent DLOM concluded by the IRS over a 30 percent discount used by the taxpayer because the court found that the taxpayer's expert commingled control issues with the marketability discount.

Estate of Davis.[12] The taxpayer's experts testified to a 35 percent discount, and the IRS expert used a 23 percent discount. The Tax Court ultimately concluded a 32 percent discount because it determined that the IRS expert failed to consider pre-IPO studies, which, together with the restricted stock studies, would have provided a more accurate base range and starting point for determining the appropriate lack of marketability discount.

Estate of Brookshire.[13] In this case, Tax Court concluded a 40 percent DLOM. Importantly, the taxpayer's expert utilized the pre-IPO as well as the restricted stock studies in quantifying the DLOM.

Barnes v. Commissioner.[14] In this case of gifts of stock of two South Carolina telephone companies, the court agreed with the taxpayer's expert and applied a 40 percent DLOM to the Home Telephone voting stock and a 45 percent DLOM for the Rock Hill Telephone Company nonvoting stock. The court agreed because

- The Barnes family had controlled Rock Hill for 80 years and the Helmly and Barnes families had controlled Home for 50 years.
- Both families intended to keep control of the companies.
- The families had taken steps to bring in younger family members and had taken measures to avoid having to sell the shares to pay death taxes.
- Home and Rock Hill paid much lower dividends than the guideline companies.
- There had been few sales of Rock Hill stock and only limited family and insider sales of Home stock at about book value.
- The Home and Rock Hill stocks were not registered or traded on any exchange or over the counter.
- The Home and Rock Hill stocks in question represented very small minority interests that had no ability to direct the affairs of either company or cause the sale of its assets.

The Tax Court was critical of the lack of preparation by the IRS's expert, who did not visit either company or talk with management, nor was his cash flow method for valuation available at trial for taxpayers to cross-examine. The Tax Court denied the IRS's post-trial motion to reopen the record to supplement the expert's report.

CASES INVOLVING PARTNERSHIP INTERESTS

Estate of Jones v. Commissioner.[15] In two complex limited partnerships involving several large ranches, one an 83.08 percent interest and the other a 16.915 percent interest, the Tax Court applied an 8 percent DLOM to each. This case involved the formation of trusts by Jones II to continue family ownership of ranches that had been in the family for several generations. Two partnerships were formed with his children. The issue of interest here was the DLOM. The taxpayer's expert argued for a 20 percent discount. His valuation was based in part on values of syndicated limited partnerships where he acknowledged that a large DLOM is already built into the secondary market discount. Although taxpayer's expert adjusted his analysis of the data found in the restricted stock and pre-IPO studies to take into consideration the lack of marketability discount already allowed, the court found his adjustment inadequate. The court allowed an 8 percent lack of marketability discount from net asset value (NAV) on the 83.08 percent interest and an 8 percent discount after a 40 percent minority discount on the 16.915 percent interest.

McCord v. Commissioner.[16] This was a gift tax case involving interests in a limited liability partnership holding company. The taxpayers' expert determined a 35 percent discount for lack of marketability based on pre-IPO and restricted stock studies. The IRS expert determined a 7 percent discount based on the expert's own study of 88 private placements (the "Bajaj study"). The Tax Court found that of the 88 private placements, only the 29 middle placements were useful. Using these, the court concluded a 20 percent DLOM. There was no rebuttal to the IRS DLOM evidence in this case. On appeal, the Fifth Circuit reversed on legal, rather than valuation, grounds, so that the taxpayer's values were upheld, including the 35 percent DLOM based on restricted stock and pre-IPO studies (as opposed to Bajaj's lower discounts based on his own studies). The Court of Appeals did not address the DLOM issue per se, so this case should not be read as favoring or disfavoring the approach used by the taxpayers' expert.

Lappo v. Commissioner.[17] In this case, the Tax Court found that a 21 percent initial discount was appropriate for an interest in a family limited partnership (FLP) consisting of marketable securities and real estate subject to a long-term lease. The court made a further upward adjustment of 3 percent to the discount to account for characteristics specific to the partnership, including the following reasons:

- The partnership was closely held with no real prospect of becoming publicly held.
- The partnership was relatively small and not well known.
- There did not exist a present market for the partnership interests.
- The partnership had a right of first refusal to purchase the interests.

The taxpayer did not present strong evidence regarding the DLOM, which stayed at 24 percent.

Estate of Kelley v. Commissioner.[18] The Tax Court in this case agreed that a DLOM was appropriate in valuing the interests in an investment FLP, finding that there is not a ready market for partnership interests in a closely held partnership. In determining the marketability discount, the taxpayer's expert used the restricted stock approach and concluded a 38 percent marketability discount. The IRS expert determined a 15 percent DLOM on the basis of the Bajaj private placement study (discussed previously in the *McCord* case). The court was not persuaded by the taxpayer's approach, finding that the restricted stock studies examined mostly operating companies, and that "there are fundamental differences between an investment company holding easily valued and liquid assets (cash and certificates of deposit), such as [the limited partnership], and operating companies." However, it was also not persuaded by the IRS discount.

Because it declined to use either party's DLOM, the court conducted its own DLOM analysis, finding an initial 20 percent DLOM based on the approach used in the Bajaj study. It further found that an upward adjustment of 3 percent was proper, based on the approach used in *Lappo*, to incorporate characteristics specific to the partnership, thus concluding a DLOM of 23 percent.

Peracchio v. Commissioner.[19] The court in this case rejected the methodology of the taxpayer's experts, who relied on the *Mandelbaum* factors to arrive at a DLOM of at least 35 percent. The court stated that nothing in *Mandelbaum* suggested that the range of discounts used in that case served any purpose other than to resolve the issues in that particular case. The court also criticized the taxpayer's experts for failing to analyze and apply data from restricted stock studies to the particular (partnership) interests being valued. The court was also dissatisfied with the IRS expert, who had determined that the DLOM range was between 5 and 25 percent and then, without justification, arbitrarily picked the midpoint of the range, 15 percent, as his conclusion of the appropriate DLOM. The court, treating the upper end of the IRS expert's range as a concession that 25 percent would be appropriate, ruled that 25 percent was the correct DLOM.

EMPLOYEE STOCK OWNERSHIP PLAN CASE

Howard v. Shay.[20] This case involved the termination of an employee stock ownership plan (ESOP) that owned approximately 38 percent of the stock of Pacific Architects and Engineers (PA&E). The stock was sold to a trust controlled by the stockholder who owned the other approximately 62 percent of PA&E stock. The minority discount applied in this case was discussed in Chapter 4.

The final adjustment to value made by the ESOP financial advisor who valued the stock was a 50 percent DLOM. The employees brought a class action suit claiming that the stock was undervalued; the size of the DLOM was a major issue.

Unlike most ESOPs today, this ESOP stock had no "put" right, because it was established before ESOP laws were changed to require such rights. Consequently, its marketability (or lack of it) was no better than that of any other closely held minority interest.

A pre-IPO database on discounts for lack of marketability was entered into evidence in defense of the discount. The evidence presented was all transactions in the database for the five years preceding the valuation date where the sale involved 25 to 49.9 percent of the outstanding stock. These data showed average discounts of very close to the 50 percent that was used in the original stock appraisal. The 50 percent discount was upheld at

the trial level and again on remand from the Ninth Circuit for further valuation proceedings.

The case is a very important one for DLOMs, because it supports a DLOM that is 50 percent based on significant empirical evidence. Based, in part, on such evidence, the U.S. Tax Court has allowed a 50 percent DLOM.[21]

For a more detailed treatment of the DLOM, as well as other discounts, in ESOP cases, see Chapter 23, "Discounts and Premiums in ESOP Valuations."

DISSENTING SHAREHOLDER CASES

The courts have been mixed on the treatment of the lack of marketability issue in dissenting shareholder cases. However, Delaware, the leading state in dissenting shareholder litigation, denies both marketability and minority discounts.

CASES DENYING DISCOUNT FOR LACK OF MARKETABILITY

Cavalier Oil Corp. v. Harnett.[22] For example, in this often cited case, the Delaware Supreme Court stated: "In rejecting a minority or marketability discount, the Vice Chancellor concluded that the objective of [an] appraisal is 'to value the corporation itself, as distinguished from a specific fraction of its shares as they may exist in the hands of a particular shareholder.' We believe this to be a valid distinction. . . . [T]he Court of Chancery is not required to apply further . . . factors at the shareholder level, such as discounts to minority shares for asserted lack of marketability."

Pueblo Bancorporation v. Lindoe, Inc.[23] In this case, a divided Colorado Supreme Court affirmed a decision denying a lack of marketability discount when determining fair value under Colorado's dissenters' rights statute. The court noted that the trial court must first determine the value of the corporation as a going concern and the pro rata value of each outstanding share, and that discounts should not be applied, except under extraordinary circumstances.

Brown v. Arp and Hammond Hardware Co.[24] The Wyoming Supreme Court, finding that the clear majority of courts have held that minority discounts do not apply when determining fair value in the appraisal context, ruled in this case that it would join the majority and not permit such discounts.

Pro Finish USA Ltd. v. Johnson.[25] In a case of first impression in Arizona, the state's Court of Appeals denied the application of a lack of marketability discount, concluding that the focus should be on the value of the company as a whole, and prorated equally, rather than discounting the dissenting shareholders' pro rata share of the sale price.

Sieg Co. v. Kelly.[26] An Iowa corporate reorganization led to a decision by the trial court to allow a marketability discount. Although the Iowa Supreme Court found convincing the overall valuation approach, which supported the marketability discount, it found the marketability discount more problematic since Iowa law was clear at the time the valuation was made that a marketability discount was not permitted. Accordingly, the court denied the lack of marketability discount.

Blitch v. Peoples Bank.[27] The Georgia Court of Appeals reversed a trial court in this case with facts similar to those previously mentioned. In this case the trial court accepted the expert appraisal testimony of the bank. The appraiser applied both minority and marketability discounts in his calculations. The dissenting shareholder maintained a value based on the proportionate share of the corporation as a whole. The appeals court noted that the Georgia dissenting shareholder statute was clear and persuasive on the issue and ruled the marketability discount not applicable in Georgia *fair value* determination.

Swope v. Siegel-Robert, Inc.[28] The U.S. District Court for the Eastern District of Missouri reached a decision consistent with the Missouri Court of Appeals in *King v. F.T.J., Inc.*[29] That case said that the question of whether minority and marketability discounts are applicable in Missouri dissenting stockholder cases is to be determined on the facts and circumstances, on a case-by-case basis. In the *Swope* case the court found that the shares should be valued on a minority basis, but that there should be no discount for lack of marketability.

On appeal, the Eighth Circuit Court of Appeals upheld the denial of the discount for lack of marketability, although it held that this issue is a matter of law, not a discretionary matter. However, the expert for the plaintiffs had applied a 35 percent control premium, which the trial court rejected. The Eighth Circuit remanded the case for revaluation because the district court price per share "presumably reflected a discount for minority status."[30]

CASE ACCEPTING DISCOUNT FOR LACK OF MARKETABILITY

English v. Atromick Int'l Inc.[31] In determining "fair cash value" in a dissenters' rights action, which is the standard of value used in Ohio and which the Ohio courts have indicated is not "fair value," the Ohio Court of Appeals permitted the application of the willing-buyer–willing-seller approach and determined that a marketability (as well as a minority) discount was appropriate.

APPLICABILITY OF DISCOUNT FOR LACK OF MARKETABILITY TO BE DETERMINED ON CASE-BY-CASE BASIS WHERE EXTRAORDINARY CIRCUMSTANCES ARE PRESENT

Matthew G. Norton Co v. Smyth.[32] In this case of first impression, the Washington Court of Appeals ruled that a discount for lack of marketability was appropriate at the entity level, and rejected a bright-line rule that such a discount is never available at the shareholder level. However, the court also held that the trial court's decision would be affirmed to the extent that the trial court's order was intended to declare that, absent extraordinary circumstances, no such discount can be applied at the shareholder level. Thus, the decision leaves open the possibility that a DLOM may be applied in an appraisal action where extraordinary circumstances may require it.

Lawson Mardon Wheaton, Inc. v. Smith.[33] The New Jersey Supreme Court ruled against a marketability discount in determining the fair value of the dissenters' shares in a restructuring and later a merger. Both the trial court and the New Jersey Superior Court, Appellate Division, upheld the marketability discount. The lower courts relied on the "extraordinary circumstances" exception to the American Law Institute's Principles of Corporate Governance section 7.22 (1992). The trial court concluded that the

circumstances of this case dictated application of the exception to the general rule. The state's highest court held that the application of the "extraordinary circumstances" rule was not supported by the record and ordered the case to be reopened to admit new evidence. It should be noted, however, that if a case arises in this jurisdiction that does present "extraordinary circumstances" a DLOM will not be automatically precluded and may be allowed.

Weigel Broadcasting Co. v. Smith.[34] In this 1997 Illinois case, after citing case law supporting consideration of a minority interest and a marketability factor, the appellate court decided that "[a]pplying such discounts is left to the trial court's discretion." It should be noted, however, that since this and similar cases were handed down, Illinois modified its dissenters' rights statute to provide that fair value is determined without discounting for lack of control, and, absent extraordinary circumstances, lack of marketability.[35] This change will inevitably reduce the courts' discretion in this area, but will permit consideration of a DLOM where there is a showing of extraordinary circumstances.

DISCOUNTS FOR LACK OF MARKETABILITY NOT ADDRESSED

HMO-W, Inc. v. SSM Health Care System.[36] Many states have not addressed the issue of discounts for lack of marketability, but the Supreme Court of Wisconsin specifically stated that it has not. In this case, the Wisconsin Supreme Court upheld the lower court's denial of a minority discount, but made a point of saying that it was not addressing the issue of a discount for lack of marketability.

MINORITY OPPRESSION CASES

In most states that have statutes regarding minority oppression, the statutory standard of value is *fair value*. However, even in states where fair value is defined the same way in the oppression statute as in the dissenting shareholder statute, court interpretations are not always the same in oppression cases as in dissenting shareholder cases. For a detailed discussion of the treatment of discounts in oppression cases, see Chapter 25, "Discounts and Premiums in Corporate and Partnership Dissolution and Oppression Cases."

MARITAL DISSOLUTION CASES

CASES DENYING DISCOUNT FOR LACK OF MARKETABILITY

Howell v. Howell.[37] The husband was a partner in the Virginia law firm Hunton & Williams. The husband's expert calculated the value of a theoretical, marketable, controlling partnership interest in the firm, and then applied a 40 percent DLOM (as well as a 30 percent minority discount) to that value. The trial court rejected the discounts because no transfer of the partnership interest was foreseeable and no one in the firm, nor any group within it, exercised majority control. The Virginia Court of Appeals affirmed.

Hanson v. Hanson.[38] In this case, both experts had agreed on the value of the husband's traffic control business and that discounts for lack of marketability and control

applied to the wife's 5 percent interest in the business, but disagreed on the amount. The trial court, however, disagreed with both experts, holding that discounts were inappropriate "because the minority interest was being acquired by the party that also controlled the rest of the shares," so that applying either discount would give the husband a windfall. The Alaska Supreme Court affirmed.

Baltrusis v. Baltrusis.[39] In this case, the wife held 43,560 shares and the husband held 16,800 shares of a closely held bank holding company, which was owned by members of the wife's family. Only the wife presented valuation evidence, which relied on a prior valuation that had been performed for estate tax purposes and that had applied a 33 percent DLOM. The trial court rejected the application of the discount, finding that the husband was in a position akin to that of a dissenting shareholder. The Washington Court of Appeals affirmed, finding that because the transaction was court ordered and the parties were acting under compulsion, and because the only market for the husband's shares was the ex-wife's family, the dissenting shareholder analogy was appropriate. Accordingly, fair value was the appropriate standard of value and no discounts were permitted absent extraordinary circumstances.

Brown v. Brown.[40] The trial court in this case found that the wife's expert's valuation, which had not applied discounts to the husband's minority interest in a floral business, was more credible, so it rejected a 25 percent DLOM used by the husband's expert. The New Jersey Appellate Division affirmed, finding that fair value was the appropriate standard of value for marital dissolution cases, so that absent extraordinary circumstances—which were not present in this case—discounts for lack of control or lack of marketability should not be applied.

Mexic v. Mexic.[41] The Louisiana Court of Appeals held in this case that a 15 percent DLOM was not appropriate. The court ruled that the discount would be applicable if the property in question were sold to a third party. Since the property in question was not to be sold, no discount was allowed.

Ferraro v. Ferraro.[42] The court in this Virginia decision where the husband owned a 34 percent interest, denied discounts for both minority and marketability because the husband did not need to sell his ownership to pay the wife's distribution, and there was no majority interest in the stores.

In re the Marriage of Connor.[43] An Indiana appellate court in this case rejected a discount for lack of marketability, not as a matter of principle, but for lack of evidence. In its recalculation of the value of Associated Imaging, the court reduced the value by "applying a standard 20 percent lack of marketability discount." Neither expert had applied such a discount, nor was there any other evidence in the record to support it. The court of appeals stated:

> Although there are ample examples in the body of law concerning application of a marketability discount, a search of recent opinions yielded no case in which a court had applied a discount without some testimony concerning the amount or validity of such a discount. Further, we cannot definitely state that application of a 20% marketability discount for the value of a health care business is a generally known fact.

CASES ALLOWING DISCOUNT FOR LACK OF MARKETABILITY

Erp v. Erp.[44] In this marital dissolution, involving 40 percent interests in an RV dealership held by each of the separating spouses, the Florida Court of Appeals declined to prohibit the application of a DLOM in divorce cases as a matter of law, and permitted a 10 percent DLOM. The wife had analogized the case to a dissenting shareholder case, where a DLOM would be prohibited, but the court rejected such an analysis, saying:

> The debate is sometimes led astray by the application of broad generalizations that do not differentiate between the types of proceedings within which valuations are required, nor acknowledge that the appropriate analysis for the valuation of a business may change depending upon the specific legal and factual context presented. What is appropriate in the oppressed shareholder or minority appraisal rights cases may not necessarily be desirable in a judicial dissolution of a corporation or in an action for dissolution of marriage involving equitable distribution.

In this case, the wife was not the victim of majority shareholder oppression. She and the husband agreed that they could not run the business together, but disputed who should retain it. The closer and more proper analogy, the court reasoned, was to a judicial dissolution of the business based on shareholder deadlock. In these cases, a court has discretion to determine whether a marketability discount is appropriately applied to a closely held corporation.

In re the Marriage of Tofte.[45] The Court of Appeals of Oregon allowed a DLOM in this case when no sale was contemplated. Experts for both parties used the capitalization of earnings approach but differed on whether it was appropriate to apply a marketability discount. The husband's expert applied a 35 percent discount to the fair market value of the shares "to reflect the minority shareholder interest to reflect lack of marketability." The court's statement shows the confusion in distinguishing between a minority interest discount and a marketability discount. "A marketability discount addresses the degree of liquidity of the interest. Such discounts compensate for the lack of a recognized market for a particular stock, lack of ready marketability, or restrictive provisions affecting ownership rights or limiting sale."

The wife argued that the marketability discount was inappropriate in this case because there was no evidence that the husband was contemplating a sale of his interest. The court argued, "[W]e have previously applied marketability and minority discount without consideration of or speculation about the owners' intention to sell shares."

Michael v. Michael.[46] In another case, the court also allowed a discount for lack of marketability based on two factors. The first was that the business was highly dependent on the coal mining industry and was very risky. The second issue involved the holding of stock in a bank. The value of the stock was greater than the value of the operating assets of the business, but the cost basis was very low relative to the market value. If the business were sold to a third-party buyer, the liquidation of the stock would result in a material capital gains tax. The court applied a 25 percent discount because the evidence showed that the husband no longer worked closely with the business.

Crismon v. Crismon.[47] In an Arkansas case, both experts testified to a discount for lack of marketability for a 50 percent partnership interest in a partnership owning two

convenience stores and some commercial property. Wife appealed the trial court's application of a marketability discount. The appellate court affirmed the trial court's decision.

Ferguson v. Ferguson.[48] The issue in this Connecticut marriage dissolution case was whether a marketability discount should be applied in determining the valuation of the common stock of the family business. The husband owned all of the common and preferred stock of Mohawk Manufacturing Company, Inc. of Middletown, Connecticut.

The wife's expert declined to use a marketability discount because the husband had articulated his strong position against a sale of the business. The husband's expert used a 35 percent marketability discount, claiming that it was the exception rather than the rule not to use a marketability discount in a closely held business. He also pointed to a negative business climate, and a "thin" management structure, with stagnant revenues, in support of his marketability discount.

The parties acknowledged that under case law whether a marketability discount should be applied is a fact-laden, case-specific question. "The plaintiff [wife] claims that when a marketability discount is applied to a one hundred (100%) percent interest valuation, there is customarily a fact articulated which inhibits marketability in addition to the closely-held nature of ownership."

The court found that a marketability discount applied in this case solely due to the lack of a ready market for the business. The other negatives used by husband's expert simply did not comport with the observations from the financial statements of the parties and their testimony.

The court found that the rationale of approving a marketability discount was appropriate under the facts of this case, but that a 35 percent discount was excessive. "[H]igher marketability discounts [are] reserved for cases which describe . . . more than one facet of discount criteria." The court held that a fair marketability discount in this case was 15 percent.

Rattee v. Rattee.[49] In this New Hampshire case the trial court adjusted the value of a 49.6 percent interest in a business by 28.5 percent to reach the fair market value because of the closely held nature of the company and the fact that the husband's interest was a minority interest. The trial court derived the amount of this combined minority and marketability discount from the testimony of the wife's expert.

On appeal, the wife argued that reducing the value of the husband's minority interest was improper and an abuse of discretion because he "controlled" the company, and neither he nor his mother planned to sell the business. The appellate court refused to consider whether "contemplation" of actual sale or the husband's management participation negated the application of minority and marketability discounts because the standard of value in a marital dissolution is fair market value, which is the willing seller/willing buyer standard.

Ellis v. Ellis.[50] At issue in this case was husband's interest in a closely held family furniture business. The trial court applied a 25 percent DLOM because his shares in this closely held corporation could not be readily sold on a public market, and New York's intermediate appellate court affirmed.

SUMMARY

The U.S. Tax Court normally allows discounts for lack of marketability for noncontrolling interests in closely held companies. However, the size of the discounts varies greatly from one case to another. Apart from substantive factors affecting the magnitude of the discount, the quality of the expert evidence and testimony presented in the Tax Court makes a big difference in the outcome. The Tax Court expects good empirical evidence, relevant to the subject at hand, to support the amount of the discount. So far, however, in spite of studies showing much higher discounts in hundreds of arm's length transactions, the highest discount that the Tax Court has allowed purely for lack of marketability is 50 percent, and most discounts have been considerably less.

The ESOP discounts for lack of marketability usually are relatively low (or sometimes nonexistent) because most ESOP stock has a ''put'' right to sell the stock back to the sponsoring company. However, in the case of one ESOP that lacked a ''put'' right (established before puts were required for ESOPs), the court upheld a 50 percent DLOM.

Dissenting shareholder and shareholder oppression cases are quite mixed on the matter of discounts for lack of marketability. It is necessary to carefully study the recent case law in the relevant jurisdiction. Some states' case law flatly rejects DLOMs as a matter of law. A smaller number of states routinely accept DLOMs as a matter of law. Many state decisions have said that it depends on the facts and circumstances and thus will be decided on a case-by-case basis. Many states do not have precedential case law on the issue.

There is little case law on DLOMs in divorce cases, and what exists is also quite mixed.

Cases discussing discounts for lack of marketability in family limited partnerships are addressed in Chapter 21, and Chapter 27 includes case law on DLOMs in undivided interests.

NOTES

1. For an exhaustive treatise on court decisions on discounts for lack of marketability see *Business Valuation Resource's Guide to Discounts for Lack of Marketability* (Portland, OR: Business Valuation Resources, 2008).
2. The full texts of all court decisions discussed in this chapter and many more are available at BVLibrary.com and are keyword searchable. In addition, the case summaries on BVLibrary.com contain the names of the testifying experts in most cases, even if the written opinion does not.
3. *Mandelbaum v. Commissioner*, T.C. Memo 1995-255, 69 T.C.M. (CCH) 2852 (1995), *aff'd*, 91 F.3d 124 (3rd Cir. 1996).
4. *Huber v. Commissioner*, T.C. Memo 2006-96; 2006 Tax Ct. Memo LEXIS 97 (2006).
5. *Estate of Jelke v. Commissioner*, T.C. Memo 2005-131 (2005).
6. *Estate of Jelke v. Commissioner*, 507 F.3d 1317 (11th Cir. 2007).
7. *Estate of Deputy v. Commissioner*, T.C. Memo 2003-176 (2003).
8. *Estate of Green v. Commissioner*, T.C. Memo 2003-348 (2003).
9. *Estate of Thompson v. Commissioner*, T.C. Memo 2004-174 (2004).

10. *Okerlund v. United States*, 53 Fed. Cl. 341 (Fed. Cl. 2002), *motion for new trial denied*, 2003 U.S. Claims LEXIS 42 (Fed Cl. 2003), *aff'd*, 365 F.3d 1044 (Fed. Cir. 2004).
11. *Hess v. Commissioner*, T.C. Memo 2003-251 (2003).
12. *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).
13. *Estate of Brookshire v. Commissioner*, T.C. Memo 1998-365 (1998).
14. *Barnes v. Commissioner*, T.C. Memo 1998-413, 76 T.C.M. (CCH) 881 (1998).
15. *Estate of Jones v. Commissioner*, 2001 U.S. Tax Ct. LEXIS 11, 116 T.C. No. 11 (2001).
16. *McCord v. Commissioner*, 461 F.3d 614, 2006 U.S. App. LEXIS 21473 (5th Cir. 2006).
17. *Lappo v. Commissioner*, T.C. Memo 2003-258 (2003).
18. *Estate of Kelley v. Commissioner*, T.C. Memo 2005-235 (2005).
19. *Peracchio v. Commissioner*, T.C. Memo 2003-280 (2003).
20. *Howard v. Shay*, 1993 U.S. Dist. LEXIS 20153 (C.D. Cal. 1993), *rev'd and remanded by*, 100 F.3d 1484 (9th Cir. 1996), *cert. denied*, 520 U.S. 1237 (1997).
21. *Huber v. Commissioner*, T.C. Memo 2006-96; 2006 Tax Ct. Memo LEXIS 97 (May 9, 2006). This is the first Tax Court case that permitted a DLOM greater than 45 percent.
22. *Cavalier Oil Corp. v. Harnett*, 564 A.2d 1137 (Del. 1989).
23. *Pueblo Bancorporation v. Lindoe, Inc.*, 37 P.3d 492 (Colo. 2003).
24. *Brown v. Arp and Hammond Hardware Co.*, 141 P.3d 673 (Wyo. 2006).
25. *Pro Finish USA Ltd. v. Johnson*, 204 Ariz. 257, 63 P.3d 288 (Ariz. Ct. App. 2003).
26. *Sieg Co. v. Kelly*, 568 N.W.2d 794 (Iowa 1997).
27. *Blitch v. Peoples Bank*, 246 Ga. App. 453, 540 S.E.2d 667 (Ga. Ct. App. 2000).
28. *Swope v. Siegel-Robert, Inc.*, 74 F. Supp.2d 876 (E.D. Mo. 1999), *aff'd in part, reversed in part by* 243 F.3d 486 (8th Cir. 2001).
29. *King v. F.T.J., Inc.* 765 S.W.2d 301 (Mo. Ct. App. 1988).
30. *Swope v. Siegel-Robert, Inc.*, 2001 U.S. App. LEXIS 2760 (8th Cir. 2001).
31. *English v. Atromick Int'l Inc.*, 2000 Ohio App. LEXIS 3580 (Ohio Ct. App. 2000).
32. *Matthew G. Norton Co v. Smyth*, 51 P.3d 159, 112 Wash. App. 865 (Wash. Ct. App. 2002).
33. *Lawson Mardon Wheaton, Inc. v. Smith*, 160 N.J. 383, 734 A.2d 738 (N.J. 1999).
34. *Weigel Broadcasting Co. v. Smith,* 682 N.E.2d 745 (Ill. Ct. App. 1997).
35. Ill. Compiled Statutes Ch. 805, §5/11.70(j) (i) (2008).
36. *HMO-W, Inc. v. SSM Health Care System*, 234 Wis.2d 707, 611 N.W.2d 250 (Wis., 2000), *aff'g* 228 Wis.2d 815, 598 N.W.2d 577 (Wis. Ct. App. 1999).
37. *Howell v. Howell*, 46 Va. Cir. 339; 1998 Va. Cir. LEXIS 256 (Va. Cir. Sept. 4, 1998), *aff'd*, 31 Va. App. 332, 523 S.E.2d 514 (2000).
38. *Hanson v. Hanson*, 2005 Alas. LEXIS 166 (Alas. 2005).
39. *Baltrusis v. Baltrusis*, 2002 Wash. App. LEXIS 2241 (Wash. Ct. App. 2002).
40. *Brown v. Brown*, 348 N.J. Super. 466, 792 A.2d 463, 2002 N.J. Super. LEXIS 105 (N.J. App. Div. 2002).
41. *Mexic v. Mexic*, 577 So. 2d 1046 (La. Ct. App. 1991).
42. *Ferraro v. Ferraro*, 2000 Va. App. LEXIS 164 (Va. Ct. App. 2000).
43. *In re the Marriage of Connor*, 713 N.E.2d 883 (Ind. Ct. App. 1999).
44. *Erp v. Erp*, 2007 Fla. App. LEXIS 18726 (Fla. Ct. App. 2007).

45. *In re the Marriage of Tofte*, 134 Or. App. 449, 895 P.2d 1387 (Or. Ct. App. 1995).
46. *Michael v. Michael*, 196 W. Va. 155, 469 S.E.2d 14 (W. Va. 1996).
47. *Crismon v. Crismon*, 72 Ark. App. 116, 34 S.W.2d 763 (Ark. Ct. App. 2000).
48. *Ferguson v. Ferguson*, 1998 Conn. Super. LEXIS 3340 (Conn. Super. Ct. 1998).
49. *Rattee v. Rattee*, 767 A.2d 415 (N.H. 2001).
50. *Ellis v. Ellis*, 235 A.D.2d 1002, 653 N.Y.S.2d 180, 1997 N.Y. App. Div. LEXIS 788 (N.Y. App. Div. 1997).

Chapter 15

Marketability Discounts in the Courts—Controlling Interests

By Noah J. Gordon

Gift and Estate Tax Cases
- Cases Allowing Controlling Interest Discounts for Lack of Marketability (DLOM)
  - *Estate of Hendrickson v. Commissioner*, 30 Percent Discount
  - *Estate of Dunn v. Commissioner*, 15 Percent Discount
  - *Estate of Jameson v. Commissioner*, 3 Percent Discount
  - *Estate of Dougherty v. Commissioner*, 25 Percent Discount
  - *Estate of Maggos v. Commissioner*, 25 Percent Discount
  - *Estate of Borgatello v. Commissioner*, 33 Percent Discount
  - *Estate of True v. Commissioner*, 20 Percent Discount
  - *Estate of Jones v. Commissioner*, 8 Percent Discount
- Cases Denying Controlling Interest Discounts for Lack of Marketability
  - *Estate of Cloutier v. Commissioner*

Marital Dissolution Cases
- Cases Allowing Controlling Interest Discounts for Lack of Marketability (DLOM)
  - *Caldas v. Caldas*, 75 Percent Discount
  - *Finney v. Finney*, 35 Percent Discount
- Case Denying Controlling Interest Discounts for Lack of Marketability
  - *Hanson v. Hanson*

Summary

The following are examples of cases illustrating the wide range of discounts involving controlling interests.

GIFT AND ESTATE TAX CASES

CASES ALLOWING CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY (DLOM)

***Estate of Hendrickson v. Commissioner*, 30 Percent Discount.**[1] The interest at issue was 49.97 percent, but the court deemed it a controlling interest because the balance of the stock was divided among 29 shareholders and the 49.97 percent block was deemed to constitute control "in substance."

Both the discounted cash flow (DCF) and market approaches were presented, but the court ultimately based its decision on the market approach, using the guideline public

company method. The IRS's expert testified to a 10 percent discount for lack of marketability because decedent's shares were effectively a controlling interest.

In accepting the taxpayer's expert's proposed 30 percent DLOM, the court cited the following factors regarding the marketability of the stock:

- The subject company, a bank, had few opportunities for growth.
- The bank's earnings were subject to significant interest rate risk.
- The bank had no employee stock option plan or history of repurchasing shares.
- There was no readily available public or private market for the bank's shares.

The court then went on to elaborate with the following:

> While we recognize that elements of control may enhance marketability, we do not think that the estate shares were rendered marketable by virtue of their effective control. . . . A buyer of the estate shares would either have to sell the block privately, cause [the bank] to make a public offering, or seek an acquiror. Any of these three options could take a number of months, and require significant transaction costs for the services of accountants, lawyers, and investment bankers.

***Estate of Dunn v. Commissioner*, 15 Percent Discount.**[2] The interest at issue was 62.96 percent of the outstanding stock. In arriving at its base value, the court allocated 65 percent weight to net asset value and 35 percent to capitalized net cash flow.

The parties conceded that a 15 percent discount for lack of marketability and a 7.5 percent discount for lack of supermajority control were appropriate, which the court applied additively in this case.

***Estate of Jameson v. Commissioner*, 3 Percent Discount.**[3] The interest at issue was 98 percent of a holding company with timberland as its primary asset. The court reached its base value by the net-asset-value method. It concluded a 3 percent DLOM because 97 percent of the assets of the corporation were highly marketable and only 3 percent of the assets were unmarketable. The court's decision was vacated on other grounds by the Fifth Circuit (267 F.3d 366) (2001).

***Estate of Dougherty v. Commissioner*, 25 Percent Discount.**[4] The court found a 25 percent DLOM applicable to a 100 percent interest in the stock of an investment company where the base value was the underlying net asset value.

***Estate of Maggos v. Commissioner*, 25 Percent Discount.**[5] The company was a Pepsi-Cola bottler. The court decided on a 25 Percent DLOM, saying that "shares in the company could not be sold without the approval of Pepsi-Cola, Inc."

***Estate of Borgatello v. Commissioner*, 33 Percent Discount.**[6] On decedent's 82.76 percent interest in a real estate holding company, the Tax Court allowed a 33 percent DLOM, which it broke down as follows:

Potential tax on capital gains	25%
Restrictions on stock transfer	3%
Transaction and other costs	6%
Total DLOM	33% (rounded)

***Estate of True v. Commissioner*, 20 Percent Discount.**[7] The court rejected a 40 percent DLOM that was based on restricted stock and pre-IPO studies, since those did not involve controlling interests, but also rejected the proposition that a DLOM is never available for a controlling interest. The court arrived at a 20 percent DLOM by taking into account that the controlling interest at issue could control the company's liquidation.

***Estate of Jones v. Commissioner*, 8 Percent Discount.**[8] The court allowed an 8 percent DLOM on an 83.08 percent controlling interest to reflect the possibility of litigation over forced liquidation initiated by the owner of the controlling interest that would reduce the amount that a hypothetical buyer would be willing to pay for the interest.

CASE DENYING CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY

Estate of Cloutier v. Commissioner.[9] The interest at issue in this case was 100 percent of the stock of a company whose primary asset was a television station. The parties stipulated to the value apart from discounts and premiums, so the only issue was whether a DLOM applied and, if so, how much.

The stipulated value was based on "transactional and financial data," not on publicly traded guideline companies. Based largely on restricted stock and pre-IPO studies, the taxpayer's expert opined to a 25 percent DLOM.

The court rejected the discount entirely, because the discount to which the expert testified was based on publicly traded guideline companies, which were not used in arriving at the stipulated base value.

MARITAL DISSOLUTION CASES

CASES ALLOWING CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY (DLOM)

***Caldas v. Caldas*, 75 Percent Discount.**[10] In a marital dissolution action, the court permitted a 75 percent DLOM for the husband's controlling interest in a government contracting business where continued business depended on the husband's minority status and security clearance and loan covenants that severely restricted the husband's control.

***Finney v. Finney*, 35 Percent Discount.**[11] The husband and wife owned a controlling interest in a closely held ranching company. In determining the value of the company for marital dissolution, the husband's appraiser applied a 35 percent DLOM for statutory restrictions on the sale of stock of corporations owning agricultural real estate. Both the trial and appellate courts accepted this DLOM because the wife, who challenged it, failed to present valuation evidence that rebutted the expert's opinion.

CASE DENYING CONTROLLING INTEREST DISCOUNTS FOR LACK OF MARKETABILITY

***Hanson v. Hanson*, 25 Percent Discount.**[12] A key issue in this case was whether a DLOM should be applied to a controlling interest in a closely held corporation owned

by both spouses. The husband's expert had applied a 25 percent DLOM, but the trial court rejected this discount, finding the wife's expert's valuation more credible. Although the wife's expert's position was that a DLOM may never be applied to a controlling interest, on appeal, the Oregon Court of Appeals clarified that the trial court had not held that such a discount may never be applied to a controlling interest, but that it was not appropriate in this case. One of the reasons supporting the trial court's finding was that the effect of illiquidity was already accounted for in the underlying valuation because the valuation was determined by comparison to other private company transactions. Previously, in *In re the Marriage of Tofte* (see treatment of that case in Chapter 14) the Oregon Court of Appeals had permitted a DLOM, saying such a discount *may* be applied to either minority or controlling interests; however, in that case, the DLOM was permitted because the value of the minority interest had been determined by reference to publicly traded stock.

SUMMARY

This chapter's review of cases in different areas illustrates that discounts for lack of marketability may be available for controlling interests under a narrow range of circumstances. Discounts for such interests may be granted where the entity has limited growth opportunities, earnings are subject to considerable risk, transferability of the interest is restricted, and there is otherwise no readily available market for the entity. Absent such circumstances, however, discounts for lack of marketability for controlling interests usually are not granted. However, see Chapter 12 for reasons why such discounts should sometimes be granted.

NOTES

1. *Estate of Hendrickson v. Commissioner*, T.C. Memo 1999-278, 78 T.C.M. (CCH) 322 (1999).
2. *Estate of Dunn v. Commissioner*, T.C. Memo 2000-12, 79 T.C.M. (CCH) 1337 (2000).
3. *Estate of Jameson v. Commissioner*, T.C. Memo 1999-43, 77 T.C.M. (CCH) 1383 (1999).
4. *Estate of Dougherty v. Commissioner*, T.C. Memo 1990-274, 59 T.C.M. (CCH) 772 (1990).
5. *Estate of Maggos v. Commissioner*, T.C. Memo 2000-129, 79 T.C.M. (CCH) 1861 (2000).
6. *Estate of Borgatello v. Commissioner*, T.C. Memo 2000-264, 80 T.C.M. (CCH) 260 (2000).
7. *Estate of True v. Commissioner*, T.C. Memo 2001-167, 2001 Tax Ct. Memo LEXIS 199, *aff'd*, 2004 U.S. App. LEXIS 24844 (10th Cir. 2004).
8. *Estate of Jones v. Commissioner*, 116 T.C. 121 (2001).
9. *Estate of Cloutier v. Commissioner*, T.C. Memo 1996-49, 71 T.C.M. (CCH) 2001 (1996).
10. *Caldas v. Caldas*, 2005 Ohio 4493, 2005 Ohio App. LEXIS 4074 (Ohio Ct. App. 2005).
11. *Finney v. Finney*, 2003 Neb. App. LEXIS 46 (Neb. Ct. App. 2003).
12. *Hanson v. Hanson*, 2004 Ore. App. LEXIS 230 (Ore. Ct. App. 2004).

Chapter 16

Voting versus Nonvoting Stock

Voting versus Nonvoting Stock Scenarios
- Significant Number of Holders of Both Classes
- Where Small Block Holds Voting Control

Empirical Studies Show Little Differential for Small Minority Interests
- Lease, McConnell, and Mikkelson Study
- Robinson, Rumsey, and White Study
- O'Shea and Siwicki Study
- Houlihan Lokey Howard & Zukin Study
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Transactions Involving Premiums for Control Blocks

Court Cases Involving Voting versus Nonvoting Stock
- Dissenting Stockholder Case
- U.S. Tax Court Cases
- Marital Dissolution Case

Summary

If a company has both voting and nonvoting classes of stock, there may be a price difference between the two, usually in favor of the voting stock. In order to analyze the facts and estimate the difference for any specific situation, it is helpful to classify the basic set of facts into one of two groups:

1. Situations in which there are large numbers of both voting and nonvoting shares (although in most such situations the number of voting shares considerably outnumbers the number of nonvoting shares)
2. Situations in which a very small number of voting shares controls, with the nonvoting shares vastly outnumbering the voting shares

VOTING VERSUS NONVOTING STOCK SCENARIOS

SIGNIFICANT NUMBER OF HOLDERS OF BOTH CLASSES

When there are many owners of both voting and nonvoting classes, the price differential tends to be small, often in the range of 0 to 5 percent. If the block in question is just a small minority, the vote is not likely to carry much influence, if any.

The distribution of the voting stock also makes a difference. If one stockholder has the required majority control and the corporate governance documents do not provide for

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cumulative voting, the question of whether the minority shares are voting or nonvoting is academic, unless a split of the control block is foreseeable.

Another factor in favor of nonvoting stock price in some states is that certain corporate actions, such as liquidation of the company, require a majority vote by class. Thus, as Yale Kramer points out, a majority block of nonvoting stock could in effect veto such corporate actions.[1]

Restrictive agreements also can have a bearing. Some voting stocks are subject to an agreement that converts them to nonvoting stock in the event of transfer. Such a provision can render voting rights virtually powerless for valuation purposes.

WHERE SMALL BLOCK HOLDS VOTING CONTROL

There appears to be an increasing number of situations, especially in private companies, in which a relatively small block of voting stock controls the entire company. If a control owner sells a control block, usually there is no obligation to make an offer to noncontrol shareholders at the same price. In fact, the control owner usually is not obligated to make any offer at all to noncontrol shareholders. I am aware of a significant number of cases where a voting control block received a substantial premium per share over nonvoting stock, as shown in a subsequent section.

EMPIRICAL STUDIES SHOW LITTLE DIFFERENTIAL FOR SMALL MINORITY INTERESTS

Empirical studies of the price differentials between voting and nonvoting publicly traded stocks indicate that, for small minority interests, the market generally accords very little or no value to voting rights. Where differentials in favor of voting stock exist, they generally have been under 5 percent, and no study of U.S. markets has indicated a differential of over 10 percent.

LEASE, McCONNELL, AND MIKKELSON STUDY

Ronald Lease, John McConnell, and Wayne Mikkelson studied corporations having two classes of stock outstanding over the period from 1940 through 1978. They found 26 firms that had voting and nonvoting or limited voting common stock outstanding with equivalent dividend rights and liquidity preferences, and did not have voting preferred stock. On the basis of this study, they concluded: "For the 26 firms that have had two classes of common stock outstanding, but have had no voting preferred stock outstanding, the class of common stock with superior voting rights generally has traded at a premium relative to the other class of common stock. This relationship has persisted through time and across firms. The average of the mean price premiums for the stocks in this group of firms was 5.44 percent."[2]

ROBINSON, RUMSEY, AND WHITE STUDY

Chris Robinson, John Rumsey, and Alan White studied firms having voting and nonvoting classes of stock listed on the Toronto Stock Exchange (TSE) from 1981 through 1990. A valuable quality of the data is the large number of dual class shares traded on the TSE.

The total number of different firms in the sample was 93. The number of firms in the sample varied from a low of 47 in 1981 to a high of 77 in 1986. About half the sample had "coattail" protection for the nonvoting stock, which the authors explain as follows:

> An unusual characteristic of the data makes this estimation procedure more revealing. About half of the companies in our sample have takeover protection for the B shareholders, spelled out in the Articles of Incorporation. This protection, called a "coattail," has not been reported for any country other than Canada. It is triggered by a takeover offer to the A shareholders which is not made identically to the B shareholders. The two basic mechanisms used are: (1) the B shares acquire the same voting rights as the A shares; or (2) the B shares become convertible into the A shares for the purpose of tendering to the bid. Since the B shares outnumber the A shares in almost all cases, the B shareholders can defeat any takeover proposal, or make its acceptance very unlikely. Since August 1987 in Canada all new issues of dual class equity must include a coattail agreement for the B Shares, so that the proportion of firms with two classes of shares without coattails is diminishing.

The authors conclude:

> A takeover model became a significant explanatory variable for firms that had no coattail. A voting power model was a significant explanatory variable for firms that had a coattail provision.
>
> The empirical results suggest that if the observed premium is a result of an expected windfall takeover (a relatively rare event in which substantial gains may be reaped by the buyer), the expected gain to the A [voting] shareholders in the event of the takeover is between 8% and 18% of the total equity value. Under an alternative steady-state takeover model the premium merely reflects the value that anyone can capture by buying control. In this case the empirical results suggest that about 3.5–4.5% of the total equity value can be attributed to voting control.[3]

O'SHEA AND SIWICKI STUDY

Two academic authors, Kevin O'Shea and Robert M. Siwicki, compared prices of "supervoting" versus "limited voting" pairs of stock in the same companies in the United States, selected from the Standard & Poor's 1990 Year-End Stock Guide. They found a 3.5 percent average price differential in favor of the stocks having the greater vote. (These were not "supervoting" in the sense that a very small block had voting control.)[4]

HOULIHAN LOKEY HOWARD & ZUKIN STUDY

Paul Much and Timothy Fagan of Houlihan Lokey Howard & Zukin completed an analysis of price differentials between voting and nonvoting publicly traded stocks, using 60-day to 260-day moving averages of the respective prices for the period ending December 31, 1994. After eliminations for differences in rights between classes, insufficient float and/or volume, and one company in bankruptcy, 18 pairs remained for comparative analysis.

They found overall positive average and median premiums of 2.05 percent and 1.46 percent, respectively. The 260-day moving average showed the highest average and median premiums of 3.20 percent and 2.73 percent, respectively. The results are shown in Exhibit 16.1. The authors conclude: "Taking these particular examples into consideration along with other information developed in the study leads us to conclude that the value of

Exhibit 16.1 Houlihan Lokey Howard & Zukin Study of Premiums Paid for Voting Rights

Ticker	Issue Name			Price 12/31/94	Volume 12/31/94	% Owned Shares Outstanding	By Largest Holder	Moving Average as of 12/31/94			
								60 Day	120 Day	180 Day	260 Day
AZE.B	American Maize Prods Co	CLB	1 vote; remaining BOD	25.00	2,400	1,742,000	54.5%	23.43	22.28	21.42	20.83
AZE.A	American Maize Prods Co	CLA	limited voting 30% of BOD	25.50	17,700	8,565,000	32.3%	23.55	22.37	21.52	20.96
				–1.96%				–0.48%	–0.38%	–0.45%	–0.61%
BF.A	Brown Forman Corp	CLA	voting	31.00	20,000	28,988,000	68.9%	29.55	28.91	28.84	28.76
BF.B	Brown Forman Corp	CLB	nonvoting	30.50	20,500	40,008,000		29.55	28.83	28.13	28.81
				1.64%				–0.01%	0.26%	2.54%	–0.15%
CMCSA	Comcast Corp	CLA	voting	15.38	478,200	39,020,000	6.9%	16.21	16.19	16.58	18.54
CMCSK	Comcast Corp	CLASPL	nonvoting	15.69	901,200	200,580,000		16.20	16.22	16.53	17.48
				–1.99%				0.05%	–0.16%	0.27%	6.03%
CALA	Continental Airls Inc	CLA	10 votes	9.38	34,600	6,301,000	45.6%	14.24	16.76	16.53	18.84
CALB	Continental Airls Inc	CLB	1 vote	9.25	109,600	20,354,000	17.1%	13.81	16.10	15.63	17.47
				1.35%				3.17%	4.09%	5.77%	7.89%
CNP.A	Crown Cent Pete Corp	CLA	1 vote	12.75	21,100	4,818,000	51.3%	15.45	16.81	17.57	18.05
CNP.B	Crown Cent Pete Corp	CLB	1/10 vote	12.00	15,100	4,985,000	12.3%	14.19	15.53	16.20	16.64
				6.25%				8.85%	8.27%	8.42%	8.48%
EXX.B	Exx Inc	CIB	elects 2/3 of BOD	16.25	21,600	677,000	46.4%	22.33	22.33	22.33	22.33
EXX.A	Exx Inc	CIA	elects 1/3 of BOD	16.00	115,400	2,031,000		22.74	22.74	22.74	22.74
				1.56%				–1.80%	–1.80%	–1.80%	–1.80%

HUB.A	Hubbell Inc	CLA	20 votes	51.25	7,500	6,187,000	39.0%	51.70	51.90	52.44	53.13
HUB.B	Hubbell Inc	CLB	1 vote	50.71	15,855	26,753,000		52.83	52.95	53.12	53.90
				1.06%				–2.13%	–1.97%	–1.28%	–1.43%
MARSA	Marsh Supermarkets Inc	CLA	voting	10.50	2,700	4,487,000	24.8%	10.87	11.09	10.84	10.86
MARSB	Marsh Supermarkets Inc	CLB	nonvoting	9.50	11,100	3,881,000	25.0%	10.03	10.18	9.96	10.04
				10.53%				8.39%	8.94%	8.85%	8.19%
MOLX	Molex Inc	COM	voting	34.50	53,400	40,068,000	46.0%	33.69	33.42	32.20	31.05
MOLXA	Molex Inc	CLA	nonvoting	31.00	115,800	39,546,000		31.36	31.13	30.22	29.34
				11.29%				7.42%	7.38%	6.55%	5.83%
ODETB	Odetics Inc	CLB	1 vote	6.75	1,800	1,167,000	22.1%	6.48	7.29	7.67	8.49
ODETA	Odetics Inc	CLA	1/10 vote	6.50	71,100	4,769,000		6.65	7.49	7.87	8.62
				3.85%				–2.58%	–2.67%	–2.53%	–1.49%
PHSYA	Pacificare Health Sys Inc	CLA	voting	65.13	22,100	12,279,000	48.5%	68.89	67.27	62.97	58.76
PHSYB	Pacificare Health Sys Inc	CLB	nonvoting	66.00	35,900	18,384,000		67.38	65.60	61.82	57.86
				–1.33%				2.24%	2.55%	1.87%	1.55%
PDL.A	Presidential Rlty Corp New	CLA	elects 2/3 of BOD	8.50	1,500	479,000	9.3%	8.15	8.03	7.85	7.53
PDL.B	Presidential Rlty Corp New	CLB	elects 1/3 of BOD	8.63	19,500	3,022,000		7.91	7.85	7.71	7.43
				–1.45%				3.00%	2.31%	1.89%	1.25%
PVB	Provident Life & Acc Ins Co	CLB	1 vote	21.75	55,400	36,766,000	49.0%	23.64	25.76	25.88	26.84
PVA	Provident Life & Acc Ins Co	CLA	1/20 vote	20.75	7,700	8,581,000		22.94	24.29	24.16	24.68
				4.82%				3.02%	6.03%	7.14%	8.73%
RDB	Readers Digest Assn Inc	CLB	voting	44.75	15,100	21,515,000	36.0%	43.08	41.29	40.53	40.47
RDA	Readers Digest Assn Inc	CLA	nonvoting	49.13	61,500	90,450,000		45.44	43.88	43.20	42.99
				–8.91%				–5.20%	–5.91%	–6.17%	–5.86%

(continued)

Exhibit 16.1 *Continued*

Ticker	Issue Name			Price 12/31/94	Volume 12/31/94	% Owned Shares Outstanding	By Largest Holder	Moving Average as of 12/31/94 60 Day	120 Day	180 Day	260 Day
TECUB	Tecumseh Prods Co	CLB	voting	45.50	23,400	5,470,000	25.0%	44.61	46.75	48.78	50.14
TECUA	Tecumseh Prods Co	CLA	nonvoting	45.00	14,100	16,411,000		45.55	47.90	47.91	48.26
				1.11%				–2.07%	2.40%	1.81%	3.91%
TCOMB	Tele Communi-cations Inc	CLB	10 votes	23.25	74,400	47,981,000	13.7%	23.20	23.33	23.06	24.40
TCOMA	Tele Communi-cations Inc	CLA	1 vote	21.75	1,288,200	584,663,000		22.49	22.48	21.81	22.56
				6.90%				3.13%	3.80%	5.72%	8.17%
TBS.A	Turner Broad-casting Sys Inc	CLA	1 vote	16.38	40,500	68,331,000	80.8%	17.02	17.75	17.93	19.55
TBS.B	Turner Broad-casting Sys Inc	CLB	1/5 vote	16.38	79,600	137,347,000		17.13	17.84	18.03	19.62
				0.00%				–0.65%	–0.51%	–0.57%	–0.36%
VIA	Viacom Inc	CLA	voting	41.63	85,000	74,416,000	85.0%	40.29	39.70	36.96	36.20
VIA.B	Viacom Inc	CLB	nonvoting	40.75	679,600	282,916,000		39.08	37.05	34.39	33.16
			2.15%					3.08%	7.15%	7.46%	9.19%
			Avg premium	2.05%				1.52%	1.94%	2.53%	3.20%
			Median premium	1.46%				1.15%	1.29%	1.88%	2.73%
			High	11.29%				8.85%	8.94%	8.85%	9.19%
			Low	–8.91%				–5.20%	–5.91%	–6.17	–5.86%
			# of Companies used	18				18	18	18	18

NA—Not Available

Source: Paul Much and Timothy Fagan, *Financial Valuation: Businesses and Business Interests*, 1996 Update (Warren Gorham & Lamont, 1996), pp. U9B-4 and U9B-5. ©1996 Warren, Gorham & Lamont of RIA, 395 Hudson Street, New York, NY 10014, reprinted with permission.

voting rights (absent a takeover situation) is probably somewhat less than [the] 5.4% premium derived by Lease, McConnell, and Mikkelson.''[5]

THE FINANCIAL VALUATION GROUP STUDY

The Financial Valuation Group in Tampa undertook yearly studies of the differences in price between voting and nonvoting stock of the same companies for the years 1992–2005 with the exception of 1995 and 1997. The study focused on operational companies and excluded the highly regulated financial and utility companies. The prices of shares similar in all aspects except for the voting rights were compared. The authors conclude: ''This research seems to indicate that where the shares traded represented only a minority interest, a small added value was placed on the voting shares by the marketplace.''[6]

For the 12 yearly studies performed by the Financial Valuation Group in Tampa, the median premium for voting stock was between 0 percent and 3.54 percent while the average premium was between 0.44 percent and 9.08 percent.[7]

TRANSACTIONS INVOLVING PREMIUMS FOR CONTROL BLOCKS

Gilbert E. Matthews of Sutter Securities Incorporated compiled a table of transactions where the high-vote shares were acquired in takeovers or were eliminated in restructurings. The table only includes situations where the high-vote shares as a class had voting control. As shown in Exhibit 16.2A, some significant differences existed between the consideration per share paid for classes of high-vote shares as compared to classes of low-vote (or nonvoting) shares.

Exhibit 16.2B is an analysis of the premiums paid. The premium paid is in relation to the economic value of the high-vote shares as a class. For example, in Continental Airlines, the high-vote shares accounted for 18.8 percent of the shares in terms of economic value, but received 23.4 percent of the consideration. Matthews calls the difference (4.6 percent) the premium over economic interest. This is *not* the same concept as the 0 percent to 5 percent market premium just discussed.

It is Matthews' view that it is improper to calculate the premium for high-vote shares on a per-share basis, but that the incremental value should be determined by applying an appropriate premium to the economic value of the high-vote class. Matthews has stated, ''The public market for high-vote shares does not provide a valid measure of the value of control. . . . In cases where both high-vote shares and low-vote shares are publicly traded, the publicly traded high-vote shares seldom collectively represent voting control . . . and the high-vote shares therefore trade at little or no premium.''[8]

COURT CASES INVOLVING VOTING VERSUS NONVOTING STOCK

DISSENTING STOCKHOLDER CASE

Manacher v. Reynolds is a very interesting case demonstrating the value of rights of voting control.[9] United States Foil Company (Foil) had outstanding a small number of ''A''

Exhibit 16.2A Transactions Since 1993 in Which Premiums Were Paid for High-Vote Shares

			Name of Class		Voting Rights		Consideration per Share	
Company	**Year**	**Type of Transaction**	**High-Vote**	**Low-Vote**	**High-Vote**	**Low-Vote**	**High-Vote**	**Low-Vote**
AEL Industries	1996	Acquisition by Tracor	Class B	Class A	1 vote	No votes	$52.39 (a)	$24.25
Box Energy	1997	Purchase of 57.2% of A shares by Simplot	Class A	Class B	1 vote	No votes	$11.85	Market = $7.00
Century Communications	1999	Acquisition by Adelphia Communications	Class B	Class A	10 votes	1 vote	$48.14	$44.14
Commonwealth Telephone	2003	Recapitalization	Class B	Common	10 votes	1 vote	1.09 shares	1 share
Continental Airlines	2001	Recapitalization	Class A	Class B	10 votes	1 vote	1.32 shares (b)	1 share
Dairy Mart Convenience Stores	1999	Recapitalization	Class B	Class A	1 vote	0.1 votes	1.1 shares of common	1 share
Fischer & Porter	1993	Recapitalization	Class B	Common	10 votes	1 vote	1 sh. common +2 warrants (c)	1 share
Forest Oil	1993	Recapitalization	Class B	Class A	10 votes	1 vote	1.1 shares of common	1 share
Home Shopping Network	1996	Merger with Silver King Communications	Class B	Common	10 votes	1 vote	0.54 shs.	0.45 shs.
Jones Intercable	1994	Investment by Bell Canada	Common	Class A	1 vote	0.1 votes	$19 for option (d)	$26.13
Methode Electronics	2003	Recapitalization	Class B	Class A	10 votes	1 vote	$22.90 cash (e)	Market = ~$10
Pepsi-Cola Puerto Rico Bottling	1998	Acquisition of control by Pohlad Companies	Class A	Class B	6 votes	1 vote	$5.75	$3.63 & $7.00 (f)
Readers Digest	2002	Recapitalization	Class B	Class A	1 vote	No votes	1.22 shares or $21.75 (g)	1 share
Reinsurance Group of America	1999	Recapitalization	Voting	Non Voting	1 vote	No votes	1 share	0.97 shares
Remington Oil & Gas	1998	Recapitalization	Class A	Class B	1 vote	No votes	1.15 shares	1 share
Republic Pictures	1993	Recapitalization	Class B	Class A	10 votes	1 vote	1.2 shares of common	1 share
Robert Mondavi	2004	Acquisition bid by Constellation Brands	Class B	Class A	10 votes	1 vote	$65.82	$56.50
SFX Communications	1998	Acquisition by SBI Holdings	Class B	Class A	10 votes	1 vote (h)	$97.50	$75.00
SFX Entertainment	2000	Acq. by Clear Channel Communications	Class B	Class A	10 votes	1 vote (h)	1 share	0.6 shares
Tele-Communications	1999	Merger with AT&T	Class B	Class A	10 votes	1 vote	0.8533 shares	0.7757 shares

Exhibit 16.2B Analysis of Premiums Paid for High-Vote Shares Since 1993

		High Vote Shares						
Company	**Year**	**As % of Total Shares**	**% Owned by Principal Shareholder**	**Premium per Share**	**Voting Interest**	**Economic Interest**	**% of Consideration**	**Premium over Economic Interest**
AEL Industries	1996	5.5%	55%	116.0%	100%	5.96% (i)	12.05% (i)	**6.08%** (i)
Box Energy	1997	8.9%	57%	69.3%	100%	8.86% (j)	14.13% (j)	**5.27%** (j)
Century Communications	1999	55.8%	100%	9.1%	100%	55.82%	57.94%	**2.13%**
Commonwealth Telephone	2003	8.5%	100%	9.0%	48.3%	8.53%	9.23%	**0.70%**
Continental Airlines	2001	18.8%	85%	32.0%	69.8%	18.76%	23.36%	**4.60%**
Dairy Mart Convenience Stores	1999	30.3%	44%	10.0%	81.3%	30.33%	32.38%	**2.05%**
Fischer & Porter	1993	10.8%	53%	27.8%	54.8%	10.81%	13.41%	**2.60%**
Forest Oil	1993	24.0%	84%	10.0%	76%	23.97%	25.75%	**1.78%**
Home Shopping Network	1996	21.7%	100%	20.0%	74%	21.74%	25.00%	**3.26%**
Jones Intercable	1994	16.4%	56%	72.7%	66%	9.20%	14.90%	**5.70%**
Methode Electronics	2002	3.0%	82%	129.0%	75%	3.01%	6.63%	**3.62%**
Pepsi-Cola Puerto Rico Bottling	1998	23.3%	100%	0.3%	64.5%	23.26%	23.31%	**0.06%**
Readers Digest	2002	12.3%	41%	24.6%	100%	12.34%	14.92%	**2.58%**
Reinsurance Group of America	1999	83.6%	41%	3.1%	100%	83.64%	84.06%	**0.41%**
Remington Oil & Gas	1998	15.8%	41%	15.0%	15.8%	15.81%	17.76%	**1.95%**
Republic Pictures	1993	16.2%	41%	20.0%	65.9%	16.22%	18.85%	**2.63%**
Robert Mondavi	2004	33.5%	100%	16.5%	83%	33.46%	36.94%	**3.48%**
SFX Communications	1998	8.0%	98%	30.0%	46.6%	8.03%	10.19%	**2.16%**
SFX Entertainment	2000	3.8%	98%	66.7%	28.4%	3.81%	6.19%	**2.38%**
Tele-Communications	1999	12.0%	78%	10.0%	58%	11.98%	13.02%	**1.04%**
							Median	**2.27%**
							Mean	**2.40%**

(a) Premium paid for 59.6% of high vote shares. Calculations herein treat the remaining 40.4% as noncontrol shares.

(b) A portion of the high-vote shares owned by the largest holder were acquired for cash for an premium of approximately 32%.

(c) Warrants @ $8.625 (market), valued at $1.20 at date of issuance.

(d) Bell Canada bought Class A shares at $26.125 (approximately double market) and an option to buy 56.3% of Common at $89.13 in eight years. Data herein calculated as if exercise price was $26.125 plus option price. Premium paid for 56.3% of high vote shares. Calculations herein treat the remaining 43.7% as noncontrol shares.

(e) Public shareholders received $23.35.

(f) Low-vote owned by nonpublic shareholders were all purchased at $3.63; publicly traded shares were trading at $7.00.

(g) 37% of voting shares were purchased for $21.75. The blended exchange ratio was 1.2459 shares, based on the close prior to announcement.

(h) Class A elects approximately 30% of directors and votes with Class B for others.

(i) For 59.6% of high-vote shares.

(j) For 57.2% of high-vote shares.

voting shares and a large class of ''B'' nonvoting shares. The only significant asset of Foil (through direct and indirect ownership) was a 50.09 percent interest in Reynolds Metals Company (Metals), which traded on the New York Stock Exchange (NYSE).

Foils' Class A (voting) stock had no public market. Foils' Class B (nonvoting) stock had unlisted trading privileges on the American Stock Exchange (ASE). The Foils Class B stock generally traded at about a 33 percent discount from the value of the equity interest that it represented in the Reynolds shares.

For years the Foils Class B (nonvoting) shareholders had made proposals to try to narrow or close this gap, but to no avail. Finally, after much negotiation, representatives of the Class A and Class B shares came to a settlement agreement. They would convert all shares of both classes to a new class of common stock, with the Class A stock getting three shares for one and the Class B stock getting one share for one. Then the new common stock would be converted into shares of Reynolds Metals Company. This worked out to be about a $40,000,000 premium that the Class A stockholders would receive (at the expense of the Class B stockholders) compared with simply converting all the shares on a one-for-one basis.

Some of the minority Class B (nonvoting) stockholders objected to the settlement agreement as being unfair. Thus, it came to the Court of Chancery of Delaware to rule on the fairness of the settlement agreement.

Following are relevant quotes from the opinion of the Delaware Court of Chancery:

> The court is met at the outset with the Objectors' contention that the officials of Foil, being members of the Reynolds' Group, violated a fiduciary duty which they owed the B shareholders. It consisted of their exacting the 3 for 1 premium as their price for letting ''their'' board act on a merger which they could not prevent by their votes as stockholders. Was the Reynolds' Group prohibited from asking for the premium as a condition to their agreeing to vote in favor of the merger? . . .
>
> The B stockholders were fully advised and, of real importance, had to give their approval as a condition precedent to court approval. They were not controlled by the Reynolds Group. Under such circumstances I do not believe the officials of Foil or its A stockholders breached any fiduciary duty owed the B. . . .
>
> I next consider the terms of the settlement. The Objectors contend that they constitute nothing but a gift of a large portion of B's equity in Metals to A. . . . Under the plan each B share will receive $5.16 less than it would receive were the conversion after reclassification on a 1 for 1 basis. The Objectors say that under the plan the A is exacting from the B a 4% premium amounting to about $40,000,000 without any recognizable benefit passing to the B. . . .
>
> By relinquishing absolute control of Foil the A will give up a valuable right which they now possess. Such relinquishment will benefit the B shares. The principal benefit will come from the elimination of the discount. The objectors appear to argue that the ''discount'' is not something of value passing from the A to the B. . . . [T]he hard fact of life is that the proposed action by the A is an indispensable prerequisite to the realization of any benefit by the B from the elimination of the discount.
>
> . . . [T]he A shareholders hold the key with which to unlock the ''discount'' treasure chest for the B. No other factor being present, they may demand a reasonable premium for the use of their key.
>
> I return to the central question: What was the A fairly entitled to exact from the B for the rights relinquished and the consequent benefits to the B? . . .

> I conclude that when overwhelming stockholder approval is added to the facts, it justifies a business-judgment approval of the settlement. . . . I conclude that their terms are fair in this setting.

U.S. TAX COURT CASES

In *Barnes v. Commissioner*, one expert discounted the nonvoting stock by 3.66 percent and the other expert by 5 percent.[10] The court concluded:

> Prospective buyers will pay a premium for shares with voting power or obtain a discount for nonvoting shares. Wallace v. United States, 566 F. Supp. 904, 917 (D. Mass. 1981) (voting shares appraised 5 percent higher than nonvoting shares); Kosman v. Commissioner, T.C. Memo 1996-112 (nonvoting shares discounted by 4 percent); Estate of Winkler v. Commissioner, T.C.Memo 1989-231.
>
> [One expert] applied a discount of 3.66 percent for lack of voting power to the value ($337.87) of the Rock Hill stock. [He] based this discount on a study of 43 public companies with voting and nonvoting shares. The study found that the average discount for nonvoting stock was 3.66 percent. [The other expert] discounted the nonvoting stock of Rock Hill by an additional 5 percent. We find that use of a 3.66-percent discount for nonvoting stock was reasonable.

In *Kosman v. Commissioner*, the taxpayer's expert testified to a 10 percent nonvoting stock discount, and the IRS's expert opined to 4 percent.[11] The court accepted the 4 percent, explaining that the taxpayer's expert did not explain why he chose a 10 percent discount for nonvoting shares, whereas the IRS expert based his 4 percent nonvoting discount on the Lease, McConnell, and Mikkelson study published in the *Journal of Financial Economics* in April 1983.

In *Estate of Winkler v. Commissioner*, the estate held 10 percent of the 80,000 shares of voting stock, and there were also 720,000 shares of nonvoting stock outstanding.[12] The expert for the IRS opined to a 10 percent premium in the per-share value of the voting stock over the nonvoting stock. The court accepted this differential, explaining:

> Another point at which respondent's appraisal report diverged from that of petitioner's experts was [the IRS expert's] determination that the voting stock was worth more than the non-voting stock in Rock Island. There were only 80,000 shares of voting stock compared to 720,000 shares of non-voting stock. In this case the difference between the voting and non-voting stock in Rock Island is the ability to vote for a board of directors and any "swing vote characteristics" of a 10 percent block of voting stock. In being able to vote for a board of directors, a shareholder has a voice, albeit perhaps a small voice in certain instances, in deciding corporate policy, directing the payment of dividends, and compelling a liquidation. Thus, the owner of a 10 percent voting interest in a corporation retains the possibility of control, even if it must be exercised in conjunction with other shareholders, over the closely held corporation. On the other hand, the owner of a non-voting share of stock has no likelihood of influencing corporate policy, other than by selling his shares of stock in disapproval over what the board of directors has done. We think petitioner's experts could not reasonably treat the voting and non-voting stock as having the same value. Thus, we find that the value of the Class A voting, common stock was higher than the Class B non-voting, common stock.

Estate of Bosca v. Commissioner involved a recapitalization, in which the father exchanged his 50 percent block of voting stock for a 50 percent block of nonvoting

stock.[13] The corporation then canceled the voting stock it received, thus giving 100 percent voting rights to his two sons. The taxpayer initially took the position that no value was transferred to the sons, because the father's interest in the company was undiminished, except for loss of voting rights.

By the time of the trial, the taxpayer had conceded that some value was transferred. The biggest issue for the court was whether the transfers should be valued as one 50 percent block or two 25 percent blocks. For reasons that unfortunately were not explained, the parties had agreed beforehand that, if the court decided the stock should be valued as a single 50 percent block, the premium would be 25.62 percent over the nonvoting stock value, for a tax liability of $970,830. If the stock were valued as two separate 25 percent blocks, however, the premium would be 2.72%, for a tax liability of $103,040.

With respect to the question of whether there was a gift, the Tax Court said: "In short, a transfer that involves relinquishing property with a bundle of rights and receiving back the same property with the bundle of rights reduced is a direct gift with the value of the rights transferred determined under I.R.C. section 2512(a). Where a transfer involves relinquishing property with a bundle of rights and receiving some of those rights back, plus others, or totally different rights, the issue or 'money's worth' comes up and the valuation is under I.R.C. section 2512(b)."

In essence, therefore, there were indirect gifts of the value of the voting rights to each of the two sons. Since this constituted two gifts, and each gift must be valued separately, the court ruled in favor of two 25 percent blocks rather than one 50 percent block.

The most controversial case ever on the subject of voting versus nonvoting stock value was *Estate of Simplot v. Commissioner*.[14] Rounding the numbers slightly, decedent and two of his brothers each owned 18 shares and another brother owned 22 shares of the 76 shares of voting stock outstanding in J.R. Simplot Company. There were also outstanding 141,289 shares of nonvoting stock, of which the decedent owned 3,942 shares. The Tax Court found that the nonvoting stock was worth $3,417 per share and that the 18 shares of voting stock were worth $215,539 per share!

The Ninth Circuit Court of Appeals reversed *Simplot* and remanded for entry in favor of the taxpayer.[15] The Ninth Circuit said that the Tax Court valued something that was not at issue—namely, the entire block of voting stock—in the process of reaching its decision. The appellate court also commented that a control premium should be applied only if economic advantage could be shown, and that the Commissioner had failed to do so.

The key issue in *Wall v. Commissioner*[16] was the fair market value of 9,380 shares of the company's nonvoting common stock, which the majority shareholder gifted into trusts for the benefit of his children. In determining this value, the experts for both sides applied a 40 percent discount for lack of marketability, but the taxpayer's expert applied a 5 percent nonvoting stock discount whereas the IRS's expert found that this discount was only 2 percent. The Tax Court did not have to decide which nonvoting stock discount was correct. Instead, it found that the taxpayer had not met its burden of proving that the IRS notice of deficiency, which was by law presumptively correct, was in fact incorrect, and held for the IRS.

In *Estate of Schwan v. Commissioner*,[17] Schwan, the president and majority shareholder of Schwan's Sales Enterprise (SSE), formed a revocable trust to hold his stock, comprised of two-thirds of the voting and nonvoting stock of SSE. He retained the power to dispose or encumber the stock during his life, but the trust became irrevocable upon his death. He also formed a charitable foundation and set up an arrangement whereby the

trust, the foundation, and SSE would execute a redemption agreement requiring the trust to give his stock to the foundation upon his death, thereby providing his estate with a charitable deduction for the stock. As part of this arrangement, on the tenth business day after the due date of Schwan's estate tax return, SSE would redeem the stock from the foundation at the value included in the estate tax return, thereby, transferring control of the company to his children.

After Schwan died, the estate included the value of the stock in the decedent's gross estate and then deducted the value of the stock as a charitable bequest on the estate's tax return. Specifically, the estate tax return valued Schwan's stock at $869,450,800 and took a charitable deduction for the same amount for the bequest to the foundation; the foundation received cash and a note for the same amount. Simultaneously, the remaining SSE minority shareholders (primarily Schwan's children and grandchildren) could redeem both the voting and the nonvoting SSE stock from the foundation for $869,450,800.

The IRS concluded that the estate improperly calculated the value of the stock and the value of the charitable bequest. It determined the value of the SSE stock was $1,064,591,322, an increase of $195,140,522 over the reported value, and also determined that the fair market value of the SSE shares passing to the foundation for the purposes of the charitable deduction was $857,572,432, a decrease of $11,878,368 from the reported value.

In determining the value of the stock for the gross estate, the IRS argued that the voting and nonvoting stock should be valued as a single block of stock representing a controlling two-thirds interest in the company without reference to any potential effect of the redemption agreement, the trust agreement or the SSE's bylaws, which provided the company with a right of first refusal. The Tax Court agreed, concluding that the stock's value was divided, not destroyed since the redemption agreement placed no restrictions on Schwan's ability to use or dispose of his interest in SSE during his life. Thus, the court reasoned, the agreement had no impact on the stock's value prior to his death, and it further reasoned that if Schwan had sold all his stock to a hypothetical buyer, the stock would have passed to the buyer unrestricted by the redemption agreement. The court granted summary judgment to the IRS on this issue.

However, when it came to the valuation of the charitable bequest, the court was unable to grant summary judgment to either side. The estate asserted that this value was identical to the value of the stock included in the gross estate, arguing that prior to SSE's redemption of the stock (regardless of voting distinction), the foundation had the same power over the stock as Schwan and could recapitalize, thereby converting its nonvoting stock into voting stock. The IRS disagreed, concluding that the charitable bequest was comprised of Schwan's nonvoting stock and the right to receive income for the voting stock under the redemption agreement. The court observed that state law (Minnesota) provided a mechanism for the foundation to recapitalize, but also provided a mechanism for protection of the minority shareholders who might find the recapitalization unfair. It stated, "[I]t would appear that the rights of the Foundation under Minnesota law are intertwined with and could be limited by the reasonable expectations of the minority shareholders. Such expectations, in turn, would depend upon all of the circumstances relating to the preparation and carrying out of decedent's estate plan, including the reasonableness of potential interpretations of the Redemption Agreement." Since neither party addressed the reasonableness of any potential interpretations, the court determined that the issue of whether the foundation had the same power over the stock as Schwan was not appropriate for summary judgment.

In a gift and income tax case arising from the same estate, but presenting different issues, the Federal Court of Claims in *Okerlund v. United States*[18] had to determine the fair market value of two minority nonvoting stock interests in SSE as of two separate valuation dates. The estate's valuation expert (the author of this book) and the IRS expert agreed that a 5 percent nonvoting stock discount should apply to both sets of gifts. The court accepted this discount and applied it additively to the discounts for lack of marketability (40 percent for the first set of gifts, and 45 percent for the second), making the total discount 45 percent for the first gifts and 50 percent for the second. The decision was affirmed on other grounds by the Federal Circuit Court.

MARITAL DISSOLUTION CASE

In *Anzalone v. Anzalone*,[19] the wife had received voting and nonvoting stock in a family-owned business from her father and grandmother. The valuation issue was the value of the appreciation of the stock during the marriage. The wife's appraisal expert determined the value of the gifted stock on the date of the gift and on the valuation date, finding that the voting stock had a value of $45.22 per share and the nonvoting stock had a value of $42.96 per share when gifted, and a value of $57.65 and $54.77 per share, respectively, on the valuation date. The husband's expert valued the stock as of the valuation date only. He concluded that the stock had a value of $107.39 and $102.02 per share, respectively. Although the court found the wife's expert more persuasive for several reasons, and adopted that expert's valuation, the court did not question that the nonvoting stock consistently was valued at a lower value than the voting stock by both experts.

SUMMARY

If a company has both voting and nonvoting stock, there may be a price differential between the two in favor of the voting stock. For small minority interests, this differential is usually small, but it could be more substantial for a voting control block.

In the United States, most state laws and company articles of incorporation do not guarantee nonvoting (or other minority) shareholders the same per-share price (or any offer at all) if a controlling block is sold. There have been many instances where control blocks have sold at substantial premiums over offers to other stockholders.

Empirical research on both the U.S. and Canadian markets show that differentials between voting and nonvoting share prices are small, averaging under 5 percent, absent a takeover scenario. But courts have upheld substantial premiums paid for voting blocks compared to nonvoting blocks.

The U.S. Tax Court recognizes the differential between voting and nonvoting stock values. It has made a variety of findings as to the amount of the difference, depending on the varied facts and circumstances of each case. In the few nontax cases where this issue arises, the courts generally also accept this differential.

NOTES

1. Yale Kramer, "Majority Block of Nonvoting Stock May Have Slightly Greater Value than Minority Interest," *Shannon Pratt's Business Valuation Update* (July 1997): 15.

2. Ronald C. Lease, John J. McConnell, and Wayne H. Mikkelson, "The Market Value of Control in Publicly-Traded Corporations," *Journal of Financial Economics* (1983): 439–471, at 469. Reprinted with permission from Elsevier Science.
3. Chris Robinson, John Rumsey, and Alan White, "The Value of a Vote in the Market for Corporate Control," paper published by York University Faculty of Administrative Studies, February 1996. Used with permission from authors, Alan White (Peter L. Mitchelson/Sit Investment Associates Foundation Professor of Investment Strategy, Joseph L. Rotman School of Management, University of Toronto), John Rumsey, and Dr. Chris Robinson, whose work appears in *Convergence and Diversity of Corporate Governance Regimes and Capital Markets*, ed. J. McCahery, P. Moerland, T. Raaijmakers and L. Renneboog, Oxford University Press, 2002.
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6. James R. Hitchner, *Financial Valuation: Application and Models*, 2nd ed. (Hoboken, NJ: Wiley 2006), p. 432.
7. *Id.,* pp. 432–450.
8. Gilbert E. Matthews, "Fairness Opinions: Common Errors and Omissions" in *The Handbook of Business Valuation and Intellectual Property Analysis*, R. Reilly and R. Schweihs, eds. (New York: McGraw Hill, 2004), pp. 227–8.
9. *Manacher v. Reynolds*, 39 Del. Ch. 401, 165 A.2d 741 (Del. Ch. 1960).
10. *Barnes v. Commissioner*, T.C. Memo 1998-413, 76 T.C.M. (CCH) 881 (1998).
11. *Kosman v. Commissioner*, T.C. Memo 1996-112, 71 T.C.M. (CCH) 2356 (1996).
12. *Estate of Winkler v. Commissioner*, T.C. Memo 1989-231, 57 T.C.M. (CCH) 373 (1989).
13. *Estate of Bosca v. Commissioner*, T.C. Memo 1998-251, 76 T.C.M. (CCH) 62 (1998).
14. *Estate of Simplot v. Commissioner*, 112 T.C. 130 (1999).
15. *Estate of Simplot v. Commissioner*, 2001 U.S. App. LEXIS 9220 (9th Cir. 2001).
16. *Wall v. Commissioner*, T.C. Memo 2001-75, 2001 Tax Ct. Memo LEXIS 97 (2001).
17. *Estate of Schwan v. Commissioner*, T.C. Memo 2001-174, 2001 Tax Ct. Memo LEXIS 207 (2001).
18. *Okerlund v. United States*, 53 Fed. Cl. 341, 2002 U.S. Claims LEXIS 221, *aff'd*, 2004 U.S. App. LEXIS 6970 (Fed. Cir. 2004).
19. *Anzalone v. Anzalone*, 2003 PA Super 407, 2003 Pa. Super. LEXIS 3716.

Chapter 17

Key Person Discounts and Premiums

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Summary

Many private companies are highly dependent on a single key person or a few key people. The actual death or potential loss of such a person, whether by death, disability, or resignation, entails risk of adverse consequences. Such consequences can include a variety of losses, as suggested by that key person's unique attributes. In smaller, technology-oriented companies, for example, the reliance on a key person is often magnified because of the necessity for the organization to be nimble and proactive to market opportunities that require swift, high-quality decisions and cutting-edge technical competence.

Some of the key person attributes that may be lost include:

- Relationships with suppliers
- Relationships with customers
- Employee loyalty to key person

This chapter was updated from the first edition by Kimberly L. A. Linebarger.

- Unique marketing vision, insight, and ability
- Unique technological or product innovation capability
- Extraordinary management and leadership skill
- Financial strength (ability to obtain debt or equity capital, personal guarantees)

The impact or potential impact of the loss of a key person can be reflected either explicitly or implicitly. Sometimes the key person discount may be reflected in an adjustment to a discount or capitalization rate in the income approach or to valuation multiples in the market approach. Alternatively, the key person discount may be quantified as a separate discount, sometimes as a dollar amount but more often as a percentage. It is generally considered to be an enterprise level discount (taken before shareholder level adjustments); it is a function of the valuation subject and impacts the entire company. All else being equal, a company with a *realized* key person loss is worth less than a company with a *potential* key person loss. On occasion, a key person premium similarly is used to account for a key person's value to a company.

EMPIRICAL EVIDENCE SUPPORTS KEY PERSON DISCOUNT

LARSON/WRIGHT STUDY

James A. Larson and Jeffrey P. Wright conducted a study to determine the impact of the loss of a key person on small firms. The study was first published in the *Business Valuation Review* May 1996 with updates in September 1998 and September 2001.[1] The authors attempt to determine when and to what extent the application of a key person discount is appropriate in the appraisal of small to medium-sized, closely held businesses.

Background

The initial findings were based upon research that covered the six and one-half year period, January 1, 1990–June 30, 1995. The update combined the information from the original effort with data through December 31, 1997. The last study examined all previously combined data, as well as the data covering the period 1998 and 1999. The authors draw conclusions with the benefit of a full decade of information.

Methodology

The authors note that the best way to determine if the key person discount is appropriate for application in the appraisal of a privately held business interest would be to obtain an equity value immediately before a death occurred and compare it to the value after the death. Unfortunately, by definition, a privately held concern has no public market for its stock. For comparison purposes the authors study small companies in the public securities market. The study defines a "small" company as a business with a maximum of 500 employees. A search was conducted using the key words "President," "Chief Executive Officer," "CEO" and/or "Chairman" coupled with the words "death" or "died." A window of 10 trading days before and after the death was used in determining the existence and/or extent of key person effect.

Results

The results indicated no significant change between the three studies or between the first and second half of the decade studied. The negative reactions showed mean and median declines in the 4–6 percent range while the positive reactions showed mean and median gains in the area of 7 percent.

Conclusion

The three major results of this study can be summarized briefly as follows:

- Business appraisers should not use the key-person specific risk factor as a quick and easy justification for building up a higher equity discount rate that in turn leads to lower equity value.
- The preponderance of evidence in this and earlier studies indicates that a ''key-person'' discount was present in less than one-half of all identified cases.
- When the discount is deemed appropriate, the order of magnitude is generally a decrement of 4–6 percent in equity value.

BOLTEN/WANG STUDY

Another interesting study was prepared by Steven Bolten and Yan Wang[2] on market reaction to management changes in public companies, especially small ones. They concluded that the market evidence supports the key person discount. Even though the authors studied a relatively short time period of one year the results are of note. The following is a summary of their findings.

The Data

They examined the *Wall Street Journal* from August 1, 1996, through November 28, 1996, for announcements of senior management changes above the rank of vice president. They selected 101 observations within their criteria.

Methodology

They split the increase and decrease responses to avoid the arithmetic distortion of their offsetting effects on the averages. The risk of management disruption was their concern in the smaller, closely held firms, so it is the average decrease they were most interested in.

They stratified the sample by size based on capitalization below and above $280 million and, more importantly, on the number of senior management as listed in the Compact Disclosure database. The latter was stratified as fewer than 6; 6 to 10; 11 to 15; and more than 15.

Results

The results clearly supported the intuitive belief that the departure for whatever reason of a significant key person negatively impacts the firm's valuation. On average, the departure of a key management person caused the stock of the smaller, public firms (less than

$280 million capitalization) to fall 8.65 percent. An average negative 4.83 percent impact was observed for the larger capitalization firms with presumably greater management depth. Of course, they observed increases in the valuation when a perceived favorable change occurred in senior management, as one would logically anticipate.

The smaller firms, where the impact is potentially greater, had the larger observed average percentage change. Since the private firms typically are structured such that the departure of the key person would be negative, the average decrease is typically more significant for the valuation of closely held firms, except in those rare instances where it can be documented that the departure of the key person (usually a family member) may be advantageous. It might be added that this is hard to document even in the rare case where it may be true.

The impact of the departure of the key person is increasingly greater as the number of persons on the management team decreases. This observed inverse relationship is, of course, what one would anticipate. With fewer than six persons on the management team, as reported in Compact Disclosure, the average decrease in stock value for the public firms was 9.43 percent. This result was the highest among the smaller public firms, progressively and consistently rising from –2.65 percent for firms with more than 16 persons on the management team.

Conclusion

They believe the observed results definitively support the generally accepted assumption that the lack of management depth and the potential loss of a key person(s) negatively impacts valuation. This is particularly true in small, closely held firms where the number of persons on the management team may be as few as one. The degree of negative impact increases as the number on the team decreases. We observed it as high as negative 9.43 percent for public firms with fewer than six persons on the management team before the lack of data made it impossible to extrapolate any further. However, the negative impact of the discount should obviously be higher as the number of persons on the team decreases.

Of course, adding a premium to the discount rate in the income approach to reflect the "size effect" can capture some of the differential discussed by these authors.

INTERNAL REVENUE SERVICE RECOGNIZES KEY PERSON DISCOUNT

The IRS recognizes the key person discount factor in Revenue Ruling 59-60:

> Rev. Rul. 59-60
>
> Section 4.02
>
> * * * * * * *
>
> . . . The loss of the manager of a so-called "one-man" business may have a depressing effect upon the value of the stock of such business, particularly if there is a lack of trained personnel capable of succeeding to the management of the enterprise. In valuing the stock of this type of business, therefore, the effect of the loss of the manager on the future expectancy of the business, and the absence of management-succession potentialities are pertinent factors to be taken into consideration. On the other hand, there may be factors, which offset, in whole or in part, the loss of the manager's services. For instance, the nature of the business

> and of its assets may be such that they will not be impaired by the loss of the manager. Furthermore, the loss may be adequately covered by life insurance, or competent management might be employed on the basis of the consideration paid for the former manager's services. These, or other offsetting factors, if found to exist, should be carefully weighed against the loss of the manager's services in valuing the stock of the enterprise.

Moreover, the IRS discusses the key person discount in its *IRS Valuation Training for Appeals Officers Coursebook:*

> **Key Person**
>
> A key person is an individual whose contribution to a business is so significant that there is certainty that future earning levels will be adversely affected by the loss of the individual. [. . .]
>
> Rev. Rul. 59-60 recognizes the fact that in many types of businesses, the loss of a key person may have a depressing effect upon value. [. . .]
>
> Some courts have accounted for this depressing effect on value by applying a key person discount. In determining whether to apply a key person discount certain factors should be considered:
>
> 1. Whether the claimed individual was actually responsible for the company's profit levels.
> 2. If there is a key person, whether the individual can be adequately replaced.
>
> Though an individual may be the founder and controlling officer of a corporation, it does not necessarily follow that he or she is a key person. Earnings may be attributable to intangibles such as patents and copyrights or long-term contracts. Evidence of special expertise and current significant management decisions should be presented. Finally, subsequent years' financial statements should be reviewed to see if earnings actually declined. In many situations, the loss of a so-called key person may actually result in increased profits.
>
> The size of the company, in terms of number of employees, is also significant. The greater the number of employees, the greater the burden of showing that the contributions of one person were responsible for the firm's earnings history.
>
> Even where there is a key person, the possibility exists that the individual can be adequately replaced. Consideration should be given to whether other long-term employees can assume management positions. On occasion, a company may own key person life insurance. The proceeds from this type of policy may enable the company to survive a period of decreased earnings and to attract competent replacements.
>
> There is no set percentage or format for reflecting a key person discount. It is essentially based on the facts and circumstances of each case.[3]

FACTORS TO CONSIDER IN ANALYZING THE KEY PERSON DISCOUNT

Some of the factors to consider in estimating the magnitude of a key person discount include:

- Services rendered by the key person and degree of dependence on that person.
- Likelihood of loss of the key person (if still active). Including age and health.
- Depth and quality of other company management.

- Availability and adequacy of potential replacement.
- Compensation paid to key person and probable compensation for replacement.
- Value of irreplaceable factors lost, such as vital customer and supplier relationships, insight and recognition, and personal management styles to ensure company-wide harmony among employees.
- Risks associated with disruption and operation under new management.
- Lost debt capacity.

The factors considered in the key person discount are similar to the elements used to allocate personal goodwill. The appraiser needs to be aware of the similarities and differences between the key person discount and the allocation of personal goodwill.[4]

There are three potential offsets to the loss of a key person:

1. Life or disability insurance proceeds payable to the company and not earmarked for other purposes, such as repurchase of a decedent's stock.
2. Compensation saved (after any continuing obligations) if the compensation to the key person was greater than the cost of replacement.
3. Employment and/or noncompete agreements.

QUANTIFYING THE MAGNITUDE OF THE KEY PERSON DISCOUNT

Ideally, the magnitude of the key person discount should be the estimated difference in the present value of net cash flows with and without the involvement of the key person. If the key person were still involved, the projected cash flows for each year would be multiplied by the mean of the probability distribution of that person's remaining alive and active during that year. A significant factor in the quantification of the key person discount is the presence or absence of employment and/or noncompete agreements. In the absence of such agreements, the stock may be worth only its tangible asset value.

Jerome Osteryoung and Derek Newman propose a fairly rigorous analytical approach to quantifying the key person discount. In the summary to their article, they write:

> This paper suggests that the key person impact on the valuation of a business is important. The smaller the business the more important the key person becomes.
>
> The key person impact cannot be thought of as applying a certain percentage to normal valuation of the business. This is not appropriate for two reasons. First, there is no viable research or theory that substantiates this point. Second, the key person loss will be different with each type of business.
>
> In order to evaluate the loss of a key person on the value of a business, each component in the future income and cash-flow stream must be evaluated for the exiting key person. Only by undertaking such a rigorous approach can any losses resulting form [*sic*] the departure of the key person be quantified.[5]

Notwithstanding the above, the fact is that most practitioners and most courts do express their estimate of the key person discount as a percentage of the otherwise undiscounted enterprise value.

In any case, the analyst should investigate the key person's actual duties and areas of active involvement. A key person may contribute value to a company both in day-to-day management duties and in strategic judgment responsibilities based on long-standing contacts and reputation within an industry.[6] The more detail presented about the impact of the key person the better.

U.S. TAX COURT CASES INVOLVING KEY PERSON DISCOUNTS

CASES INVOLVING DECEDENT'S ESTATE

In *Estate of Mitchell v. Commissioner,* the court commented that the moment-of-death concept of valuation for estate tax purposes is important, because it requires focus on the *property transferred.*[7] This meant that, at the moment of death, the company was without the services of Paul Mitchell. Because (1) the court considered him a very key person, (2) alleged earlier offers to acquire the entire company were contingent upon his continuing service, and (3) there was a marked lack of depth of management, the court determined a 10 percent discount from the company's enterprise stock value.

The court's discussion of the key person factor is instructive:

> We next consider the impact of Mr. Mitchell's death on [John Paul Mitchell Systems]. Mr. Mitchell embodied JPMS to distributors, hair stylists, and salon owners. He was vitally important to its product development, marketing, and training. Moreover, he possessed a unique vision that enabled him to foresee fashion trends in the hair styling industry. It is clear that the loss of Mr. Mitchell, along with the structural inadequacies of JPMS, created uncertainties as to the future of JPMS at the moment of death.

Accordingly, after determining an enterprise value of $150,000,000 for John Paul Mitchell Systems stock, the court deducted $15,000,000 to arrive at $135,000,000 before calculation of the estate's proportionate value and then applying discounts for minority interest, lack of marketability, and litigation risk.

The estate, however, appealed the Tax Court's conclusion on other grounds. On May 2, 2001, the Ninth Circuit Court of Appeals reversed and remanded *Mitchell.* The Ninth Circuit decision held that the Tax Court was internally inconsistent in its ruling on minority and marketability issues and failed to adequately explain its conclusion.[8] On remand, the Tax Court again determined a $150,000,000 acquisition value and a 10 percent key person discount.[9]

In *Estate of Feldmar v. Commissioner,* the court gave a lengthy explanation before ultimately arriving at a 25 percent key person discount:[10]

> **Management**. [United Equitable Corporation] was founded by decedent in 1972. From its inception until the date of decedent's death, UEC has been a company highly dependent upon specialized marketing techniques which are employed in selected markets to encourage the sale of UEC's non-traditional insurance products and services. Throughout the company's history, decedent had been heavily involved in the daily operation of UEC. Decedent was the creative driving force behind both UEC's innovative marketing techniques, and UEC's creation of, or acquisition and exploitation of, new products and services.
>
> In 1981, decedent was paid a salary of $270,000 by UEC and of $98,466 by [American Warranty Corporation] for his services. Such salary was, as compared to the salaries of the

executives in positions and companies comparable to decedent's, approximately $100,000 higher than the norm. However, decedent never received any payments from UEC in the form of dividends. Despite the higher salary decedent received, UEC recognized that the prospects for finding someone to replace decedent as the head of UEC's management team were not hopeful. In recognition of UEC's probable inability to acquire the services of a competent leader to replace decedent, UEC attempted to partially ameliorate that eventuality by obtaining an insurance policy on decedent's life under which UEC was the beneficiary. Such insurance policy provided for proceeds of $2,000,000 upon decedent's death. . . .

We further recognize, however, that where a corporation is substantially dependent upon the services of one person, and where that person is no longer able to perform services for the corporation by reason of death or incapacitation, an investor would expect some form of discount below fair market value when purchasing stock in the corporation to compensate for the loss of that key employee (key employee discount). See Estate of Huntsman v. Commissioner, 66 T.C. 861 (1976): Edwards v. Commissioner, a Memorandum Opinion of this Court dated January 23, 1945. We find that Milton Feldmar was an innovative driving force upon which UEC was substantially dependent for the implementation of new marketing strategies and acquisition policies. Therefore, we find that a key employee discount is appropriate.

Respondent asserts that no key man discount should be applied because, respondent argues, any detriment UEC suffered from the loss of decedent's services is more than compensated for by the life insurance policy upon decedent's life. We do not find merit in such a position. The life insurance proceeds UEC was to receive upon decedent's death are more appropriately considered as a non-operating asset of UEC. See Estate of Huntsman v. Commissioner, supra. We did this when we determined a value of UEC's stock by using the market-to-book valuation method.

Respondent also argues that the key employee discount should not be applied because, respondent asserts, UEC could rely upon the services of the management structure already controlling UEC, or UEC could obtain the services of a new manager, comparable to the decedent, by using the salary decedent had received at the time of his demise. With respect to the existing management, [taxpayer's expert] conducted interviews of such managers and found them to be inexperienced and incapable of filling the void created by decedent's absence. By contrast, neither of respondent's experts offered an opinion on such management's ability to replace decedent. From the evidence represented, we conclude that UEC could not compensate for the loss of decedent by drawing upon its management reserves as such existed on the valuation date.

Taking into account the control premium and key employee discount, we find that an investor would be willing to pay a 15% premium for a controlling block of shares in UEC, but the same investor would expect a 35% discount for the loss of a key employee. A control premium of 15% is proper in the case at hand because, although an investor would be acquiring a corporation over which he could exercise dominion, that investor would also be acquiring a corporation which was already facing declining profitability and serious concerns regarding the adequacy of its claims reservs [*sic*]. A key man discount of 35% is appropriate in this case because UEC suffered a serious loss when decedent took to his grave his considerable expertise in finding and exploiting innovative insurance products and services. Such 35% discount should be reduced, however, to account for UEC's potential for finding a new leader, from outside of its existing management, to replace decedent. Although we find it to be a very remote possibility that UEC might find a new helmsman with knowledge, experience, innovative skills, and resources comparable to those of the decedent, we shall reduce the key employee discount to be applied form [*sic*] 35% to 25% to account for such potentiality.

> Combining the control premium of 15% and the key employee discount of 25%, the result is an overall downward adjustment of 10% to the per share weighted average fair market value of $14.41.

In *Estate of Rodriguez v. Commissioner,* the company subject to valuation was Los Amigos Tortilla Manufacturing, a corn and flour tortilla manufacturing business providing shells used by Mexican restaurants for tacos, burritos, and so forth.[11]

Respective experts for the IRS and the taxpayer presented diverging testimony on the key person issue. The taxpayer's expert adjusted pretax income to account for the loss of the decedent. The expert for the IRS said that he normally would adjust the capitalization rate to account for the loss of a key person, but did not in this case because of the $250,000 corporate-owned life insurance policy on the decedent. He also testified that decedent's salary would pay for a replacement.

The court decided the issue in favor of the taxpayer:

> [W]e do not agree with respondent's expert that no adjustment for the loss of a key man is necessary in this case. Respondent argues that an adjustment is inappropriate because Los Amigos maintained $250,000 of insurance on decedent's life. Also, respondent's expert witness testified that he did not make any allowance for the value of decedent as a key man because his replacement cost was equal to his salary. These arguments understate the importance of decedent to Los Amigos and the adverse effect his death had on business. We agree with petitioners that an adjustment is necessary to account for the loss of decedent.
>
> The evidence shows that decedent was the dominant force behind Los Amigos. He worked long hours supervising every aspect of the business. At the time of his death, Los Amigos' customers and suppliers were genuinely and understandably concerned about the future of the business without decedent. In fact, Los Amigos soon lost one of its largest accounts due to an inability to maintain quality. The failure was due to decedent's absence from operations. Profits fell dramatically without decedent to run the business. No one was trained to take decedent's place.
>
> Capitalizing earnings is a sound valuation method requiring no adjustment only in a case where the earning power of the business can reasonably be projected to continue as in the past. Where, as in this case, a traumatic event shakes the business so that its earning power is demonstrably diminished, earnings should properly be adjusted. See Central Trust Co. v. United States, 305 F.2d at 403. An adjustment to earnings before capitalizing them to determine the company's value rather than a discount at the end of the computation is appropriate to reflect the diminished earnings capacity of the business. We adopt petitioners' expert's adjustment to earnings for the loss of the key man.

In *Estate of Huntsman v. Commissioner,* the Tax Court applied a key person discount as the final adjustment to value with little discussion:[12]

> Using our best judgment, we find that the value of the stock in Steel and Supply, on the date of the decedent's death, based upon both their earnings and net asset values, giving consideration to the insurance proceeds received by each, was $33 and $11 per share, respectively.
>
> One final adjustment is necessary to determine the actual price a willing buyer would pay for the stock of these two companies. The decedent was the dominant force in both businesses, and his untimely death obviously reduced the value of the stock in the two corporations. However, both corporations had competent officers who were able to assume successfully the decedent's duties. Both experts agreed that some discount must be made to reflect the loss of the decedent. Using our best judgment, we find that after discounting the value of the

> stock to reflect the loss of the decedent, the fair market value of the Steel and Supply stock at the date of the decedent's death was $29 and $10 per share, respectively.

In *Estate of Yeager v. Commissioner,* decedent was the controlling stockholder of a complicated holding company with several subsidiaries.[13] The court decided on a 10 percent discount for the loss of the key person. In its opinion, the court commented:

> Until his death, the decedent was president, chief executive officer, and a director of Cascade Olympic, Capital Cascade, and Capitol Center. He was the only officer and director of these corporations who was involved in their day-to-day affairs. The decedent was also president of Center Offices until 1979. The presence of the decedent was critical to the operation of both Cascade Olympic and the affiliated corporations.

As with all types of valuation cases, where valuation opinions and approaches must be adequately supported by appropriate evidence lest they be rejected, key person discounts must also be sufficiently supported.

For example, in *Estate of Leichter v. Commissioner,*[14] the Tax Court considered the valuation of a closely held S corporation that the decedent and her husband had operated. The decedent's husband had been the company's president and chief salesman and accounted for 80 to 90 percent of the company's business. The husband had predeceased the decedent by a few months. The IRS claimed that the estate had understated the company's value, and at trial, the estate claimed that it had overstated the value on its estate tax return (the return had indicated a value of over $2 million, whereas at trial the estate claimed that the company's fair value was no more than $800,000).

One of the two estate's experts valued the business using various methods including the discounted earnings, comparable guideline company, and industry market ratio methods. In making those valuations, he applied a key person discount to reflect the loss of the decedent's husband to the company. He also applied a discount for lack of marketability, and concluded that the business had a fair market value of $863,000. The Tax Court perceived various flaws with this expert's valuation, including the application of a key person discount and a discount for lack of marketability. The court found that these discounts were duplicative, since the expert had already discounted for the husband's loss in all three methods he had used. It stated, "We found this to be an attempt to discount for the same reasons he discounted the values initially." The court questioned the reliability of this expert's opinion, reviewed the other experts' opinions, and ultimately decided that the company's value was the value stated on the estate's tax return.

Similarly, in *Estate of Renier v. Commissioner,*[15] the court rejected a "key-man" discount because it determined that the expert asserting this discount failed to present "factual support" for the discount, in addition to finding the expert's entire report unhelpful and deserving of no weight.

CASE WHERE KEY PERSON IS STILL ACTIVE

In *Furman v. Commissioner,* the issue was valuation of minority interests in a 27-store Burger King chain.[16] The U.S. Tax Court rejected in toto the IRS's expert's valuation. Besides rejecting his methodology, the court noted that he had represented that he possessed certain qualifications and credentials to perform business valuations, which he did not in fact have.

The taxpayer's expert's appraisal used a multiple of earnings before interest, taxes, depreciation, and amortization (EBITDA) and applied discounts of 30 percent for minority interest, 35 percent for lack of marketability, and a 10 percent key person discount for a total discount of 59.05 percent. The court adjusted the EBITDA multiple upward, decided on a combined 40 percent minority and marketability discount, and agreed with the application of a 10 percent key person discount, for a total discount of 46 percent.

It is instructive to read the court's discussion supporting the key person discount:

> **Robert Furman a Key Person**
>
> At the times of the 1980 Gifts and the Recapitalization, Robert actively managed [Furman's, Inc.], and no succession plan was in effect. FIC employed no individual who was qualified to succeed Robert in the management of FIC. Robert's active participation, experience, business contacts, and reputation as a Burger King franchisee contributed to value of FIC. Specifically, it was Robert whose contacts had made possible the 1976 Purchase, and whose expertise in selecting sites for new restaurants and supervising their construction and startup were of critical importance in enabling FIC to avail itself of the expansion opportunities created by the Territorial Agreement. The possibility of Robert's untimely death, disability, or resignation contributed to uncertainty in the value of FIC's operations and future cash-flows. Although a professional manager could have been hired to replace Robert, the following risks would still have been present: (i) Lack of management until a replacement was hired; (ii) the risk that a professional manager would require higher compensation than Robert had received; and (iii) the risk that a professional manager would not perform as well as Robert.
>
> Robert was a key person in the management of FIC. His potential absence or inability were risks that had a negative impact on the fair market value of FIC. On February 2, 1980, the fair market value of each decedent's gratuitous transfer of 6 shares of FIC's common stock was subject to a key-person discount of 10 percent. On August 24, 1981, the fair market value of the 24 shares of FIC's common stock transferred by each decedent in the Recapitalization was subject to a key-person discount of 10 percent.

KEY PERSON DISCOUNTS IN MARITAL DISSOLUTIONS

A key person discount crops up occasionally in the context of a marital dissolution. A trilogy of Minnesota cases is representative of family law courts' recognition of this issue.

In *Rogers v. Rogers,* the husband was 85 percent owner of a firm providing engineering services.[17] The Supreme Court of Minnesota found great flaws in the valuation opinion of the expert that was accepted by the trial court:

> The third major defect in [wife's expert's] methodology is his apparent failure to take into account appellant's importance to [Rogers, Freels & Associates]. [Wife's expert] applied a purely arbitrary risk factor in his calculations and there is no indication that factor bore any relationship to the importance of appellant to the continuing success of RFA. While the testimony did not establish that RFA would be worthless without appellant, it is clear that appellant is a key man—if not the key man—in RFA, and the profitability of the corporation could be substantially reduced if he were to leave. However, the valuation of appellant's share of RFA should not be based upon the assumption that appellant will remain. Such an assumption would compel appellant to continue with RFA, perhaps against his wishes, simply in

> order to earn enough money to pay for the award to respondent. The property acquired during marriage should be limited to that portion of the value of RFA that is not dependent upon appellant's continued services. To capitalize the earnings of RFA on the assumption that appellant will continue to contribute his talents and services is, essentially, to capitalize appellant. An award made on this basis would, in effect, give respondent a forced share of appellant's future work. If appellant were to become disabled and RFA lost its earning capacity, appellant's interests would be worth substantially less than [wife's expert's] valuations, but because the award to respondent was a ''property'' award, the court could not subsequently change the award to reflect the changed circumstances. . . . Reversed and remanded with instructions.

In *In re the Marriage of Nelson,* the company in question tested and optimized designs of large heating and ventilating systems for commercial, industrial, and government buildings.[18] Although the company had four other employees, the husband, who had highly specialized training, was solely responsible for generating all business and for all analysis and supervision of projects.

The trial court applied a 30 percent combined discount for key person and lack of marketability, without specifying the percentage for each. The court of appeals found that the discount was far too low. The opinion stated:

> Respondent is entitled to property acquired during the marriage, but she is not entitled to a lien on appellant himself . . .
>
> As in Rogers, the trial court's discount in this case simply does not accurately reflect appellant's importance to the corporation. Here, the trial court was presented with evidence that: (a) Mechanical Data would cease operation if appellant left the business; (b) appellant is the sole fee generating professional employed by the corporation; (c) appellant is specially certified as a test balance engineer (one of only 95 in the country and the only one so certified in Minnesota, North and South Dakota); and (d) the corporation derives the majority, if not all, of its business through appellant's personal contacts with mechanical contractors in the area. This evidence, particularly in the absence of expert testimony establishing 30% as a reasonable key man/marketability discount, compels the conclusion that the trial court's discount was arbitrarily low. We so hold. The trial court did not err in valuing the corporation under the capitalization of income approach. The trial court's key man/marketability discount is reversed and the matter remanded for findings consistent with this opinion, including the taking of additional testimony, if necessary.

Unfortunately, we do not know the ultimate dispositions of the above two cases.

In one more Minnesota case, *In re the Marriage of Buchanan,* the court of appeals accepted the trial court's finding:[19]

> The trial court's valuation reflects a 25% discount for appellant's influence and importance to the business and for the inherent risk and limitations on marketability associated with the business. The trial court did not abuse its discretion in applying this discount rather than the higher ''key-man'' discount urged by appellant, where the evidence shows J.L. Buchanan, Inc. would not cease operation if appellant left the business, appellant is not the corporation's sole fee generating person and expert testimony established 25% as a reasonable discount.

While the above three cases all refer to a key person discount, the unmentioned but real issue at stake was the exclusion of personal goodwill from the marital estate. Some states consider personal goodwill a marital asset, some do not, and the case law in other

states is unclear. In states that do not include personal goodwill in the marital estate, my preference is to value the company assuming the absence of the owner/operator, thereby accounting for the impact of the owner/operator's contribution.

In another Minnesota case, *Feldick v. Feldick,*[20] the trial court rejected the husband's assertion of a key person discount on the grounds that the husband, who owned a residential appraisal business, had failed to produce information that supported such a discount. On appeal, the appellate court indicated that "[t]o the extent appellant's refusal to produce information prompted a refusal to grant a 'key-person' discount, he is not entitled to relief." One judge dissented. He found that the residential appraisal industry has low barriers to entry and the husband's business' success relied heavily on the husband's relationships with mortgage originators. Thus, he stated, "Because of these undisputed facts, independent of appellant's credibility problems, I conclude that the failure to apply a 'key-person' discount to any valuation of the appraisal business, no matter how complex, careful, or professional the formula used to arrive at the valuation, is error."

In a Wisconsin case, the court applied a 30 percent discount to a puppy-selling business because it determined that the business was "one-of-a-kind" and was "primarily the product" of the husband, and thus was not readily marketable.[21]

Conversely, in an Iowa case, the court rejected a 20 percent key person discount that purportedly accounted for the business' reliance on the husband where the court found that the wife's expert's valuation was more credible. The decision was affirmed on appeal, where the court concluded that "the discounts determined by the husband's expert including the key person discount were 'excessive under the facts of this case.'"[22]

In *Bernier v Bernier,*[23] the husband and wife equally owned two supermarkets via S corporations, which needed to be valued for marital dissolution purposes. The experts for both spouses agreed that the buyer of the supermarket shares would seek an investment that would yield the buyer's required rate of return and that the most accurate estimate of the supermarkets' value would be achieved by employing the income approach. In addressing the issue of key person and cost-of-sale discounts (10 percent each) that the husband's expert had applied and that the trial court had accepted, the Massachusetts Supreme Judicial Court ruled that the trial court had erred in accepting these discounts since the evidence clearly showed that the husband's expertise was critical to the continued success of the supermarkets and that he would continue to maintain total ownership and control of the supermarkets.

KEY PERSON DISCOUNTS IN OTHER TYPES OF CASES

SHAREHOLDER DISPUTES

Billigmeier v. Concorde Marketing, Inc.,[24] was a suit for unpaid commissions and frustration of reasonable expectation of continued employment brought by the 36 percent minority shareholder in a closely held, two-owner, manufacturers' representative corporation. The majority owner had terminated the minority owner's employment and had failed to pay him commissions still owed to him. The trial court found that the company had withheld over $250,000 in commissions from the minority shareholder, and further found that the company had acted in a manner unfairly prejudicial to him. Accordingly, it ordered the company to buy out the minority owner's interest in the company, and then determined the fair value of the interest as of the date of termination.

The minority owner's expert presented the only expert valuation evidence, which was unrebutted. The expert determined that a key person discount of 10 percent was appropriate because the company did not have a long established relationship with its vendors or a reasonable succession plan. The discount was applied to the value of the company as a going concern. The trial court accepted this discount (as well as all the expert's other discounts).

On appeal, the company contended that the trial court had erroneously failed to take into account the court's judgment against the company for unpaid commissions. It argued that the company had a negative value if the amount of the unpaid commissions judgment and the amount of a bank loan were deducted from the value of the company before application of the key person discount. Based on this argument, the company reasoned that it had no value as a going concern. The appellate court noted that the expert's valuation was a revenue-based analysis rather than a book value analysis. It further noted that although the company was correct in arguing that the lower court did not specifically take the judgment into account, it had considered the company's financial strength in applying the lower multiplier to its gross earnings. The appellate court thus affirmed the valuation, stating, "Because the valuation method used . . . was unrelated to book value and because the record contains no evidence that the debt owed . . . invalidates the 80% multiplier, we cannot conclude that the district court's valuation . . . is clearly erroneous."

In *Garlock v. Southeastern Gas & Power, Inc.,*[25] minority shareholders brought suit to involuntarily dissolve the corporation, which had been run more like a partnership than a corporation. The court determined that the majority shareholder had engaged in oppressive conduct and appointed an appraiser to determine the fair value of the company's stock. The appraiser applied, and the court accepted, a premium to the discount rate used in the income approach to account for the "key man" status of the majority shareholder, which lowered the value of the company. As in this case, appraisers sometimes add some premium to the discount rate for the specific company risk factor instead of applying a specific key person discount.

INCOME TAXATION

The key person discount was adjusted for by the IRS's expert in *Litman v. United States,*[26] an income tax case involving both individual taxpayers and a corporate taxpayer. The individual taxpayers, Litman and Diener, were the founders of Hotels.com, Inc. & Subsidiaries's two predecessor companies, TMF, Inc. (TMF) and HRN Marketing Corp. (HRN Marketing). In 1999, TMF and HRN Marketing sold substantially all of their assets to HRN, Inc. (HRN), a wholly-owned subsidiary of USA Networks, Inc. (HRN eventually changed its name to Hotels.com, Inc. & Subsidiaries.) As founders of the predecessor companies, when HRN completed its initial public offering (IPO), Litman and Diener received 9,999,900 restricted shares of HRN stock. On their personal income tax returns, they reported that the restricted shares had an average weighted value of $4.54 per share. In contrast, on its tax return HRN reported that the approximately 10 million shares of restricted stock had a value of $16 per share, the IPO price. The IRS, claiming it was "whipsawed" by these disparate valuations, argued that there was a tax gap of approximately $115 million. The court held that the appropriate date for valuing the stock was the date of issuance as reflected on the stock certificates, and that the methodology of the individual taxpayers' valuation expert, which applied discounts for

lack of marketability, carried the most weight. The court, however, found weaknesses in the methodology and subtracted 25 percent from the lower range of the expert's marketability discounts to conclude that the value of the stock was $90,818,180, or approximately $9.08 per share.

In his valuation, the IRS's expert took into account what he deemed was a key person discount, and adjusted this discount upward. He explained:

> [U]sually when you look at [key-person discounts], you're looking at a private company. . . .
>
> In this case, we have effectively a publicly traded share price, because we have the $16 [IPO price], and therefore there was a sense that the market price would have incorporated the key-person factor into the price, because it's all in the prospectus and everything else, and yet I was troubled by the fact that these shares are owned by Mr. Litman and Mr. Diener, and if they were to sell their shares, the buyer of those shares would know that one of the company insiders is selling their shares . . . . And so I tried to take that into account by making an adjustment of 7-1/2 percent to the discount based on research that's been done which indicates 5 to 10 percent is really the range of the key-person impact.

As indicated above, the court did not rely on this expert's approach.

SUMMARY

Many private companies (and some small public ones) are highly dependent on a key individual. This creates a significant risk factor to the company while that key person is active and an actual loss results upon death, disability, or resignation. Evidence of adverse market reaction to the loss of a key person in small public companies supports the economic reality of the key person discount. This chapter has discussed the many factors involved in analyzing and quantifying the key person discount.

One way to quantify the key person discount is by calculating the difference between the present value of expected cash flows with and without the key person, as opposed to taking a percentage discount from enterprise value. If the key person is alive and active in the business, the cash flow differential for each year would be multiplied by the probability of the person's remaining alive and active during that year.

The IRS has recognized the key person discount factor in Revenue Ruling 59-60 and has discussed it in its *Valuation Training for Appeals Officers Coursebook*. The Tax Court recognizes the key person discount factor, when appropriate, both in estate valuations and also while the key person is still active. On occasion, the key person discount also has been recognized in marital dissolution cases.

NOTES

1. James A. Larson and Jeffrey P. Wright, "Key Person Discount in Small Firms: Fact or Fiction?" *Business Valuation Review* (March 1996): 4–12; "Key Person Discount in Small Firms: An Update," *Business Valuation Review* (September 1998): 85–94; "Key Person Discount in Small Firms: Evidence from the 1990s," *Business Valuation Review* (September 2001): 8–14.
2. Steven E. Bolten and Yan Wang, "The Impact of Management Depth on Valuation," *Business Valuation Review* (September 1997): 143–146, at 143–144.

3. Internal Revenue Service, *IRS Valuation Training for Appeals Officers Coursebook* (Chicago: Commerce Clearing House, 1998), pp. 9-11 to 9-13. Published and copyrighted by CCH Incorporated, 1998, 2700 Lake Cook Road, Riverwoods, IL 60015, reprinted with permission.
4. See ''BVR's Guide to Personal V. Enterprise Goodwill,'' *Business Valuation Resources* (2008 Edition) for a detailed discussion of personal versus enterprise goodwill.
5. Jerome S. Osteryoung and Derek Newman, ''Key Person Valuation Issues for Private Businesses,'' *Business Valuation Review* (September 1994): 115–119, at 118.
6. Shannon P. Pratt, Alina V. Niculita, ''Key Person Discount'' in Valuing a Business, 5th ed. (New York: McGraw-Hill, 2007), pp. 650–651.
7. *Estate of Mitchell v. Commissioner,* T.C. Memo 1997-461, 74 T.C.M. (CCH) 872 (1997).
8. *Estate of Mitchell v. Commissioner,* 2001 U.S. App. LEXIS 7990 (9th Cir, 2001).
9. *Estate of Mitchell v. Commissioner,* T.C. Memo 2002-98, 2002 Tax Ct. Memo LEXIS 100 (2002).
10. *Estate of Feldmar v. Commissioner,* T.C. Memo 1988-429, 56 T.C.M. (CCH) 118 (1988).
11. *Estate of Rodriguez v. Commissioner,* T.C. Memo 1989-13, 56 T.C.M. (CCH) 1033 (1989).
12. *Estate of Huntsman v. Commissioner,* 66 T.C. 861 (1976).
13. *Estate of Yeager v. Commissioner,* T.C. Memo 1986-448, 52 T.C.M. (CCH) 524 (1986).
14. *Estate of Leichter v. Commissioner,* T.C. Memo 2003-66 (2003).
15. *Estate of Renier v. Commissioner,* T.C. Memo 2000-298 (2000).
16. *Furman v. Commissioner,* T.C. Memo 1998-157, 75 T.C.M. (CCH) 2206 (1998).
17. *Rogers v. Rogers,* 296 N.W.2d 849, 1980 Minn. LEXIS 1565 (Minn. 1980).
18. *In re the Marriage of Nelson,* 411 N.W.2d 868, 1987 Minn. App. LEXIS 4759 (Minn. Ct. App. 1987).
19. *In re the Marriage of Buchanan,* 1989 Minn. App. LEXIS 642 (Minn. Ct. App. 1989).
20. *Feldick v. Feldick,* 2004 Minn. App. LEXIS 529 (Minn. Ct. App. 2004).
21. *Frawley v. Frawley,* 2004 Wisc. App. LEXIS 841 (Wisc. Ct. App. 2004).
22. *In re the Marriage of Frett*, 2004 Iowa App. LEXIS 694 (Iowa Ct. App. 2004).
23. *Bernier v. Bernier,* 873 N.E.2d 216 (Mass. 2007).
24. *Billigmeier v. Concorde Marketing, Inc.,* 2001 Minn. App. LEXIS 1273 (Minn. Ct. App. 2001).
25. *Garlock v. Southeastern Gas & Power, Inc.,* 2001 NCBC LEXIS 9 (N.C. Super. Ct. 2001).
26. *Litman v. United States,* 2007 U.S. Claims LEXIS 273 (Fed. Cl. 2007).

Chapter 18

Discounts for Trapped-In Capital Gains Taxes

Rationale for Trapped-In Capital Gains Tax Discount
"*General Utilities* Doctrine"
Tax Court Recognizes Trapped-In Capital Gains
Internal Revenue Service Acquiesces to Trapped-In Capital Gains Discount
Subsequent Tax Cases Regularly Recognize Trapped-In Capital Gains Tax Discount
Trapped-In Capital Gains in Dissenting Stockholder Actions
Trapped-In Capital Gains in Bankruptcy Court
Trapped-In Capital Gains Taxes in Marital Dissolutions
  Marital Cases Denying Trapped-In Capital Gains Discounts
  Marital Cases Allowing Trapped-In Capital Gains Discounts
Treatment of Capital Gains Tax Liability
Treatment of Capital Gains Tax Liability in S Corporations
Summary

The concept of trapped-in capital gains is that a company holding an appreciated asset would have to pay a capital gains tax on the sale of the asset. If ownership of the company were to change, the liability for the tax on the sale of the appreciated asset would not disappear.

To review fundamentals, the embedded capital gains tax liability is relative to the company's appreciated asset. This liability would be incurred if the *asset* were sold. Transactions in the company's *stock* might also incur capital gains, but these would be based on the cost and selling price of the stock, not the asset. The capital gains tax would be a corporate expense, not a personal expense, and it would influence what a buyer would pay. In this chapter, we speak only of embedded capital gains in the *asset*.

There are two basic concepts in understanding the unrealized capital gains tax for assets. The first is that the unrealized capital gains tax is a liability associated with the company's assets. The second is that the unrealized capital gains tax is only relevant under the asset approach which assumes a hypothetical sale of the asset on the day of valuation.

This chapter was updated from the first edition by Kimberly L. A. Linebarger.

RATIONALE FOR TRAPPED-IN CAPITAL GAINS TAX DISCOUNT

An ongoing issue in gift and estate tax valuation is whether, or the extent to which, the liability for unrealized capital gains on appreciated assets should be reflected in valuation of the stock or partnership interest that owns the assets.

In most (if not all) cases, we believe that the liability for trapped-in capital gains taxes *should* be reflected in the value of the stock or partnership that owns the assets. However, until 1998 the Internal Revenue Service and the U.S. Tax Court steadfastly held that the trapped-in capital gains tax was *not* a basis for a discount. That all changed with the *Davis* case in 1998 (discussed later in the chapter).

Assuming that the standard of value is fair market value, the premise seems very simple. Suppose that a privately held corporation owns a single asset (for instance, a piece of land) with a fair market value of $1 million and a cost basis of $100,000. Would the buyer pay $1 million for the stock knowing the underlying asset is subject to a corporate tax on a $900,000 gain, when he or she could buy the asset (or a comparable asset) directly for $1 million? Of course not.

And would the hypothetical, willing seller of the private corporation discount his or her stock below $1 million to receive cash not subject to the corporate capital gains tax? Of course.

The most common reason cited in court decisions for denying a discount for trapped-in capital gains is lack of intent to sell. If the reason for rejecting the discount for trapped-in capital gains tax is that liquidation is not contemplated, then this same logic should also lead to the conclusion that the asset approach is irrelevant, and the interest should be valued only by the income approach and/or the market approach.

There have been dramatic developments in U.S. Tax Court decisions, starting in 1998, with explicit recognition of liability for capital gains taxes on significantly appreciated property. This recognition in the tax court has trailed in the wake, albeit somewhat belatedly, of the 1986 elimination of the "*General Utilities* Doctrine." We can only hope that the family law courts will take note and follow suit.

This issue is typical of many in business valuation, in which sound theory dictates a certain conclusion, but the courts, the law, and legal practitioners are, to put it simply, behind the curve. It is the job of appraisers to educate others as to these economic realities. Note the 12-year time lag between the 1986 repeal of the *General Utilities* Doctrine and the 1998 and subsequent court cases discussed in this chapter. This education process requires years. The law is slow to change, despite economic reality.

"*GENERAL UTILITIES* DOCTRINE"

Prior to 1986, a rule of law known as the "*General Utilities* Doctrine" (named after a U.S. Supreme Court case, *General Utilities & Operating Co. v. Commissioner*) was in effect.[1] This law allowed corporations to elect to liquidate, sell all their assets, and distribute the proceeds to shareholders without paying corporate capital gains taxes. The Tax Reform Act of 1986 eliminated this option, thus leaving no reasonable method of avoiding the corporate capital gains tax liability on the sale of appreciated assets.

With no way to eliminate the capital gains tax on the sale of an asset, it is impossible to believe that an asset subject to the tax (for instance, buying stock of a company owning

a highly appreciated piece of real estate) could be worth as much as an asset not subject to the tax (for instance, direct investment in the same piece of real estate). Even with no intent to sell the entity or the appreciated asset in the foreseeable future, it seems that any rational buyer or seller would see a value difference.

TAX COURT RECOGNIZES TRAPPED-IN CAPITAL GAINS

The U.S. Tax Court first recognized the rational buyer/seller viewpoint in 1998 in *Estate of Davis v. Commissioner.*[2] The primary asset of the corporation whose stock was being valued was a large block of highly appreciated stock of Winn Dixie, a publicly traded company. The IRS held tenaciously to its historical position that, as a matter of law, a discount to recognize the trapped-in capital gain was inappropriate. In recognizing a discount to reflect the built-in capital gains factor, the court held:

> [E]ven though no liquidation of [the company] or sale of its assets was planned or contemplated on the valuation date, a hypothetical willing seller and a hypothetical willing buyer would not have agreed on that date on a price . . . that took no account of [the company's] built-in capital gains tax. We are also persuaded . . . that such a willing seller and such a willing buyer . . . would have agreed on a price . . . that was less than the price that they would have agreed upon if there had been no . . . built-in capital gains tax. . . .

The amount of the discount allowed in *Davis* was between one-third and one-half of the trapped-in capital gains tax liability.

Carsten Hoffmann, a business appraiser, wrote this summary of the *Davis* case result:

> Davis Estate has been a startling, but logical, victory for the taxpayer. Through in-depth analysis of all relevant circumstances and expert testimony of several well-respected experts, the Tax Court decided that in a post–General Utilities environment the tax liability resulting from built-in capital gains can be considered when there is no intent to liquidate the assets of the corporation. Logic and the Tax Court agree, however, that a dollar-for-dollar subtraction of the tax liability is not the correct valuation approach when there is no intent to liquidate. As a result, it is up to the valuation community to gather the appropriate data and establish the most accurate methodology to quantify the diminution in value resulting from built-in capital gains tax liabilities.[3]

As we will see shortly, many appraisers *do* believe that the discount should be the full amount of the impounded tax.

At the time of the *Davis* decision, *Eisenberg v. Commissioner* was on appeal in the Second Circuit Court of Appeals.[4] The Tax Court had denied the trapped-in gains discount, relying on Tax Court decisions prior to the 1986 repeal of the *General Utilities* doctrine. The Second Circuit opinion noted that, because of the change in the law, those decisions were no longer controlling. The Second Circuit, commenting favorably on the *Davis* decision, vacated the Tax Court decision denying the discount, and held:

> Fair market value is based on a hypothetical transaction between a willing buyer and a willing seller, and in applying this willing buyer–willing seller rule, "the potential transaction is to be analyzed from the viewpoint of a hypothetical buyer whose only goal is to maximize his advantage. . . ." Our concern in this case is not whether or when the donees will sell,

> distribute or liquidate the property at issue, but what a hypothetical buyer would take into account in computing [the] fair market value of the stock. We believe it is common business practice and not mere speculation to conclude a hypothetical willing buyer, having reasonable knowledge of the relevant facts, would take some account of the tax consequences of contingent built-in capital gains. . . . The issue is not what a hypothetical willing buyer plans to do with the property, but what considerations affect the fair market value. . . . We believe that an adjustment for potential capital gains tax liabilities should be taken into account in valuing the stock at issue in the closely held C corporation even though no liquidation or sale of the Corporation or its asset was planned. . . .

The Second Circuit remanded the case back to the Tax Court for revaluation recognizing the trapped-in capital gains factor. There is no written decision on the valuation on remand, but we understand that the discount agreed to in settlement was consistent with that concluded in *Davis.*

In *Estate of Simplot v. Commissioner,* the company being valued owned a large block of highly appreciated stock in a publicly traded company, Micron Technology.[5] Experts for both the taxpayer and the IRS deducted 100 percent of the trapped-in capital gains tax in valuing this nonoperating asset held by the operating company, and the Tax Court accepted this conclusion. (This aspect of *Simplot* is distinct from the control premium issue on which the decision was reversed. Treatment of trapped-in capital gains was not at issue on appeal.)

Another 1999 case, *Estate of Jameson v. Commissioner,* also clearly recognized the trapped-in capital gains tax discount, in this case involving a timber company.[6] The court found that where a timber company must recognize built-in capital gains under Internal Revenue Code section 1231 (because of its IRC section 631(a) election), each time it cuts and sells timber, valuation of the company must take the built-in capital gains into account.

Many members of the professional business valuation community applaud the result of deducting the full amount of the tax liability. For example, Chris Mercer commented: "The Court's finding is consistent with the position I have long advocated. This is an exciting result. Good economic evidence is the basis for sound decisions by the courts."[7]

Another example of this school of thought was offered by John Gilbert. In an article in the *CPA Expert,* he analyzed alternate scenarios and concludes that "the proper amount of the discount is the full amount of the tax liability."[8]

Notwithstanding these opinions, some business appraisers believe that in some cases only a portion of the capital gains tax should be deducted, depending on the facts and circumstances of each case. This remains a controversial issue, with some appraisers taking the position that the discount should always be 100 percent of the tax liability, and others saying that it is economically incorrect to do so in some (or even most) situations. The issue is discussed later in this chapter.

INTERNAL REVENUE SERVICE ACQUIESCES TO TRAPPED-IN CAPITAL GAINS DISCOUNT

The IRS finally posted a notice on its Web site, www.irs.gov, acquiescing that there is no legal prohibition against a discount for trapped-in capital gains.

Referring to the *Eisenberg* case, the notice stated:

> The Second Circuit reversed the Tax Court and held that, in valuing closely-held stock, a discount for the built in capital gains tax liabilities could apply depending on the facts presented. The court noted that the Tax Court itself had recently reached a similar conclusion in *Estate of Davis v. Commissioner* 110 T.C. 530 (1998).
>
> We acquiesce in this opinion to the extent that it holds that there is no legal prohibition against such a discount. The applicability of such a discount, as well as its amount, will hereafter be treated as factual matters to be determined by competent expert testimony based upon the circumstances of each case and generally applicable valuation principles. Recommendation: Acquiescence.

The notice indicated that it was approved by Stuart L. Brown, Chief Counsel, and Judith C. Dunn, Associate Chief Counsel. Of course, it contained the standard caveat: "This document is not to be relied upon or otherwise cited as precedent by taxpayers."[9]

SUBSEQUENT TAX CASES REGULARLY RECOGNIZE TRAPPED-IN CAPITAL GAINS TAX DISCOUNT

There have been several additional cases decided in the U.S. Tax Court involving discounts for trapped-in capital gains, and all, except a partnership case, have recognized the discount, with the amounts varying considerably.

In *Estate of Dunn v. Commissioner,* the subject company was an operating equipment leasing company, and the appreciated assets in question were the equipment available for lease.[10] Because it viewed liquidation as unlikely, the Tax Court allowed only a 5 percent discount for trapped-in capital gains. However, on appeal the Fifth Circuit called for a dollar-for-dollar reduction of the trapped-in capital gains.

In *Estate of Welch v. Commissioner,* the Tax Court denied the capital gains tax deduction because the appreciated property was real estate subject to condemnation, which made the company eligible for an IRC section 1033 election to roll over the sale proceeds and defer the capital gains tax, an option it exercised.[11] On appeal the Sixth Circuit Court of Appeals reversed.

The Sixth Circuit specifically addressed the issue of the corporation's potential IRC section 1033 election, stating that the availability of the election does not automatically foreclose the application of a capital gains discount. The Tax Court must consider it as a factor in determining fair market value, just as a hypothetical willing buyer would.

The point to be gleaned from this case is that while a section 1033 election may be available, the value of that election and its effect on the value of the stock still depend on all of the circumstances a hypothetical buyer of the stock would consider. In the present case, the corporation's exercise of the section 1033 election after the valuation date was therefore irrelevant.

In *Estate of Borgatello v. Commissioner,* the estate held an 82.76 percent interest in a real estate holding company.[12] Both experts applied a discount for trapped-in capital gains, but by using very different methods.

The expert for the taxpayer assumed immediate sale. On that basis, the combined federal and California state tax warranted a 32.3 percent discount.

The expert for the IRS assumed a 10-year holding period and a 2 percent growth rate in asset value. On the basis of those assumptions, he calculated the amount of the combined federal and California tax and discounted that amount back to a present value at a discount rate of 8.3 percent. On that basis the discount worked out to be 20.5 percent.

The court held that the taxpayer's expert's methodology was unrealistic, because it did not account for any holding period by a potential purchaser. The court also found that the IRS's expert's 10-year holding period was too long. Therefore, the court looked at the range of discounts opined by the experts and tried to find a middle ground between the immediate sale and the 10-year holding period. The court concluded that a 24 percent discount attributable to the trapped-in capital gains was reasonable.

In *Estate of Jelke v. Commissioner*,[13] the court allowed only a partial discount for built-in capital gains tax liability. On appeal the Eleventh Circuit Court of Appeals remanded with instructions for a dollar-for-dollar deduction. The United States Supreme Court denied review,[14] so the Eleventh Circuit's decision is the final say in this case.

In *Wechsler v. Wechsler*,[15] the trial court relied significantly on the *Jelke* case but took a different approach. On appeal the court remanded for a dollar-for-dollar reduction. This case and the *Jelke* case are discussed further in the treatment of capital gains section of this chapter.

One case since *Davis* in which the capital gains tax discount was denied was *Estate of Jones v. Commissioner,* where the estate owned an 83.08 percent partnership interest.[16] In denying the discount, the Tax Court elaborated at length to distinguish the circumstances from *Davis*:

> The parties and the experts agree that tax on the built-in gains could be avoided by a section 754 election in effect at the time of sale of partnership assets. If such an election is in effect, and the property is sold, the basis of the partnership's assets (the inside basis) is raised to match the cost basis of the transferee in the transferred partnership interest (the outside basis) for the benefit of the transferee. See sec. 743(b). Otherwise, a hypothetical buyer who forces a liquidation could be subject to capital gains tax on the buyer's pro rata share of the amount realized on the sale of the underlying assets of the partnership over the buyer's pro rata share of the partnership's adjusted basis in the underlying assets. See sec. 1001. Because the [limited partnership] agreement does not give the limited partners the ability to effect a section 754 election, in this case the election would have to be made by the general partner.
>
> [Taxpayer's expert] opined that a hypothetical buyer would demand a discount for built-in gains. He acknowledged in his report a 75- to 80-percent chance that an election would be made and that the election would not create any adverse consequences or burdens on the partnership. His opinion that the election was not certain to be made was based solely on the position of [decedent's son], asserted in his trial testimony, that, as general partner, he might refuse to cooperate with an unrelated buyer of the 83.08-percent limited partnership interest (i.e., the interest he received as a gift from his father). We view [decedent's son's] testimony as an attempt to bootstrap the facts to justify a discount that is not reasonable under the circumstances.
>
> [The IRS's expert,] on the other hand, opined, and respondent contends, that a hypothetical willing seller of the 83.08-percent interest would not accept a price based on a reduction for built-in capital gains. The owner of that interest has effective control, as discussed above, and would influence the general partner to make a section 754 election, eliminating any gains for the purchaser and getting the highest price for the seller. Such an election would have no material or adverse impact on the preexisting partners. We agree with [the IRS's expert]. . . .

> In the cases in which the discount was allowed, there was no readily available means by which the tax on built-in gains would be avoided. By contrast, disregarding the bootstrapping testimony of [decedent's son] in this case, the only situation identified in the record where a section 754 election would not be made by a partnership is an example by [taxpayer's expert] of a publicly syndicated partnership with "lots of partners . . . and a lot of assets" where the administrative burden would be great if an election were made. We do not believe that this scenario has application to the facts regarding the partnerships in issue in this case. We are persuaded that, in this case, the buyer and seller of the partnership interest would negotiate with the understanding that an election would be made and the price agreed upon would not reflect a discount for built-in gains.

Similarly, in *Temple v. United States,*[17] the court rejected a discount for built-in capital gains for the sales of two partnerships because it determined that any built-in gain at contribution was generally allocated to the contributing partner and that it was likely a hypothetical buyer and seller would negotiate an understanding that the section 754 election would be made so the price would not reflect a discount for any built-in capital gains.

TRAPPED-IN CAPITAL GAINS IN DISSENTING STOCKHOLDER ACTIONS

Courts have been mixed in their treatment of trapped-in capital gains tax liability in dissenting stockholder actions. The issue does not often arise in this context, because liquidation value is not often the premise of value. Most corporations (except holding companies) are valued on a going concern basis.

A case that denied a trapped-in capital gains liability deduction was *In re 75,629 Shares of Common Stock of Trapp Family Lodge, Inc.* (Vermont).[18] The Supreme Court of Vermont said, "[W]e conclude that the trial court correctly determined that no tax consequences of a sale should be considered where no such sale is contemplated." The court characterized the base value from which it denied the discount as going concern value, although a net asset value approach was incorporated in reaching the value.

Another case that ultimately denied the discount for built-in capital gains liability was *Brown v. Arp & Hammond Hardware Co.,*[19] involving minority shareholders asserting their appraisal rights following a reverse stock split that effectively cashed out their interest. The trial court found that a 5 percent discount for trapped-in capital gains was appropriate because it was anticipated that the company would have to sell some of its assets to satisfy the judgment in the case. However, the Wyoming Supreme Court reversed. After reviewing the case law of other jurisdictions, it held that absent clear evidence of the company's imminent liquidation, a discount for embedded capital gains would not accurately reflect the "fair value" of the shares.

Although the embedded capital gains tax discount was disallowed in *Matthew G. Norton Co. v. Smyth*,[20] a dissenters' rights case, the Washington Court of Appeals rejected a bright-line rule that such a discount is never appropriate in an appraisal action. The court indicated that a "wholesale discount for built-in capital gains on all the appreciated assets of the companies based on hypothetical liquidation at some indefinite time in the future is not appropriate," but added:

> [F]acts that were known or could be ascertained as of the date of the merger that relate to disposition of a particular appreciated asset—such as contemplation of sale of the asset in

> accord with pre-existing planning in the normal course of business—are properly considered in determining net asset value in a dissenting shareholders case, provided, however, that the shareholder will not effectively be paying his or her proportionate share of the tax on this same appreciation, upon taxation of the proceeds of sale of his or her appreciated stock back to the corporation. To the extend that the trial courts ruling was intended to preclude any such considerations, we reverse.

Finally, the court stated that the company needed to provide the trial court with a reasonable explanation of why such built-in gains should be considered.

TRAPPED-IN CAPITAL GAINS IN BANKRUPTCY COURT

Trapped-in capital gains tax liability was an issue in *In re Frezzo.*[21] An appraiser presented the trustee with an appraisal that utilized both an income approach and an asset approach. The asset approach value was net of 35 percent hypothetical capital gains tax on a sale of the company's assets. The trustee accepted the appraised value, and the court approved it. The court stated, ''A reduction for potential taxes is certainly appropriate.''

TRAPPED-IN CAPITAL GAINS TAXES IN MARITAL DISSOLUTIONS[22]

In many cases the marital estate owns property that is worth more than its cost basis. In such a situation, if the marital estate or one of the spouses were to sell the property, the seller would be subject to federal capital gains taxes.

Whether to consider tax liabilities that would be triggered by the sale of assets is one of the most common issues in marital property divisions. For the most part, family law courts have been unwilling to make any allowance for trapped-in capital gains on appreciated property unless a sale of the property is imminent. Since family law courts often take Tax Court positions into consideration, perhaps the Tax Court's sharp change of direction on this issue in 1998, instructing that valuations reflect trapped-in capital gains taxes, will lead family law courts to give renewed consideration to this issue.

It seems economically inequitable to give one spouse cash or an asset that is free and clear of tax liability while the other spouse receives property of equal market value but subject to tax liability if the spouse desires or needs to liquidate it. Yet that is exactly what the preponderance of family law courts do. The principal factor cited in denying a discount for capital gains tax liability is lack of intent to sell. As stated in an earlier section, if lack of intent to sell is the basis for denying consideration of the built-in capital gains tax liability, then the value to the marital estate should be determined solely on an income approach basis because the asset's market value is rendered irrelevant.

This section presents a representative selection of cases. For more case references, readers are referred to the 139-page paper by Tracy Bateman, ''Divorce and Separation: Consideration of Tax Consequences in Distribution of Marital Property,'' published in 2000.[23]

MARITAL CASES DENYING TRAPPED-IN CAPITAL GAINS DISCOUNTS

A Washington case, *In re the Marriage of Hay,*[24] is typical. The trial court adjusted the gross value of the parties' interest in a real estate partnership from $119,049 to $101,000 to reflect the capital gains tax that would be paid if it were sold. The court of appeals

reversed. The appellate court noted, "There is no Washington case specifically addressing whether capital gains tax consequences should be a factor in determining the value of marital assets." Thus, the court looked to other states for precedent, citing cases in seven other states. The court then concluded:

> Courts have generally found that consideration of tax consequences is either required or at least appropriate where the consequences are immediate and specific and/or arise directly from the court's decree, but find they are not an appropriate consideration where speculation as to a party's future dealings with property awarded to him or her would be required. We agree with the rule adopted by most jurisdictions. . . . Mr. Hay testified at trial that he had no plans to sell his partnership interest. . . . [We] remand to enable the trial court to consider the property division without regard to the capital gains tax consequences of a hypothetical sale of H&L Investments.

Likewise, in *Buzzanell v. Miller*,[25] the court rejected a discount for trapped-in gains because there was no imminent sale planned for the husband's medical practice. The husband's expert had valued the practice at $31,000 on an after-tax basis, but the court instead concluded that the value was $155,000. In doing so, the court said, "[The husband's expert's] consideration of tax consequences is speculative, and an improper consideration in valuation of the practice. The court finds further that the write-off ratios and the deductions for collection, used by [the expert] were excessive." Many other family law courts have come to the same conclusion.[26]

The court in *Owens v. Owens,*[27] in addition to rejecting an imbedded capital gains tax discount because a sale was not imminent, also opined that the discount was inappropriate under an intrinsic value standard of value, that is, what the property is worth to the parties, which is to be used for equitable distribution.

The practice of reviewing decisions from other states is very common in the family law arena. A typical example of the result of such practice is *Kaiser v. Kaiser* (North Dakota).[28] This opinion stated that a court should consider potential tax consequences in valuing marital assets only if all of the following conditions are met:

- The recognition of a tax liability is required by dissolution or will occur within a short time.
- The party's future dealings with the assets are definite enough that the court need not speculate.
- The future consequences are definite enough that the court need not speculate, and the tax liability can be reasonably predicted.

The courts usually factor in the tax consequences when it is clear that they will be triggered as part of the divorce action. However, in the Indiana case of *Granger v. Granger,* a trial court ordered the husband to pay a mortgage, a car loan, and a cash judgment to the wife from the sale of at least one of two laundromats that he owned.[29] The trial court reduced the marital estate by $53,200 tax liability to be incurred on the sale of the laundromats. The trial court explained that although it did not specifically order the sale of the laundromats, this sale was the only way that the husband could comply with the orders of the court. Nevertheless, the appellate court found that the sale of both laundromats was not an immediate or necessary consequence of the property

disposition and that the trial court erred in reducing the marital estate by the amount of the tax liability.

The Kansas case of *Bohl v. Bohl* is an example of extreme denial of consideration of tax consequences.[30] The property division mandated by the trial court in effect required the husband to liquidate his closely held business and turn the proceeds over to the wife to satisfy a cash award. Nevertheless, the court rejected the husband's argument that the stock should have been valued at its liquidation value rather than its going concern value because of the tax consequences, reasoning that to follow this argument would universally prevent a court from valuing property at more than cost because of tax consequences.

In *Knotts v. Knotts* (Indiana), the husband held an option to buy Eli Lilly stock.[31] The market price at the time of dissolution was well above the strike price, so the option clearly had intrinsic value, but the husband would have had to pay capital gains tax if he exercised it. The trial court valued the option at its intrinsic value less the capital gains tax that would have to be paid to realize that intrinsic value.

The court of appeals reversed, stating ''[t]hat a trial court must consider tax consequences related to the disposition of marital property. However, the ''statute requires the trial court to consider only the direct or inherent and necessarily incurred tax consequences 'of the property disposition.'

''In the present case, the trial court improperly considered tax consequences incident to the future disposition of the Lilly stock option. As a result, we reverse the property distribution and order the trial court, upon remand, to award [the wife] an additional $2,394.50.''

Isn't this the height of inequity? First, the husband has to pay his wife half the amount of tax that he will have to pay to the government when he exercises the option. Then, when he exercises it, he will have to pay the government the full amount of the tax! If the stock price falls so that the amount realized is less or nothing, the wife has collected half of the amount of the tax that the husband would have had to pay on exercise if the stock had maintained its market value!

MARITAL CASES ALLOWING TRAPPED-IN CAPITAL GAINS DISCOUNTS

There are, however, cases where the potential tax consequences on sale have been deducted in valuing the marital estate, even when no immediate sale was contemplated. For example, in *Liddle v. Liddle* (Washington), the court concluded that it was proper to deduct the amount of capital gains tax that the husband would have to pay on the anticipated sale of limited partnership interests.[32] The wife objected to reducing the value by the impounded taxes, claiming that they were ''hypothetical, speculative, imaginary, unfair, and arbitrary.'' Evidence was introduced to show that the partnership was a tax shelter that would lose its desirability in five to seven years and would probably be sold. The court concluded that the date of sale was neither imaginary nor hypothetical.

The court then offered an interesting broader statement that ''*partnerships ought to be reduced by future capital gains taxes*'' where the partnerships were investments that ''*were only valuable as long as other investments were not more desirable,*'' and the husband ''*was more likely to sell his interest in the partnerships than die owning them,*'' and would, therefore, incur a capital gains tax from the sale of the partnerships (emphasis

added). From the viewpoint of a financial analyst, it is reasonable to think that this reasoning should apply to *any* investment asset.

Another interesting decision upholding subtraction of capital gains tax involved a commercial building. In *Hogan v. Hogan* (Missouri), the appellate court held that the trial court did not abuse its discretion in subtracting the capital gains tax that would be incurred on sale, even though there was no evidence that the property was going to be sold.[33] The court found that experts for both parties attested to the property's fair market value and that the concept of fair market value assumes the sale of the property to an interested buyer. Thus, the court was reluctant to find any error by the trial court in presuming a sale of the real estate with its attendant tax consequences in order to value that marital asset.

In *Zoldan v. Zoldan* (Ohio), the trial court accepted the valuation of the husband's expert, which was net of tax consequences (and also net of both minority and marketability discounts).[34] The trial court stated that it found the husband's expert more credible. The wife's expert "did not consider all the facts and procedures the court considered applicable." The court of appeals upheld, stating that "there was sufficient credible evidence considering the totality of the circumstances, from which the trial court could have accepted the valuations given by [wife's] expert witness."

In *In re the Marriage of Deviny,*[35] at issue was the value of the husband's nontransferable and nondivisible stock options in the 3M corporation. The husband's expert valued these on an after-tax basis to account for a capital gains rate of 26 percent, which the trial court originally accepted. However, on a motion by the wife to reconsider, the trial court revised the valuation of the options so that it was on a pretax basis. On appeal, the Minnesota Court of Appeals reversed, concluding that the tax consequences upon sale of the options was an absolute certainty, rather than speculative, which required a valuation that accounted for the capital gains tax liability on an after-tax basis.

Finney v. Finney[36] involved the valuation of a controlling interest in a closely held ranching business. In that case, the husband's expert reduced the value by $507,000 to account for capital gains taxes that would be owed upon a future sale of the ranch, and the trial court accepted this deduction. On appeal, the wife argued that the trial court had erred, since the sale of the business was not imminent and was hypothetical and speculative. The Nebraska Court of Appeals did not agree with the wife, and it affirmed, reasoning that tax ramifications may be considered when they are established by an expert. The court said, "The fact that the ranch is not presently for sale does not render the consideration of this factor inappropriate."

In another case, where the husband would effectively have been forced to purchase the wife's shares in a company, the court permitted a credit for capital gains taxes, even though there was no evidence of an imminent sale.[37]

Some courts hold that tax consequences may be considered if the court determines that the property division award will force a party to sell the business to generate the cash needed to pay the court-imposed obligations.[38]

TREATMENT OF CAPITAL GAINS TAX LIABILITY

Ever since acceptance of the capital gains tax liability in the tax courts, the proper treatment of the liability has been heavily debated. There are two main opinions on how to calculate the liability. One is that a partial discount based on a present value calculation

over an estimated holding period of the asset should be utilized to determine the liability. The other is that the discount should reflect the dollar-for-dollar value of the tax liability as of the date of valuation.

One of the most recent cases to address this issue was *Estate of Jelke v. Commissioner*. Based on the IRS expert's testimony the court allowed only a partial discount for the built-in capital gains tax liability. On appeal the Eleventh Circuit Court of Appeals remanded with instructions for a dollar-for-dollar deduction.

> The Tax Court, adopting the Commissioner's expert witness appraiser's approach, allowed the estate only a partial $21 million discount for [the] built-in capital gains tax liability, indexed to reflect present value on the date of Jelke's death, using projections based upon the court's findings as to when the assets would likely be sold and when the tax liability would likely be incurred, that is, in this case, over a 16-year period. Using what could be termed an economic market reality theory, the estate argued, under the rationale set forth by the Fifth Circuit Court of Appeals in *Estate of Dunn v. Commissioner*, 301 F.3d 339 (5th Cir. 2002), that a 100 percent dollar-for-dollar discount was mandated for [the] entire contingent $51 million capital gains tax liability. Under this theory, it is assumed that [the company] is liquidated on the date of Jelke's death, the valuation date, and all assets [of the company] are sold, regardless of the parties' intent to liquidate or not, or restrictions on [the company's] liquidation in general.
>
> Based upon [. . .] historical overview, discussion, and precedential authority, we are in accord with the simple yet logical analysis of the tax discount valuation issue set forth by the Fifth Circuit in *Estate of Dunn,* 301 F.3d at 350-55, providing practical certainty to tax practitioners, appraisers and financial planners alike. Under a de novo review, as a matter of law, we vacate the judgment of the Tax Court and remand with instructions that it recalculate the net asset value of [the company] on the date of Jelke's death, and his 6.44% interest therein, using a dollar-for-dollar reduction of the entire $51 million built-in capital gains tax liability of [the company], under the arbitrary assumption that [the company] is liquidated on the date of death and all assets sold.[39]

One judge dissented in the appeal.

Another recent case to address this issue was *Wechsler v. Wechsler*.[40]

> The trial court had accepted the approach of plaintiff's expert and reduced the baseline value of the company by the historical rate of annual taxes paid. On appeal, the court modified the trial court's judgment. The court rejected the use of the historical rate of annual taxes as the approach assumed that the assets would not be sold as of the valuation date and that the company would operate in the future as it had in the past, particularly with regard to the sale of its assets. Instead, the court held that the appropriate approach was that *in Matter of Dunn v. Commissioner of Internal Revenue,* 301 F.3d 339 (5th Cir. 2002), in which the value of the company was reduced on a dollar-for-dollar basis by the full amount of the tax liability that would arise from the sale of the assets by a hypothetical buyer on the valuation date [. . .].

One of the most significant aspects of the appeal is the discussion of applying the arguments outlined in the *Dunn* and *Jelke* cases in a marital action setting. "[T]he validity of the net asset valuation methodology adopted in *Jelke* and *Dunn* does not depend upon whether it is applied in an estate tax case, another type of tax case or a matrimonial action."

One judge dissented in the appeal.

TREATMENT OF CAPITAL GAINS TAX LIABILITY IN S CORPORATIONS

The question of how to treat trapped-in capital gains tax associated with a company's assets when valuing stock in an S corporation is a complicated one. Nancy Fannon addresses the topic in her book on S-corporation valuation:

> [When liquidation is assumed] the S corporation investor has a distinct benefit- or at least the possibility of one. Because the capital gain passes through to the individual level, the capital loss on the stock can be taken in full and offset against the gain. However, for this to occur, the stock of the S corporation must be liquidated in the same tax year as the liquidation of the underlying asset. . . . For these instances, the investor would not seek a discount from net asset value for built-in gains tax.
>
> Note that in no instance would an S corporation investor pay a premium calculated by reference to the company's net asset value, as some commentators have suggested. . . . How the value of the S corporation's net assets compares to C corporation pricing or premiums *calculated by reference to C corporation rates of return* are of no relevance to net asset calculations.
>
> . . . In some instances, the S corporation may desire to continue operating. Or the investor may not be able to offset an asset gain with a stock liquidation in the same taxable year: for example, when an S corporation owns both an operating business and an appreciated asset, so that a corporate liquidation is not feasible. In these cases, the S corporation investor still has the advantage *compared to a C corporation* of a 20% capital gains tax rate compared to a 40% rate for C corporations, and basis step-up for the gain on the asset sale. However, unlike the income approach (where we use publicly traded C corporation rates of return to value the S corporation), when we value the S corporation using the net asset value method of appraisal, we are not valuing it by reference to a C corporation; we are valuing it by reference to its own assets and liabilities. [. . .] The only comparison we should be making is whether the S corporation has an advantage or disadvantage compared to owning them individually. Since all taxes and basis pass through to the owner of the S corporation, the answer to this is generally no.[41]

One of the most important points Fannon makes on the treatment of the trapped-in capital gains tax for assets is found in a footnote:

> [FN 2] Every valuation is facts-and-circumstances driven, and the application of taxes to any particular situation will likely vary from the general guidelines. . . . Analysts and business owners should always seek appropriate advice from a tax accountant and/or a tax attorney on all tax-related matters.

SUMMARY

From the repeal of the *General Utilities* Doctrine in 1986, it took the U.S. Tax Court until the *Davis* case in 1998 to recognize the reality of trapped-in capital gains tax liability as a discount in determining fair market value. Since then, the Tax Court has consistently recognized the capital gains tax factor, applying varying discounts up to 100 percent of the trapped-in capital gain.

Courts in dissenting stockholder cases have produced mixed decisions on the issue. In bankruptcy court, where the sale of assets usually is an option, the trapped-in capital gain discount tends to be recognized.

Some marital dissolution cases recognize a discount for trapped-in capital gains on appreciated property for marital property distribution. However, the majority have not, unless there was an immediate prospect of a sale. This disinclination has caused what appear to be some serious inequities in property distribution. Family law courts often refer to Tax Court decisions. Possibly the compelling reality of the recent stance of the U.S. Tax Court will spill over into family law courts.

The treatment of trapped-in capital gains tax liability for S corporations is complicated, and so far there is no definitive case law. It is beneficial to obtain appropriate advice from a tax expert in S corporation valuations when trapped-in gains may be an issue.

NOTES

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4. *Eisenberg v. Commissioner,* 155 F.3d 50 (2d Cir. 1998).
5. *Estate of Simplot v. Commissioner,* 112 T.C. 130 (1999), *rev'd,* 2001 U.S. App. LEXIS 9220 (9th Cir. 2001).
6. *Estate of Jameson v. Commissioner,* T.C. Memo 1999-43, 77 T.C.M. (CCH) 1383 (1999).
7. Z. Christopher Mercer, "Tax Court Accords Superpremium to Small Voting Block; Allows Deduction of 100% of Trapped in Capital Gains Tax," *Judges & Lawyers Business Valuation Update* (April 1999): 1, 6–7.
8. John R. Gilbert, "Built-in Gain Valuation Adjustment: No Longer 'If'—But 'How' and 'How Much,'" *CPA Expert* (Winter 1999): 7–10.
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11. *Estate of Welch v. Commissioner,* 2000 U.S. App. LEXIS 3315 (6th Cir. 2000).
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13. *Estate of Jelke v. Commissioner,* T.C. Memo 2005-131 (2005), *rev'd and remanded,* 2007 U.S. App. LEXIS 26477 (11th Cir. 2007).
14. *Commissioner v. Estate of Jelke,* 2008 U.S. LEXIS 6444 (Oct. 6, 2008).
15. *Wechsler v. Wechsler,* 2008 N.Y. App. Div. LEXIS 7822 (N.Y. App. Div. 2008).
16. *Estate of Jones v. Commissioner,* 2001 U.S. Tax Ct. LEXIS 11, 116 T.C. No. 11 (2001).
17. *Temple v. United States,* 423 F. Supp. 2d 605, 2006 U.S. Dist. LEXIS 16171 (E.D. Tex. 2006).
18. *In re 75,629 Shares of Common Stock of Trapp Family Lodge, Inc.*, 169 Vt. 82, 725 A.2d 927 (Vt. 1999).
19. *Brown v. Arp & Hammond Hardware Co.,* 2006 Wyo, LEXIS 115 (Wyo. 2006).
20. *Matthew G. Norton Co. v. Smyth*, 112 Wash. App. 865, 51 P.3d 159, (Wash. Ct. App. 2002).
21. *In re Frezzo,* 217 B.R. 985 (Bankr. E.D. Pa. 1998).

22. Portions of this section are adapted from Shannon P. Pratt and Alina V. Niculita, ‘‘Marital Dissolution Valuations,’’ Chapter 19 in *The Lawyer's Business Valuation Handbook,* 2nd ed. (Chicago: American Bar Association, 2009).
23. Tracy A. Bateman, ‘‘Divorce and Separation: Consideration of Tax Consequences in Distribution of Marital Property,’’ 9 A.L.R.5th 568, 2000 Lawyers Cooperative Publishing Co.
24. *In re the Marriage of Hay,* 80 Wash. App. 202, 907 P.2d 334 (Wash. Ct. App. 1995).
25. *Buzzanell v. Miller,* 2004 N.C. App. LEXIS 32 (N.C. Ct. App. 2004).
26. See, e.g., *Rosenberger v. Rosenberger,* 2005 Ohio App. LEXIS 1718 (Ohio Ct. App. 2005); *Camp v. Camp,* 2003 Neb. App. LEXIS 320 (Neb. Ct. App. 2003); *In re Marriage of Black,* 2001 WL 57999 (Iowa Ct. App. 2001); *Guill v Guill,* 2001 WL 770942 (Neb. Ct. App. 2001); *Skokos v. Skokos,* 40 S.W.3d 768, 344 Ark. 420 (Ark. 2001).
27. *Owens v. Owens,* 2003 Va. App. LEXIS 639 (Va. Ct. App. 2003).
28. *Kaiser v. Kaiser,* 555 N.W.2d 585 (N.D. 1996).
29. *Granger v. Granger,* 579 N.E.2d 1319 (Ind. Ct. App. 1991).
30. *Bohl v. Bohl,* 232 Kan. 557, 657 P.2d 1106 (Kan. 1983).
31. *Knotts v. Knotts,* 693 N.E.2d 962 (Ind. Ct. App. 1998).
32. *Liddle v. Liddle,* 140 Wis. 2d 132, 410 N.W.2d 196 (Wis. Ct. App. 1987).
33. *Hogan v. Hogan,* 796 S.W.2d 400 (Mo. Ct. App. 1990).
34. *Zoldan v. Zoldan,* 1999 Ohio App. LEXIS 2644 (Ohio Ct. App. 1999).
35. *In re the Marriage of Deviny,* 2002 Minn. App. LEXIS 1297 (Minn. Ct. App. 2002).
36. *Finney v. Finney,* 2003 Neb. App. LEXIS 46 (Neb. Ct. App. 2003).
37. *Hamilton v. Hamilton,* 2002 Ohio 2417 (Ohio Ct. App. 2002).
38. See, e.g., *Schuman v. Schuman,* 658 N.W.2d 30, 265 Neb. 459 (Neb. 2003).
39. *Estate of Jelke v. Commissioner,* 507 F.3d 1317, 1318-1319 (11th Cir. 2007).
40. *Wechsler v. Wechsler,* 2008 N.Y. App. Div. LEXIS 7822 (N.Y. App. Div. 2008).
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Chapter 19

Nonhomogeneous Assets (“Portfolio”) Discounts

Portfolio Discount Principle
Empirical Evidence Supporting Portfolio Discounts
- Evidence from Actual Breakups
- Conglomerate Discounts from Estimated Breakup Value
- Evidence from Real Estate Holding Companies

How to Value Companies with Disparate Portfolios
- Separate Valuations Followed by a Discount
- Blended Multiples or Discount Rates Followed by a Discount
- Direct Use of Conglomerates

Quantifying the Portfolio Discount
Portfolio Discounts in the Courts
- Portfolio Discount Accepted
- Portfolio Discount Denied

Summary

A “portfolio discount” is applied, usually at the entity level, to a company or interest in a company that holds disparate operations or assets. This chapter explains the principle, discusses empirical evidence of its existence and magnitude, and offers some suggestions for applying it in practice. Finally, we note that it has been accepted by the U.S. Tax Court.

PORTFOLIO DISCOUNT PRINCIPLE

Investors generally prefer to buy “pure plays” rather than packages of dissimilar operations and/or assets. Therefore, companies or interests in companies that hold a nonhomogeneous group of operations and/or assets frequently sell at a discount from the aggregate amount those operations and/or assets would sell for individually. The latter is often referred to as the breakup value. This disinclination to buy a miscellaneous assortment of operations and/or assets and the resulting discount from breakup value is often called the portfolio effect.

It is quite common for family-owned companies, especially multigenerational ones, to accumulate an unusual (and often unrelated) group of operations and/or assets over the years. This often happens when different decision makers acquire holdings that particularly interest them at different points in time. For example, a large privately owned company might own a life insurance company, a cable television operation, and a hospitality division.

The following have been suggested as some of the reasons for the portfolio discount:

- The diversity of investments held within the corporate umbrella
- The difficulty of managing the diverse set of investments
- The expected time needed to sell undesired assets
- Costs expected to be incurred upon sale of the investments
- The risk associated with disposal of undesired investments[1]

The portfolio discount effect is especially important when valuing minority interests, because minority stockholders have no ability to redeploy underperforming or nonperforming assets, nor can they cause a liquidation of the asset portfolio and/or a dissolution of the company. Minority stockholders give little or no weight to nonearning or low-earning assets in pricing stocks in a free and open, well-informed public market. Thus, the portfolio discount might be greater for a minority position, because the minority stockholder has no power to implement changes that might improve the value of the operations and/or assets, even if the stockholder desires to.

EMPIRICAL EVIDENCE SUPPORTING PORTFOLIO DISCOUNTS

Empirical evidence supporting the existence and quantification of the portfolio discount for minority interests is abundant in the public markets. This evidence falls into three distinct categories:

1. Increases in aggregate market value when a conglomerate company announces and/or completes a breakup or a tax-free spinoff
2. Analysts' estimates of breakup values of conglomerates compared to the conglomerate stocks' public trading prices
3. Differences in discounts from net asset value for real estate holding companies with homogeneous versus nonhomogeneous real estate holdings

EVIDENCE FROM ACTUAL BREAKUPS

Unquestionably, the breakup of conglomerates has created value for their stockholders in almost every instance. Quantifying this value increase (which would represent the portfolio discount from the post-breakup values) presents a measurement problem that defies precision. One might start with the conglomerate value the day before the announcement and compare it to the value the day after the announcement, or to the aggregate trading prices of the components when the breakup is effective, or to the aggregate trading values of the components at some time after the market has "seasoned" them.

None of the above procedures, however, reflects the extent of the value increase already reflected in the preannouncement price as a result of rumors of the breakup. For example, on February 14, 2001, Canadian Pacific announced plans to divide itself into five separate publicly traded companies. The *New York Times* reported, "Rumors over the last month about such a plan had lifted the stock price 25 percent."[2]

Exhibit 19.1 Portfolio Discounts Implied by AT&T and ITT Breakups

Company	Low Before	Date of Breakup Announcement	Price Before Announcement	High After	Percent Increase	Implied Portfolio Discount*	10/23/95 Price
AT&T	$47.25	9/20/95	$57.575	$66.375	15.3%	13.3%	$61.25
ITT	$77.00	6/13/95	$109.25	$128.50	15.0%	13.0%	$123.625

Source: Jamie Mikami, "AT&T Breakup Is Empirical Evidence of 'Portfolio Discount' Theory," *Shannon Pratt's Business Valuation Update* (November 1995): 8.

*(1 – 1/(1 + percent increase))

As illustrated in the AT&T example: $1 - \frac{1}{1+.153} \cong .133$

Two of the most widely publicized breakups were AT&T on September 20, 1995, and ITT on June 13, 1995. Exhibit 19.1 shows the implied portfolio discount based on the price immediately before the announcement and the aggregate prices of the components shortly after the breakups. This does not reflect any run-up in the stock prices prior to the announcements.

Another example is the announcement by Anheuser Busch that it would sell off its money-losing Eagle Snacks operation and its baseball subsidiary, consisting of the St. Louis National Baseball Club (the St. Louis Cardinals), Busch Memorial Stadium, and several nearby parking garages. The stock immediately experienced a favorable price reaction.[3]

A 1997 book titled *Breakup!: When Large Companies Are Worth More Dead Than Alive* posits that "the successful demerging of the most obvious corporate candidates in the United States alone would unlock $1 trillion of value"[4] otherwise trapped by the very nature of what the book calls multibusiness companies. The result in each case would be several single businesses, or what the authors call focused-business companies. Although the book focuses on large public companies, the principle is equally applicable to companies of all sizes, public or private.

Online searches yield dozens of examples of positive stock market price reactions to the announcement or completion of breakups of public conglomerates.

CONGLOMERATE DISCOUNTS FROM ESTIMATED BREAKUP VALUE

At the time of this writing, *Yahoo! Finance Market Guide* listed almost 32 public companies that are regarded in the financial industry as conglomerates. These are listed in Exhibit 19.2. From time to time, brokerage house analysts issue reports on these companies comparing their breakup values with their public trading prices.

Exhibit 19.3 summarizes a sampling of analysts' reports comparing stock price to estimated breakup value, showing the dates at which reports were issued.

EVIDENCE FROM REAL ESTATE HOLDING COMPANIES

An article on real estate holding companies made the point that the negative effect of a disparate portfolio applies to real estate holding companies, such as real estate investment trusts (REITs), as well as to operating companies: "REITs that enjoy geographic concentrations of their properties and specialize in specific types of properties, e.g., outlet malls, commercial office buildings, apartment complexes, shopping centers, golf courses . . . etc., are the most favored by investors. This is similar to investor preferences for the focused 'pure play' company in other industries."[5]

Exhibit 19.2 Companies Classified as Conglomerates by *Yahoo!*

- 3M Co.
- Asta Funding Inc.
- Boystoys.com Inc.
- CDSI Holdings Inc.
- Cherokee Inc.
- China SXAN Biotech, Inc.
- Cooper Industries Ltd.
- Crane Co.
- Danaher Corp.
- Dynasil Corp. of America
- Earth Search Sciences Inc.
- Equicap, Inc.
- GamePlan Inc.
- GenCorp Inc.
- General Electric Co.
- Geospatial Holdings, Inc.
- Golf Rounds.com Inc.
- GVC Venture Corp.
- HuntMountain Resources
- Interdyne Co.
- Ironstone Group Inc.
- Katy Industries, Inc.
- LaserLock Technologies Inc.
- Leisure Direct Inc.
- Montana Mining Corp.
- PPG Industries Inc.
- Rentech, Inc.
- Ridgefield Acquisition Corp.
- Silver Butte Co., Inc.
- Textron Inc.
- United Technologies Corp.

Source: Yahoo! Finance Market Guide, Sept. 18, 2008.

Exhibit 19.3 Estimated Breakup Values of Existing Conglomerates

Date of Analyst Report	Conglomerate Name[1]	Stock Price at Date of Report	Analyst's Breakup Value[2]	Portfolio Discount[3]
10/31/99	Monsanto Co.	$38.50	$55	30%
1/25/00	B&H	$27	$37	27%
1/28/00	Pac. Dunlop	$1.98	$3.48	43%
10/25/00	IBM	$112	$150	25%
10/30/00	British Telecomm.	$117 ADR[4]	$165 ADR[4]	29%
11/6/00	AT&T	$21.94	$36.25	65%
11/24/00	Optus	$4.37	$4.55	39%
2/13/01	Canadian Pac. Ltd.	$36.52	$43	15%
9/3/08	Textron Inc.	$41.74	$44	5%
				Mean 24.2%
				Median 27%

Source: Compiled in March 2001 by Paul Heidt, Business Valuation Resources; updated in September 2008 by Frances Fan, Shannon Pratt Valuations.

[1] At the time of the analyst's report, all conglomerates still existed.

[2] The estimated breakup value is based on several analysts' reports and is as of the date of the analysts' reports. This represents estimated minority value in the public market if traded separately.

[3] Portfolio Discount = (Breakup Value – Stock Price)/Breakup Value.

[4] ADR–American Depository Receipt.

HOW TO VALUE COMPANIES WITH DISPARATE PORTFOLIOS

There are several workable procedures for valuing companies with multiple lines of operation and/or diverse assets. The most common are:

- Conduct separate valuations of each operating line and/or asset, followed by a portfolio discount

- Blend multiples in the market approach and discount or capitalization rates in the income approach (each derived from market data for the respective industry), followed by a portfolio discount
- Compare directly with selected guideline conglomerates[6]

SEPARATE VALUATIONS FOLLOWED BY A DISCOUNT

A common procedure is to value each operating unit and/or asset separately, sum the values, and apply an appropriate portfolio discount. An advantage of this procedure is that each piece can be valued using whatever valuation approaches and/or methods are most appropriate for the particular operation and/or asset.

BLENDED MULTIPLES OR DISCOUNT RATES FOLLOWED BY A DISCOUNT

Another procedure is to develop blended market value multiples and/or a discount or capitalization rate for each part of the company, based on the proportion of the company that each part represents. The weightings usually are based on either revenues or gross margin dollars. Using asset values for weighting usually is not advisable (except for holding companies), because asset values may be difficult to determine and are not the primary value drivers.

DIRECT USE OF CONGLOMERATES

Another possible procedure is to use value measures from publicly traded guideline conglomerates, in which case no further portfolio discount would be necessary, because the discount already would be reflected in the value measures. The practical difficulty with this procedure is finding guideline conglomerates that are reasonably similar to the subject.

QUANTIFYING THE PORTFOLIO DISCOUNT

Quantifying the portfolio discount for any individual company remains as much a matter of judgment as of science. This is because any given portfolio's divergence usually will not match up very closely with any particular company or companies observed in the market. The best procedure would be to base the discount on a group of guideline companies having similar characteristics. More often than not, this will not be possible, and the analyst will have to list the factors that drive the discount (see factors listed earlier in chapter, and add any others that are specific to the subject company) and estimate the total impact on value.

PORTFOLIO DISCOUNTS IN THE COURTS

The U.S. Tax Court has recognized the concept of a portfolio discount. It must be supported, however, by convincing expert testimony.

PORTFOLIO DISCOUNT ACCEPTED

In *Estate of Maxcy v. Commissioner,* the company in question owned citrus groves, cattle and horses, a ranch, mortgages, acreage and undeveloped lots, and over 6,000 acres of pastureland.[7] The expert for the taxpayer opined that it would require a 15 percent discount from underlying asset value to induce a single purchaser to buy this assortment of assets. The expert for the Internal Revenue Service opposed this discount, saying that a control owner could liquidate the corporation and sell the assets at fair market value. (This case was decided before repeal of the *General Utilities* Doctrine, discussed in Chapter 18.)

The Tax Court agreed with the taxpayer's expert:

> Without deciding the validity of respondent's contention, we fail to see how this power to liquidate inherent in a majority interest requires a higher value than [taxpayer's expert's] testimony indicates. Whether or not a purchaser of a controlling interest in Maxcy Securities could liquidate the corporation and sell its assets is immaterial, as there must still be found a purchaser of the stock who would be willing to undertake such a procedure. [Taxpayer's expert's] opinion was that this type purchaser is relatively scarce and not easily found at a sales price more than 85 percent of the assets' fair market value.
>
> Section 20.2031-1(b), Estate Tax Regs., provides that: "The fair market value [of property] is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of relevant facts." In the instant case, we are attempting to determine the price a willing seller of Maxcy Securities shares could get from a willing buyer, not what the buyer may eventually realize.
>
> [Taxpayer's expert's] testimony impresses us as a rational analysis of the value of the stock in issue, and in the absence of contrary evidence, we find and hold on the facts here present that a majority interest in such stock was worth 85 percent of the underlying assets' fair market value on the respective valuation dates.

Since *Maxcy,* the only other U.S. Tax Court case applying the portfolio discount is *Estate of Piper v. Commissioner.*[8] At issue was the valuation of a gift of stock in two investment companies, Piper Investment and Castanea Realty. The companies each owned various real estate holdings, as well as stock in Piper Aircraft, which manufactured light aircraft.

The parties agreed that, because of the investment companies' nondiversified portfolios, the value of their stock was less than their net asset values. The size of the discount, however, was still in dispute. The IRS argued that the discount should be 10 percent, a value in between the values proposed by its two expert witnesses. The estate contended that the discount should exceed 17 percent, the higher of the two values suggested by the IRS's experts. Curiously, neither the estate nor its expert witnesses suggested a specific value for the portfolio discount.

The IRS's valuation experts took similar approaches to the problem of determining the portfolio discount. The IRS's first expert proposed a discount of 7.7 percent below NAV based on the average discount from NAV of the prices of 14 nondiversified investment companies. The IRS's second expert, on the other hand, found that the relation of market price to NAV of 24 publicly traded closed-end investment companies ranged from a discount of 16.7 percent to a premium of 82.4 percent. He concluded that because of Piper Investment's and Castanea Realty's relatively unattractive portfolios, the highest discount, approximately 17 percent, should be applied.

The court discussed both experts' methods in turn:

> While we consider [the IRS's first expert's] approach somewhat superior to that of [the IRS's second expert] because [the first] limited his analysis to nondiversified investment companies, we believe that he erred in selecting the average discount of the nondiversified investment companies he considered. The weight of the evidence indicates that the portfolios of Piper Investment and Castanea were less attractive than that of the average nondiversified investment company. We reject [the IRS's] attempt to bolster [the first expert's] position by reference to the premiums above net asset value at which certain investment companies, either diversified or specialized in industries other than light aircraft, were selling. Those companies simply are not comparable to Piper Investment and Castanea, nondiversified investment companies owning only realty and [Piper Aircraft] stock.

The court rejected the estate's contention that the discount should exceed 17 percent and chose 17 percent as the appropriate discount:

> [The estate] has also failed to introduce specific data to support its assertion that Piper Investment and Castanea were substantially inferior to the worst of the companies considered by [the IRS's second expert]. [The estate] made no attempt to elicit evidence as to the portfolios of the companies considered by [the second expert], and its expert witness commented only on [the first expert's], and not on [the second expert's], report. . . . On the basis of the record before us, we conclude that the discount selected by [the first expert] was too low, but that there is insufficient evidence to support [the estate's] position that the discount should be higher than that proposed by [the second expert]. Therefore, we find that 17 percent is an appropriate discount from net asset value to reflect the relatively unattractive nature of the investment portfolios of Piper Investment and Castanea.

In *Adams v. United States,*[9] the Mendenhall estate consisted of a 25 percent assignee interest in Taylor Properties, a dissolved Texas general partnership. The partnership assets included ranch land, securities, mineral royalties, and working interests. The estate valued the 25 percent interest on the federal estate tax return at $7,480,975.43. The IRS audit valued the interest at $7,604,125.32.

The estate brought suit for a refund, and the district court refused to apply certain discounts to the partnership interest under the assumption that Texas partnership law gave a partner's assignee the right to force liquidation or to receive its pro rata share of the partnership's net asset value without discounts.

The Fifth Circuit reversed and remanded, concluding that such a liquidation right was "at best unclear and uncertain" under Texas law and that the hypothetical parties to the willing seller/willing buyer transaction would conclude the same. It thus held that the district court was required to determine the value of the decedent's 25 percent interest in a dissolved Texas partnership, including the various claimed discounts.

On remand, one of the issues was whether a portfolio discount should apply, and, if so, the quantum of that discount. The estate's expert applied a 10 percent portfolio discount to account for poorly diversified assets. The IRS's expert conceded that if such a discount were applicable, it "could be up to 10 percent[.]" Absent a specific alternative valuation from the IRS and the apparent reasonableness of the estate expert's opinion, evidenced by the IRS's expert's equivocal testimony on the issue, the court accepted a 10 percent portfolio discount.

PORTFOLIO DISCOUNT DENIED

In *Knight v. Commissioner,* the entity in question was a family limited partnership that held real estate and marketable securities.[10] Citing the section in *Valuing a Business* on discounts for conglomerates, the expert for the taxpayer claimed a 10 percent "portfolio discount." In denying the discount, the court said, "the Knight family partnership is not a conglomerate public company . . . [Taxpayer's expert] gave no convincing reason why the partnership's mix of assets would be unattractive to a buyer. We apply no portfolio discount."

SUMMARY

Investors prefer to buy companies with clearly focused operations or groups of assets rather than companies with disparate operations and/or assets. As a result, companies having disparate operations and/or assets, especially minority interests in such companies, tend to sell at a discount compared to the sum of the values of their component parts.

The reality of the portfolio discount is amply evidenced in the public stock markets. One line of evidence is the success of conglomerates that have broken up, with the aggregate values of the resulting companies being greater than the preannouncement values of the stocks before breakup. Another line of evidence is the wealth of published analyst estimates showing how much conglomerate companies' stock prices are discounted from their estimated breakup values. Evidence also shows that real estate holding companies focusing on a single type of property sell at less of a discount from their underlying asset value than real estate holding companies with diverse portfolios.

Stocks of conglomerate corporations (or partnerships) can be valued by estimating the value of each piece separately and taking a portfolio discount from the total, by using a blended multiple or discount rate reflecting the proportionate share of each component, or by direct comparison to guideline conglomerate stocks.

Although there is a great deal of empirical evidence, the portfolio discount is hard to quantify because of the uniqueness of each company.

The U.S. Tax Court and at least one federal district court have recognized the portfolio discount as a separately quantified discrete discount.

NOTES

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Chapter 20

Discounts for Environmental, Litigation, and Other Contingent Liabilities

Concept of the Contingent Liability Discount
Financial Accounting Standard #5 May Provide Guidance in Quantifying Contingent Liabilities
Treatment of Contingencies in the U.S. Tax Court
Treatment of Contingencies in Marital Dissolution
Summary

Contingent assets and liabilities are among the most difficult to value simply because of their nature. The challenge lies in estimating just how much may be collected or will have to be paid out, and thus in quantifying the valuation adjustments.

CONCEPT OF THE CONTINGENT LIABILITY DISCOUNT

In purchases and sales of businesses and business interests in the real world, such items often are handled through a contingency account. For example, suppose a company with an environmental problem were being sold, and estimates had placed the cost to cure the environmental problem at $10 million to $20 million. The seller would place $20 million in an escrow account to pay for the cleanup, and once the problem was cured, any money remaining would be released back to the seller.

In gift and estate, marital dissolution, and some other situations, however, a point estimate of value is required as of the valuation date without the luxury of waiting for the actual result. In such cases some estimate of the cost of recovery must be made. It can be expressed as a percent of value or as a dollar-denominated amount.

A difficult example was an estate tax valuation with a high probability of the subject company's going completely out of business because of known contamination in its waterfront location. The problem had been known and studied for 10 years, and the company was still in business. It was proposed that an arbitrarily determined 50 percent discount be applied to the going concern value, and the parties accepted it.

In another case in which the subject company did not carry product liability insurance, although claims in the industry were common and most companies carried insurance, this issue was handled (in both the income and market approaches) by deducting from income (before capitalizing or applying market multiples) the cost of product liability

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insurance. The chief executive officer protested, "But we've never been sued!" to which the reply was, "But it's still a contingent liability with your type of products, and others in your industry have been sued. Sometimes the greatest risks we face are ones that we haven't experienced yet."

These anecdotes summarize the two means available to reflect contingency discounts: apply a percentage discount to value or adjust the balance sheet and the benefit stream.

A third way to value a contingent liability is that certain property and casualty insurers offer after-the-fact coverages tailored to specific contingencies. The insured pays a premium and in exchange the insurer takes on a specified amount (or perhaps all) of the liability. This, in effect, takes some or all of the liability off the financial statements and simplifies the valuation analyst's task.

A fourth way to value a contingent liability might be to consider its effect on marketability. Most people would probably agree that, at the instant a liability is detected and verified, but before the feasibility and cost to cure are determined, the equity of a private company with an environmental liability would be very difficult to sell. Thus, there would be a substantially increased discount for lack of marketability. However, if the contingent liability has been addressed by the other three available methods, the discount for lack of marketability should not additionally reflect contingent liabilities.

FINANCIAL ACCOUNTING STANDARD #5 MAY PROVIDE GUIDANCE IN QUANTIFYING CONTINGENT LIABILITIES

Financial Accounting Standard (FAS) #5 deals with contingent liabilities for purposes of financial statement reporting. In valuing a company with a full disclosure financial statement (compilation, review, or audit), FAS #5 would require consideration of any contingent liabilities, and they would be covered in the legal letters (lawyers are required to respond to accountants' inquiries in an audit regarding the probability of contingent liabilities and their potential impact). This information could be of significant value to the appraiser in determining a discount or reduction in value related to contingent liabilities.

At the time of this publication the Financial Accounting Standards Board (FASB) has an exposure draft of a proposed statement that would replace and enhance FAS #5. According to FASB, the new statement would require expanded disclosures for those loss contingencies that are (or would be) recognized as liabilities in a statement of financial position. Specifically, this proposed Statement would (a) expand the population of loss contingencies that are required to be disclosed, (b) require disclosure of specific quantitative and qualitative information about those loss contingencies, (c) require a tabular reconciliation of recognized loss contingencies to enhance financial statement transparency, and (d) provide an exemption from disclosing certain required information if disclosing that information would be prejudicial to an entity's position in a dispute.[1]

TREATMENT OF CONTINGENCIES IN THE U.S. TAX COURT

The U.S. Tax Court recognizes discounts for contingent liabilities where appropriate.

In *Estate of Klauss v. Commissioner,* both the taxpayer's and the IRS's experts applied substantial discounts for product liability and environmental claims.[2] The

taxpayer's expert enumerated specific items and applied a discount of $921,000. The IRS's expert applied a 10 percent discount, which amounted to $1,130,000. The court agreed with taxpayer's expert's method because "[i]t more accurately accounted for the effects."

In *Payne v. Commissioner,* the IRS contended that the value of the stock, $500,000 received and claimed by Payne on his tax returns, was significantly understated.[3] Payne argued that there should be a discount on the value due to pending litigation over the company's business license. The IRS's expert valued the stock at $1,140,000 as a going concern and at $230,000 if the company did not receive the business license. The Tax Court allowed a 50 percent discount on the going concern value due to the pending litigation and found the stock to be worth $570,000.

In *Estate of Mitchell v. Commissioner,* after applying a 10 percent key person deduction at the enterprise level (as discussed in Chapter 17), the Tax Court then applied a $1.5 million discount for a pending compensation lawsuit, but only *after* computing the estate's 40 percent pro rata interest in the enterprise value and *after* deduction of a 35 percent combined lack of control/lack of marketability discount.[4] (The court did not explain why this discount, which logically should be an entity level discount, was applied at the shareholder level.)

However, the Ninth Circuit reversed and remanded, saying that the starting point was acquisition value, and that the Tax Court misstated the range of combined minority/marketability discounts as 30 to 45 percent, when the record showed a range of 46.2 to 61.5 percent for the combined discounts. The appellate court also held that the Tax Court provided an inadequate explanation of the way it reached its conclusion.[5]

The court's treatment of the contingent liability is quite interesting in *Estate of Desmond v. Commissioner.*[6] Before giving equal weight to the income and guideline public company methods in valuing a paint company's stock, the court applied a 20 percent discount for marketability to account for the result of the market approach and a 30 percent discount for marketability to account for the result of the income approach. The extra 10 percent reflected the environmental liability associated with the paint operation.

The reason for not applying the extra discount to the market approach was the assumption that the public market multiples of the two guideline paint companies that were used already reflected similar contingent liabilities. The IRS's expert argued that the companies had higher than average betas, and thus the volatility reflected in the betas in the income approach were because of the contingencies. The court said that no evidence was presented to support this argument and rejected it.

In *Estate of Deputy v. Commissioner,*[7] involving the valuation of the estate's shares in a boat building business, the estate's expert used a net asset value approach in which he converted book values to fair market values, resulting in a $2,392,916 increase of fair market value over book value, and then deducted $1,919,869 for environmental liabilities and $165,566 for capital gains tax. The Tax Court considered, but rejected this approach, indicating that it "found his reasoning and/or basis for his conclusions in support of the adjustments (reductions) to be inadequate and without meaningful explanation." In particular, it emphasized that the expert had not discussed the deduction for environmental concerns. The case thus demonstrates the importance of providing a basis for a discount, whether it is a discount for a contingent liability or any other factor.

In *RJE Corp. v. Northville Indus. Corp.,*[8] a key issue was whether the fair market value of a petroleum products company should account for environmental liabilities. To have some of the owners sell their interest in the company to some of the other owners, all owners had executed a stock purchase agreement, a purchase price adjustment agreement, and an option agreement, under which the parties could sever their joint interest in several ways, one of which was through an abandonment provision. As negotiations ensued, the company discovered underground gasoline leaks at two of its oil terminals, which led to government investigations, a landowners' class action suit, and "potential and indeterminate" environmental liabilities. The abandonment provision, which required an appraisal of the fair market value of the oil terminals and a subsequent bidding process, was invoked, and ultimately, the interpretation of fair market value under the agreements went to trial.

The trial court held that since the parties "unambiguously intended a straight asset sale," the fair market value of the terminals was to be based on the fair market value of the system's assets, without considering liabilities. The Second Circuit affirmed, finding that the option agreement defined the subject of the valuation as comprising all of its properties and assets, and the annexes to the agreement comprehensively listed the assets, which did not include any environmental liabilities. Moreover, the court pointed out that the purchase price adjustment agreement executed by the parties expressly capped the purchaser's responsibility for liabilities. Because this cap had already been reached, the court concluded that no further payment obligations for any liabilities were owed. The court also reasoned that although the option agreement gave the purchaser the right to purchase the assets at a fixed amount plus the assumption of liabilities, and the abandment clause did not include such a provision, the option provision could be invoked only by the purchaser and the abandonment provision only by the seller, so that the two agreements were not contradictory.

This case shows how agreements may expressly—or unintentionally—dictate how contingent liabilities will be treated as part of a valuation.

In *Estate of Adams v. Commissioner,*[9] the Tax Court considered the valuation of the decedent's controlling block of stock in an insurance agency. A factual issue that affected the differing valuations of the experts was pending litigation filed by the state's insurance commission, since the company had potential liability exposure of over $400,000. Also, the company's president, who was not restricted by a noncompetition agreement, would be key to dealing with any adverse outcome. The court found the estate's expert's valuation of the company (before applying a discount for lack of marketability) was more credible than that of the IRS's expert because the estate's expert had talked with one of the company's primary clients and had investigated the pending litigation, whereas the IRS's expert had not. Accordingly, the court credited the estate expert's conclusion that it was unlikely the company would survive without its president. When determining the discount for lack of marketability, the IRS's expert had increased the discount from 35 percent to 45 percent to account in part for the pending litigation. Although the court rejected this proposed increase, it nonetheless said it was doing so "not because the . . . litigation should not be considered, but because we believe a 35-percent discount adequately takes into account [the company's] vulnerabilities."

This case demonstrates the great importance of conducting a thorough investigation of the facts affecting the value of the interest at issue, and to support discounts, whether for contingent liabilities or other reasons, with factual underpinnings.

TREATMENT OF CONTINGENCIES IN MARITAL DISSOLUTION

Courts recognize discounts for contingencies in marital dissolution actions.

For example, in *Kapp v. Kapp,*[10] the husband's construction company faced a possible lawsuit for the death of a construction worker, potentially with no insurance. Accordingly, the husband's valuation expert applied a discount for contingent transaction costs (7.5 percent) and an unspecified "litigation contingency discount," because under the applicable definition of fair market value, "a willing buyer would take into consideration a potential contingent liability like a wrongful death claim that may be uninsured." The trial court ruled that these discounts were appropriate, and on appeal, the appellate court affirmed the litigation contingency discount, but held that a discount for contingent transaction costs was inappropriate where no evidence had been presented that the husband intended to sell the business.

The court in *Collier v. Collier,*[11] a marital dissolution action involving the valuation of a closely held professional corporation in the petroleum engineering business, permitted a combined 25 percent discount for lack of marketability and discount for contingent liabilities based on two lawsuits pending against the company.

SUMMARY

Contingent assets and liabilities can arise from a number of sources, such as lawsuits, environmental liability, and product liability. When a value has to be determined at a point in time before actual cost of the liability has been determined, the dollar amount of the impact must be estimated so that it can be reflected in the value. Courts are open to reasonable estimation, realizing that the potential impact cannot be measured with precision. However, if possible, the estimated impact should be determined by a qualified, independent expert, in writing, who understands that the business appraiser will be relying on the expert's opinion.

NOTES

1. Financial Accounting Standards Board, Exposure Draft, Disclosure of Certain Loss Contingencies: June 5, 2008.
2. *Estate of Klauss v. Commissioner,* T.C. Memo 2000-191, 79 T.C.M. (CCH) 2177 (2000).
3. *Payne v. Commissioner,* T.C. Memo 1998-227, 75 T.C.M. 2548 (CCH) (1998).
4. *Estate of Mitchell v. Commissioner,* T.C. Memo 1997-461, 74 T.C.M. (CCH) 872 (1997).
5. *Estate of Mitchell v. Commissioner,* 2001 U.S. App. LEXIS 7990 (9th Cir., 2001).
6. *Estate of Desmond v. Commissioner,* T.C. Memo 1999-76, 77 T.C.M. 1529 (CCH) (1999).
7. *Estate of Deputy v. Commissioner,* T.C. Memo 2003-176 (2003).
8. *RJE Corp. v. Northville Indus. Corp.,* 2003 U.S. App. LEXIS 9414 (2d Cir. 2003).
9. *Estate of Adams v. Commissioner,* T.C. Memo 2002-80 (2002).
10. *Kapp v. Kapp,* 2005 Ohio. App. LEXIS 6144 (Ohio Ct. App. 2005).
11. *Collier v. Collier,* 790 So. 2d 759 (La. Ct. App. 2001).

Chapter 21

Discount Adjustments for Limited Partnership Interests and Other Asset Management Entities

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Knight v. Commissioner
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Estate of Jones v. Commissioner
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Summary

Combining assets into a portfolio managed within a limited partnership (LP) or a limited liability company (LLC) has received increasing emphasis as a wealth management and estate planning tool. This chapter discusses the framework for the primary valuation discount adjustments to consider in appraising limited partnership and limited liability company or similar interests (collectively called "entities").

The first area of due diligence in valuing entities revolves around the rights and features of the subject interest. This requires a closer interface with the legal and tax counsel for the entity and its owners than many appraisers may be accustomed, but this contact at the beginning of the project is very beneficial. State law has a substantial influence over how interests are viewed for appraisal. Federal income tax and estate and gift tax laws and regulations are also important for analyzing and understanding influences and constraints on value.

The second area of analysis for valuation of these entities is the asset and liability structure of the entity. The appraiser must analyze the values and business risks contributed to or subtracted from the entity by each asset and liability and arrive at a conclusion of how the assets and liabilities interact with each other in a final conclusion of the overall risks and returns of the portfolio.

The third area of analysis relates the net asset value of the portfolio of the entity to the value of individual noncontrolling interests. Depending on the influential issues analyzed in the first and second steps for the subject interest, a value adjustment for relative lack of control and relative lack of marketability may be justified. Research into the magnitude of such value adjustments comes from guideline public companies and other securities of a similar type in the same or similar lines of business.

One of the advantages of an entity is that individual noncontrolling interests are minority interests for appraisal purposes, even though the entire entity may be owned by a group of related people. Therefore, a timely series of gifts or sales of noncontrolling interests under a fair market value standard for gift planning purposes can reduce the overall value that is taxed in a generational shift of ownership within a family.

The range of discounts applicable in such transactions depends on the analysis and application of these factors. Studies of partnership interests and securities of firms in the same or similar lines of business show that these factors produce discounts as small as 10 percent and as large as 85 percent.

INTRODUCTION

Limited partnerships have existed for quite a while; thus, the notion of a limited partnership as an investment vehicle is not new. Many real estate investments in the 1970s and 1980s used a limited partnership format to syndicate investment ventures. Limited liability companies are a relatively newer form of organization that has achieved popularity ever since the Internal Revenue Service provided for more certainty of treatment with check-the-box pass-through income tax status.

Beginning in 1986, with the passage of the Tax Reform Act and the adoption of the new rules repealing the *General Utilities* Doctrine, it became very difficult for C corporations to avoid double taxation of capital gains at the entity and shareholder levels. See Chapter 18 for a discussion of the *General Utilities* Doctrine and issues relating to trapped-in capital gains. Limited partnerships are a more flexible organization type to manage wealth. As a result, many financial planning practitioners utilized limited partnerships and, later, limited liability companies as holding and management vehicles for their clients' assets. Individual minority interests of such entities usually are subject to discounts from their underlying net asset values for the valuation transfers.

The flexibility of entities is further evidenced by the potential to reduce management cost for a portfolio of assets that might otherwise be held in multiple accounts, for multiple family members, with multiple investment managers. Entity interests are less difficult to divide into partial interests and to transfer than are fractional interests in many other types of property, such as real estate. Out-of-state probate proceedings, which are required if property is owned directly by the client, often can be avoided for real property located in another state but held by an entity.

PARTNERSHIP FEATURES

The first area of due diligence necessary in valuing a minority entity interest is an analysis of the features of the existing or proposed entity.

Every entity is formed under the laws of its home state. State laws regarding partnerships have benefited greatly from the suggested statutes in the Uniform Limited Partnership Act (ULPA) of 1976 and the Revisions of 1985, which have promoted consistency among the states. However, the appraiser must work closely with the attorney for the client at this stage of the appraisal to ensure that the entity interests combine the rights and privileges that reflect the needs of the client, consistent with state requirements. This involves the state's requirements for formation of the entity and the appropriate documents to be executed. Typically, a limited partnership agreement will spell out the details of formation and operation. As further discussed below, these features form the basis for the economic rights and constraints that result in discounts from the adjusted net asset value of the underlying assets of the entity.

The following features are key in determining the fair market value of an interest:

- The length of time the entity will operate until dissolution or termination
- Which interests will manage the day-to-day affairs of the entity
- How the election of new managing partners, members, or agents is accomplished
- Which interests have voting rights to liquidate the entity

- Withdrawal rights of various ownership interests
- Which interests control distributions to the other entity interests
- What preferences exist among the classes of entity interests
- What restrictions, terms, and conditions apply to transfers of entity interests

OTHER STATE LAW AND REGULATORY ISSUES

An understanding of state laws also is required to comply with (or avoid) state transfer and excise taxes that may be triggered by the transfer of the contributed assets into the entity. State income tax issues also may be affected by placement of operating or investment assets into an entity, and some states may deem the transfer into an entity as the equivalent of a change in ownership for property tax assessment purposes.

Zoning and land use issues also may be affected by a transfer, as some states require reapplication for protected status for some forms of farming or special use zoning. Creditor notification rules also may be triggered if the property contributed to an entity is encumbered by debt.

COMPLIANCE WITH FEDERAL INCOME TAX REGULATIONS

The comparison of an entity's features relative to state laws also comes into play in the formation of an entity for a range of federal income and estate and gift tax issues.

Internal Revenue Code (IRC) section 754, which provides a revocable election to adjust the basis of partnership distributions and transfers, may create concerns among potential buyers that their purchase of an interest in the entity may not allow them to step up their cost basis in the assets of the entity to their cost basis of the interest (that is, their purchase price). Therefore, a buyer may have built-in gains on a partial interest in an entity if an asset within the portfolio, or the entire portfolio, of the entity is later sold.

IRC section 704 requires allocation of income factors (as well as gain, loss, deduction, and credit items) among the partners based on the economic substance of each interest, and not just as a method to transfer income to partners with lower marginal tax brackets. (Other provisions of section 704 require real business purposes in the formation and operation of limited partnerships.)

IRC section 721, which provides for nonrecognition of gain or loss to a partnership or to any of its partners in the case of a contribution of property to the partnership in exchange for an interest in the partnership, thus may also apply to the formation of an entity, and the contribution of appreciated securities thereto. If partners achieve additional diversification beyond de minimis (approximately 1 percent) changes to the portfolio of securities held before the formation of the entity, then income taxes on the securities' gains may become due upon the formation of the entity.

IRC section 752, which provides for treatment of certain liabilities, is also a potential trap for the unwary in triggering income taxes on the portion of debts on an encumbered property contributed to an entity and assigned to the other partners. The regulations view such an assumption as an extinguishment of the debt from the original holder's personal tax capacity, even though the partner may remain liable for the debt.

COMPLIANCE WITH FEDERAL TRANSFER TAX REGULATIONS

Estate and gift tax regulations are perhaps the biggest federal tax hurdle faced in the successful planning and valuation of entity interests.

The basic standard of value in estate and gift tax transfers is fair market value (FMV). The FMV standard assumes that a hypothetical willing buyer and willing seller have no special relationship to each other and are dealing at arm's length. Revenue Ruling 93-12 reversed the IRS's earlier position that joint family member control of an asset meant that no discounts for minority interest lack of control could be taken for a fractional interest. Revenue Ruling 93-12 opened the floodgates for entity planning since a limited partnership interest could be accorded minority interest status.

However, the IRS in all probability would not have issued as sweeping a concession as Revenue Ruling 93-12 without the assurance of a backstop to control behavior regarded as abusive under other regulations. This was done with the addition of chapter 14 (sections 2701–2704) to the estate and gift tax laws for all transactions entered into or in some cases substantially modified after October 8, 1990.

Section 2701 of chapter 14 calls for special valuation procedures when preferred partnership interests have certain preferences designed to enhance value. However, under current entity planning, most LP and LLC structures avoid section 2701 by giving interest holders proportionate rights to income and in liquidation.

Section 2703, which generally disregards the value of property in an option, agreement, or right that sets such value at less than fair market value, covers buy-sell agreements and upholds the value set in such agreements where the agreement is part of a bona fide business arrangement, is not a device to transfer the property to members of the decedent's family for less than full and adequate consideration in money or money's worth, and its terms are comparable to similar arrangements entered into by persons in an arm's length transaction. Generally, the buy-sell provisions included in an entity agreement closely follow those between arm's-length investors. Because of the long-term nature of most entity ventures, the investors often need assurances that the owner group, or anyone subsequently acquiring an interest in the entity, is willing to stay the full term of the entity.

Section 2704 addresses restrictions on liquidation and lapsing restrictions on such items as voting rights, when the family owns control of an entity. Generally, legal counsel will need to coordinate the entity agreement with the basic "default" provisions in state laws regarding the extent to which investors can withdraw or otherwise liquidate their interests. Typically, by making the entity operate for a fixed term of years and by the addition of non–family-member interest holders with unanimous agreement required for liquidation, the entity will comply with the requirements of this section of chapter 14.

ANALYSIS OF OWNERSHIP AND CLASSES OF INTERESTS

Equally important to the valuation is the analysis of the existing or proposed ownership group of the entity and the classes of entity interest that will be created. Usually, but not always, only general and limited partnership classes are created for entities. Usually, but not always, family members are the primary owners of the entity. The analyst must consider these factors because of the potential for triggering the special valuation rules just discussed that may result in the valuation being determined without regard to certain

restrictions contained in the entity agreement. Family members' ownership interests are aggregated for determining whether control over liquidation exists. Such family members are defined as the individual transferor and spouse; any ancestor or lineal descendant of the individual or spouse; any siblings of the individual or spouse; and any spouse of any such ancestor, lineal descendant, or sibling.

ANALYSIS OF UNDERLYING ADJUSTED NET ASSET VALUE

The first reference point of entity valuation is usually the adjusted net asset value of the underlying assets and liabilities of the entity. When starting with the adjusted net asset value of the underlying assets of the entity, discounts typically are applied to the underlying asset for the relative lack of control and relative lack of marketability of the subject entity interest. The basis for the discounts is discussed next.

Cash, publicly traded securities, and other easily valued assets typically do not require formal appraisals. Real estate often requires a documented value analysis (such as a formal written appraisal) as of the date of transfer of any interest. Other factors, such as the ability of the typical market to absorb the volume of the entity asset held (particularly for large real estate interests clustered in a single market or large blocks of publicly traded stock), may require an adjustment of the appraised values of the assets before further analysis of the value of partial entity interests.

Significant privately held investments, such as closely held business interests and other limited partnership investments, usually will require separate valuations. As an alternative approach to establishing the discount, these assets may be valued instead without any applicable discounts for minority interest and limited marketability. Thus, such discounts are recognized only at the entity interest level under this methodology, on the theory that the buyer of such an interest is acquiring an overall interest in the entity's portfolio of net assets and such discounts can only be determined with reference to the interest being transferred.

An analysis of the portfolio of assets in the entity is also important to determine the following matters:

- The combined riskiness of the portfolio of assets, as opposed to the risk of each asset and liability. Entity interest owners are exposed to the combined risk of all net assets.
- The interaction among assets in the entity portfolio. The combination of different types of assets may render an entity interest unattractive to some potential buyers that might otherwise be interested in investing in some of the entity's operations. As an example, many multifamily real estate investors may be uncomfortable also investing in agricultural properties.

ANALYSIS OF INCOME CAPACITY VALUE

A second reference point in the valuation of entity interests is the determination of an income-based value. This analysis typically requires the consideration of current income capacity and possible projection of the magnitude and timing of future income from operations. The income stream measured is most often the cash flow from operations of

each asset owned by the entity, net of all related operating expenses of the asset and the entity, but before consideration of any income tax issues for the interest holders. Such an analysis is conducted on the assumption that the investor has control over operations of the entity and that any expenses fall into the range of reasonableness and typicality for the assets under management.

Because the proceeds of asset sales and capital gains typically are reinvested within the entity structure and not distributed until the end of the term of the partnership, these types of capital asset cash flows usually are not considered in calculating the sustainable cash flows from operations under this approach.

Income analysis is critical to the valuation of entities and entity interests, as there may be dramatic differences among the ways hypothetical buyers look at the subject investment, depending on their primary motives for investment. Investors seeking income returns from the investment will focus on sustainable operating income and distribution yields. Investors seeking returns through appreciation of the underlying assets of the entity will be influenced more strongly by the prospect of asset appreciation and the timing of any returns on the investment.

The stability of income is a significant factor in determining the business risk of the entity and its interests. There may be interactions among cash flows from different assets and liabilities that will create refinancing risks or temporary (or even permanent) negative cash flows that will require additional capital contributions from the investors.

A comparison of potential growth rates of income of the assets within the entity and comparison of the entity to other investments in the same or similar lines of business (see Revenue Ruling 59-60) is essential in establishing the required capitalization rate on the income capacity of the interest or the discount rate on projected cash flows.

One method of establishing an income-based value is to capitalize the current indicated cash flows from entity operations to the subject interest. Most often the capacity of the entity to make distributions to the subject interest is capitalized in the same manner as a dividend yield calculation. These typically are calculated on a control basis, under the initial assumption that any remaining available income will be distributed in the manner of the comparable publicly traded securities, such as closed-end mutual funds.

Sources of data for distribution yields on entities come from investments with similar characteristics. These include publicly traded limited partnerships (PLPs), real estate investment trusts (REITs), closed-end mutual fund units (CEFs), and publicly registered limited partnerships traded in the secondary market (RLPs).

VALUATION OF NONCONTROLLING ENTITY INTERESTS

Valuing partial interests in entities is based on the application of standard valuation techniques. In fact, Revenue Ruling 68-609 extended the same elements of value utilized in Revenue Ruling 59-60 for corporate stock to the valuation of partnership interests. The most common methods are based on establishing a relationship between the adjusted net asset value and the cash flow income from operations of the underlying assets of the entity to the subject partial interest.

Applicable discounts include the following:

- The relative lack of control of the subject interest over the management of the assets and income

- The relative lack of marketability of the entity interest, when compared to otherwise similar securities that have the benefit of a public market

These discounts are taken in sequence. The first taken is typically the adjustment for relative lack of control. The adjustment for the entity's relative lack of marketability usually is taken after the lack-of-control discount.

Qualitative factors also come into play in the analysis of appropriate discount adjustments. One critical area that requires close scrutiny is the quality of management of the entity. Many of the similar public investments are run by experienced investment managers with deeply staffed groups of support personnel that have an extensive history of solid industry performance. In contrast, many entities have rudimentary management organizations attempting to follow a wide array of operations and investments.

GENERAL PARTNERSHIP INTERESTS

These are usually controlling interests in the entity, and state laws may give general partners withdrawal rights prior to the end of the term of the partnership. As a result, the value of a general partnership interest is more closely aligned to the underlying net asset value of the entity as a whole. However, for entities that may not terminate for many years, the fair market value to a withdrawing general partner may be reduced by any damages to the other partners caused by a breach of the agreement due to early withdrawal. Both the adjusted net asset and income-based reference points are important in arriving at fair market value. Similar issues typically may apply to a managing member of an LLC.

Partial general partnership interests that are, in effect, minority voting interests, due to required majority voting rights among general partners, often are valued more in the manner of limited partnership interests as discussed below.

The withdrawal by a general partner from a real estate–oriented entity may result in the investor receiving an undivided interest in real property that itself is subject to discounts for shared control and relative lack of marketability.

LIMITED PARTNERSHIP INTERESTS

Most commonly, limited partnership interests are the securities transferred by investors for financial planning purposes. Limited partnership interests are, by definition, permanent minority interests, except for those cases in which the limited partners as a class possess certain rights under state law or the partnership agreement to block actions by the entity (such as dissolution). Both adjusted net asset and income-based reference points cited above are appropriate starting points for arriving at fair market value.

ASSIGNEE INTERESTS

An assignee interest may not be allowed to succeed to a partnership interest, but instead it may have the right merely to obtain a charging order to receive distributions, if any, from the entity. Additional relative lack-of-control and lack-of-marketability discounts typically are necessary to reflect any incremental additional problems associated with assignee status.

Valuation discounts for assignee interests are typically greater than those seen for similar limited partnership interests and can be comparable to those seen on distressed securities, since the issues of timing and certainty of collection of cash flows can be

comparable. Other problems that tend to increase the discount can include the lack of access to data and the obligation to pay income taxes on earnings without the receipt of cash distributions to pay such obligations.

DISCOUNTS FOR LACK OF CONTROL AND MARKETABILITY

Sources of data for discounts on entities come from investments with similar characteristics. These include the following:

- Publicly traded limited partnerships (PLPs)
- Real estate investment trusts (REITs)
- Closed-end mutual fund units (CEFs)
- Publicly registered limited partnerships traded in the secondary market (RLPs)

Studies of the magnitude of such discounts are discussed in Chapter 27, and sources are detailed in Appendix B.

In the case of data on discounts of trading prices relative to adjusted net asset values, it may be difficult to separate the portion of the total discount that arises from relative lack of control from the portion that is due to the relative lack of marketability of the subject entity interest. This is particularly true for registered limited partnership interests trading in the secondary market. In fact, the discounts seen in transactions in RLP interests may not fully capture the illiquidity of private entity interests if there have never been any trades in the subject private interest.

The factors that appear to affect the magnitude of the discount are:

- The disparity between income-based and adjusted net asset-based values. A poor earnings outlook increases the discount. Large amounts of debt service relative to cash flow also may be a cause of poor earnings for equity holders.
- Low levels of income distributions. Low current income increases the discount.
- Time to dissolution or liquidation. The longer an interest holder has to wait for an exit via a dissolution or liquidation of the entity, the greater the discount.
- Elements of voting issues and restrictions placed on general partner actions. More protection for the limited partners decreases the discount.
- Differences between the subject entity and the guideline interest. For example, some closed-end funds use a number of techniques to reduce the discount between their trading prices and their net asset values that are not used by the subject private entity.

GENERALIZED DISCOUNT ADJUSTMENT MODEL

Discounts Drawn from Publicly Registered Limited Partnership Transactions

1. Calculate the adjusted net asset value of the entity (control basis).
2. Based on discounts of trading prices to net asset value from public limited partnership (PLP) data, determine the discount adjustment from net asset value for the subject entity.

3. Determine whether any further relative marketability discounts are necessary, if the subject entity has greater exposure than PLPs to other risk factors:
   - Restrictions on transfer
   - Built-in gains exposure due to a lack of an IRC section 754 election
   - Concentration of assets in a single investment (lack of diversification)

DATA SOURCE EXAMPLE: THE *PARTNERSHIP RE-SALE DISCOUNT* STUDY 2004

This study was updated in a periodic survey of combined lack-of-control and lack-of-marketability discounts for registered LP interests actively trading in the secondary market. The partnerships studied totaled 79, and partnership discounts showed some additional decline as investors anticipated partnership liquidations and buyouts. Exhibit 21.1 shows the study published in the May/June 2004 issue of *The Partnership Spectrum*, which indicated the listed discounts for limited partnership interests, all real estate investment related.

GENERALIZED DISCOUNT ADJUSTMENT MODEL

Discounts Drawn from Closed-End Mutual Fund Transactions

1. Calculate the adjusted net asset value of the entity (control basis).
2. Calculate the income-based value of the entity (control basis).
3. Reconcile the indicated control values.
4. Based on discounts from net asset value and yields on closed-end funds, determine a discount for the relative lack of control.
5. Based on the empirical studies and theoretical models (see other chapters), determine a discount for the relative lack of marketability of the entity interest.

LIMITED LIABILITY COMPANIES

The limited liability company (LLC) is a relatively recent organizational form that is being used as a substitute for limited partnerships in financial planning. Although organized more similarly to a partnership, and taxed as such, an LLC provides its owners with

Exhibit 21.1 Discounts Indicated in The *Partnership Spectrum Study* 2004

Category	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	15	16	8.6
Equity—Distributing (Larger Debt)	19	29	6.9
Equity—Nondistributing	12	38	0.0
Undeveloped Land	5	33	0.0
Triple Net Lease	23	14	9.7
Mortgages—Insured	5	14	9.1

Source: The Partnership Spectrum (May/June 2004).

protection from unlimited liability similar to a corporation. Usually liability is limited to the owner's investment in the LLC.

Utilizing LLCs for wealth planning in the same manner as an LP is potentially feasible but depends in part on the state law under which the subject LLC operates. The major issue for LLCs is the degree to which state LLC laws protect liquidation, withdrawal, and marketability restrictions that may be contained in the LLC membership agreement from being deemed applicable restrictions under IRC section 2704. As noted above, if these restrictions on LLC interests are more restrictive than the basic state law provisions, they must be ignored for gift valuation purposes under chapter 14 of the Internal Revenue Code. Many state laws treat LLC memberships as interests subject to withdrawal in a manner similar to general partnership interests. See comments above regarding minority general partnership interests.

Other legal entities such as limited liability limited partnerships are also being used in a manner similar to LLCs.

CLOSELY HELD INTERESTS INSIDE ENTITIES

One issue that occasionally arises in valuing entity interests is the extent to which closely held securities, which are already illiquid securities, are further discounted if held inside an entity. Our research indicates that additional discounting typically is warranted but that such discounts are usually incremental in nature. Incremental discounts can be similar in magnitude to typical marketability discounts when the features of the entity interest further restrict or otherwise provide much lesser marketability than the closely held securities held by the entity.

COURT CASES REGARDING LIMITED PARTNERSHIP VALUES

Although not very useful for direct use by the appraiser, U.S. Tax Court and other rulings on the values and discounts associated with limited partnership interests can be helpful in understanding what factors the courts find significant and under what circumstances.

Harwood v. Commissioner.[1] A 50 percent discount from the underlying adjusted net asset value was determined by the court for a small limited partnership interest subject to transfer restrictions that probably would be required to be ignored under current special valuation rules in IRC section 2703 of chapter 14.

Knott v. Commissioner.[2] A 50 percent limited partnership interest in an LP owning apartments was given a 30 percent discount by the court from adjusted net asset value.

Moore v. Commissioner.[3] The court allowed a 35 percent discount from the underlying adjusted net asset value for a minority general partnership interest with certain restrictions on selling, withdrawing, or assigning the partnership interest.

LeFrak v. Commissioner.[4] Although the judge decided that the structure of the transaction consisted of the transfer of minority undivided interest in real estate rather than limited partnerships as the taxpayer had maintained, the analysis was similar to LP valuation. The court allowed discounts from adjusted net asset values totaling 30 percent.

Estate of McCormick v. Commissioner.[5] A series of gifts of minority (North Dakota) general partnership interests were valued by the Tax Court utilizing a combined minority interest and marketability discount to underlying asset value between 34.4 to 47.0 percent. The two partnerships owned real estate held for development and land contract receivables.

Estate of Barudin v. Commissioner.[6] The issue concerned the valuation of one general partnership unit of a total of 95 units outstanding. This New York partnership owned commercial office buildings. An unrelated party owned a majority of the partnership units, and the partnership agreement required a majority vote on such significant issues as the sale or transfer of these general partnership units. The legal right under state law of any general partner to dissolve the partnership was given little weight by the court, and the court assessed a total discount for lack of control and lack of marketability of 45 percent.

Estate of Schauerhamer v. Commissioner.[7] The commingling of cash flows from assets supposedly conveyed to an LP with the personal accounts of the senior-generation founder invalidated the basis for any discounts in this case. The court decided that the LP's assets should be included directly in the estate without recognizing any impact of the LP.

Estate of Lehman v. Commissioner.[8] The general and limited partnership interests in this case owned real estate leased for a hotel in the District of Columbia. The court allowed a total discount of 39 percent.

Estate of Nowell v. Commissioner.[9] In this case the Tax Court decided that the two Arizona LP interests should be valued as assignee interests rather than as limited partnership interests. The terms of the partnership agreement and state law had a direct effect on the outcome in this case.

Kerr v. Commissioner.[10] In this case, an LP held a limited partnership interest in another LP. The LP interest held was allowed a discount of 25 percent (combined adjustment for lack of control and lack of marketability), and the LP interest subject to gift tax was allowed discounts of 17.5 percent (lack of control) and 35 percent (lack of marketability), taken consecutively.

Church v. United States.[11] This LP owned ranchlands and publicly traded securities. The court allowed a combined discount of 57.6 percent from the underlying net asset value of the partnership, which was affirmed on appeal to the Fifth Circuit.

Shepherd v. Commissioner.[12] The court in this case ruled that real estate contributed to the subject LP resulted, in effect, in a gift of undivided interests in the real estate to the other partners. Thus, no discounts were allowed for the effect of the LP ownership, but rather a combined 15 percent discount was allowed for relative lack of control and lack of marketability represented by the fractional interest nature of the real estate interests.

Knight v. Commissioner.[13] The court in this case concluded that the taxpayer's valuation report lacked credibility in part and therefore allowed a combined discount of 15 percent for lack of control and lack of marketability for the subject LP interests.

Estate of Strangi v. Commissioner.[14] There were two securities at issue in this case. A large minority interest in the stock of the corporation owning the general partner, received discounts of 5 percent (lack of control) and 15 percent (lack of marketability), or a combined discount of 19 percent overall. An LP interest was allowed discounts of 8 percent (lack of control) and 25 percent (lack of marketability), or a combined discount of 31 percent overall. The substantial influence that the stock interest could exert over the LP and the fact that the estate could have sold both as a unit, influenced the court's decision in this case. Approximately 75 percent of the assets of the LP were publicly traded securities, and the remainder were real estate and other assets. However, on appeal to the Fifth Circuit, the Court of Appeals ruled that the Tax Court had erroneously failed to consider the IRS's § 2036 argument that the value of all the assets transferred to the partnership should be included in the estate due to retention of control, and remanded for consideration of that issue.[15] On remand, the Tax Court accepted the IRS's position, finding that because the decedent had retained the right to designate who could enjoy the transferred FLP property, the FLP did not qualify for a "bona fide sale" exception.[16] On appeal to the Fifth Circuit once again, the Court of Appeals affirmed, finding that the Tax Court had not erred in its conclusions.[17] Thus, ultimately, the discounts were disallowed.

Estate of Jones v. Commissioner.[18] In this case, interests in two LPs were valued. In the first issue, the size of the LP was large enough to allow the LP interest holder to exercise influence over the general partner under the provisions of the partnership agreement. Therefore the court determined that no discount for lack of control was allowable and an 8 percent discount for lack of marketability was appropriate. In the second issue, the size of the blocks of LP interests transferred were not sufficient to provide them with any significant influence. The court allowed a discount of 40 percent from net asset value based on publicly registered limited partnership transaction data and an 8 percent additional discount for lack of marketability, based on restrictions on transfer within the LP agreement—particularly an opinion forcing the exiting LP holder to receive payment over 10 years at a minimum allowable interest rate.

Kimbell v. United States.[19] In this case, the decedent created a revocable living trust, which later formed a limited liability company (LLC). The trust and the LLC formed a limited partnership, which was owned 99.5 percent by the decedent. The estate claimed a 49% discount on the value of the decedent's interest in the partnership and her interest in the LLC for lack of control and lack of marketability of the partnership interest. The IRS found a deficiency, which the estate contested. The district court held that the decedent's transfer to the partnership was not a bona fide sale for full and adequate consideration under § 2036(a). The Fifth Circuit vacated and remanded, finding that the pro rata partnership interest that the decedent received was adequate and full consideration for the assets transferred to the partnership. The court ruled that the district court had erroneously considered bona fide sale to imply an arm's length transaction, but remanded for a determination as to whether the decedent's interest in the partnership was an assignee interest or a partnership interest.

Estate of Stone v. Commissioner.[20] In this case, the decedents were a husband and wife who formed five limited partnerships with their children to avoid litigation among the children over the assets and management of their company. The estate claimed

average discounts of 43 percent. The IRS challenged the assets transferred to the partnerships, claiming that they were not bona fide sales for adequate and full consideration. The IRS argued that, because the decedents received respective partnership interests in each of the five partnerships the value of which, taking into account appropriate discounts, was less than the value of the respective assets that they transferred to each such partnership, they did not receive adequate and full consideration for the assets transferred. However, the Tax Court expressly rejected the argument that a discounted valuation of a pro rata partnership interest precludes a finding that the interest is adequate consideration for the assets transferred. The court held that this argument in effect reads out of § 2036(a) the exception for a bona fide sale for an adequate and full consideration in money or money's worth in any case where there is a bona fide, arm's-length transfer of property to a business entity, for example, a partnership or a corporation, for which the transferor receives an interest in such entity, for example, a partnership interest or stock, that is proportionate to the fair market value of the property transferred to such entity and the determination of the value of such interest takes into account appropriate discounts.

Astleford v. Commissioner.[21] This case gave the Tax Court an opportunity to decide the fair market value of limited partnership interests transferred as gifts. The decedent, Mr. Astleford, owned interests in various real properties located primarily in Minnesota. All of these passed through a marital trust to his wife, who formed the Astleford Family Limited Partnership (AFLP) to "facilitate the continued ownership, development, and management" of the real estate interests and to facilitate gifts to the couple's three adult children. At the time of its formation, Mrs. Astleford retained a 10 percent general partnership interest in AFLP and gave each of the children a 30 percent limited partnership (LP) interest. The limited partners made no capital contributions at the time of any gifts and received no voting rights and no outside party could join AFLP without the general partner's (GP) consent. The GP also controlled all rights regarding the sale/transfer/partition of the partnership assets.

Mrs. Astleford initially funded the AFLP with an eldercare facility valued at close to $900,000. A year later, she transferred to AFLP a 50 percent general partnership interest in the Pine Bend Development Company (Pine Bend), which owned 3,000 acres of land. She gifted additional LP shares in AFLP to her children to maintain the original ownership percentages.

On audit of Mrs. Astleford's gift tax returns for two successive years, the IRS found, among other things, a higher net asset value (NAV) for the entire partnership than reported. The IRS also decreased some of the lack of marketability and lack of control discounts related to the gifted AFLP limited partnership interests. The two key business valuation issues for trial were (1) discounts to be applied to the 50 percent Pine Bend interest depending on whether it was construed as a GP or assignee interest; and (2) the applicability and amount of discounts for lack of control and lack of marketability to the gifted AFLP LP interests.

Mrs. Astleford treated the 50 percent Pine Bend interest as an assignee interest, based primarily on the other 50 percent owner's failure to consent to the transfer to the AFLP. Because, under state law, an assignee would only have rights to Pine Bend's profits but not control, the taxpayer's expert, as a preliminary matter, discounted the assignee interest by 5 percent. The IRS, however, observed that the AFLP partnership resolution treated the Pine Bend transfer as one of all the taxpayer's rights and interests. Further, as AFLP's sole general partner, Mrs. Astleford was essentially in the same management position whether she transferred a GP or assignee interest.

The court, agreeing with the IRS, concluded that the substance of the transfer should trump its form, and ruled that Mrs. Astleford had funded AFLP with a 50 percent general partnership interest.

To determine the discounts for lack of marketability and control for the 50 percent GP interest, Mrs. Astleford's expert examined comparable data from sales of registered real estate limited partnerships (RELPs), determined that comparables established a range of 22 percent to 46 percent for a combined lack of marketability and control discount, and then, without further analysis, concluded that a 40 percent combined discount was applicable.

The IRS expert believed that because the 50 percent GP interest was merely an AFLP asset, discounts applied at the entity level eliminated the need to apply discounts to this interest. The court, finding it appropriate to apply layered discounts where a taxpayer held a minority interest in an entity that in turn owned a minority interest in another entity—which was the case here—concluded that lack of control and lack of marketability discounts at both the Pine Bend level and the AFLP level were appropriate. After correcting for RELP comparables that it found inapplicable, the court determined that a 30 percent combined discount applied to the 50 percent GP interest transferred to AFLP, valued at nearly $1.3 million.

In determining discounts for gifts of the limited partnership interests in AFLP, the taxpayer's expert considered nine RELP comparables, which had an average trading discount of 38 percent. Of these, four RELPs were "most comparable," with trading discounts ranging from 40 percent to 47 percent. Ultimately, the expert concluded a lack of control discount for the LP interests of 45 percent for the first gift year and 40 percent for the second. The court, however, found that nine of the comparables were significantly more leveraged (debt-to-NAV ratios of 82 percent to 205 percent) than AFLP (52 percent debt-to-NAV). Because AFLP held less debt and was inherently less risky than the comparables, the court found the taxpayer's 45 percent and 40 percent discounts "unlikely." Moreover, because AFLP's cash distribution rate was significantly higher than the average rate of the RELPs—10 percent versus 6.7 percent—the court found that under his own approach, which conceded less risk to companies with higher cash distributions—the expert's discounts should be lower than the 38 percent average that he observed among the comparables.

The IRS expert, on the other hand, examined data from sales of Real Estate Investment Trusts (REITs). Although the court found that RELPs more closely resembled AFLP and also the Pine Bend partnership in size, marketability, management, distribution requirements, and taxation, it also observed that the abundance of REIT sales "tends to produce more reliable data." Any differences between REITs and the subject partnerships could be minimized by having a larger pool of REIT comparables from which to choose, and by subjecting the comparables to a methodology that accounts for their greater liquidity. In analyzing REIT data in this context, the court explained, it is appropriate to back out of their trading prices any liquidity premiums, resulting in lack of control discounts. Applying such an approach, the IRS expert concluded that REITs generally traded during those tax years at a 7.79 percent liquidity premium over private real estate partnerships. Combining this observed premium with the respective tax years trading data, he arrived at a lack of control discount for the AFLP limited partnership interests of 7.14 percent in the first tax year and 8.34 percent in the second.

Although the court preferred the IRS expert's methodology, it ruled that his discounts appeared unreasonably low, especially since studies he cited suggested that the applicable liquidity premiums were nearly two times the levels he used. A better method, according

to the court, is to look at the difference in average discounts observed in private placements of registered and unregistered stock. That difference amounted to approximately 14 percent, which resulted in a general liquidity premium of 16.27 percent inherent in publicly traded assets and also applicable to REITs. Based on this premium, the court arrived at a lack of control discount for the AFLP partnership interests of 16.17 percent and 17.47 percent, respectively for the two tax years.

As to lack of marketability discounts, Mrs. Astleford's expert concluded a 15 percent discount for the first tax year's limited partnership gift whereas the IRS expert concluded a 21.23 percent discount. Finding no reason not to adopt the higher discount, the court adopted it. The parties stipulated to a 22 percent marketability discount for the second tax year's gifts, and the court accepted that stipulated value.

Holman v. Commissioner.[22] This case presented the Tax Court with the issue of whether transfers of FLP interests six days after the FLP was funded with publicly traded stock constituted indirect gifts of the stock, as well as the value of the FLP interests. In this case, the taxpayers were a married couple who formed an FLP and funded it with over $2.8 million of Dell Computer stock. Six days later, they gifted limited partnership interests to each of their four minor children's trusts, leaving themselves with a minor general partner (GP) interest and the limited partners (LPs) owning a substantial majority interest. They also made smaller gifts in each of two succeeding years. On their tax returns for the three years, the couple applied substantial discounts for lack of control and lack of marketability (combined 49.25 percent for all transfers).

In determining the applicable discount for lack of control, both side's experts used closed-end investment funds data, and each used three samples—one for each gift—of similar size. The IRS's expert relied solely on general equity funds, finding them the most comparable to the FLP, whereas the taxpayers' expert used seven specialized funds—which, he admitted, resembled the FLP only in their singular focus, and for which there was no correlation between their quantitative factors and the discounts at which they traded. The IRS's expert calculated median, mean, and interquartile mean discounts for each of his samples. The taxpayers' expert computed only the medians, and adjusted them 10 percent upward to account for the FLP's qualitative factors. The court rejected the taxpayer's expert's use of the specialized funds, as well as his upward adjustments, finding them unreliable, and instead relied on what it perceived as the more reliable general equity fund data. It constructed samples for each valuation date from the data common to both experts, resolving outliers by using the interquartile mean. Finding the IRS's expert's approach more reliable, the court applied lack of control interest discounts of 11.32 percent, 14.34 percent, and 4.63 percent to the three respective gifts.

As for the discount for lack of marketability (DLOM), both experts relied on samples from restricted stock studies. The taxpayers' expert calculated median and mean discounts of 24.8 percent and 27.4 percent, respectively, for his samples, and concluded that there was virtually no market for the FLP units and that a willing buyer would have great difficulty in selling those interests for full value. The expert concluded that the DLOM should be "at least" 35 percent based on all these factors. The court was not convinced by this analysis, finding that the expert's assertion that the FLP units lacked any available market could conceivably lead to a DLOM of 100 percent and a zero value for the gifts and that his discount range was nothing more than a guess.

The court preferred the IRS's expert's analysis, which was more detailed and more carefully tailored to account for the FLP's specific characteristics. The IRS's expert first obtained average discounts for each of three periods. The first was the period before 1990, when the SEC adopted Rule 144A and when there was no resale market for restricted stock. During this period, the average discounts were 34 percent. The second was the seven-year period after the enactment of Rule 144A, to 1997, during which time there was limited access to a resale market and during which average discounts were 22 percent. The third period was the two years following the 1997 amendment of 144A, which reduced the required holding period from two to one year and during which average discounts were 13 percent. The expert concluded that the 12 percent (34 percent to 22 percent) decline in discounts between pre- and post-Rule 144A was due to the opening of a limited resale market and represented the "charge" or incremental level of discounts that investors demanded before 1990, when the market became more liquid. He attributed the remaining 22 percent primarily to holding period restrictions. Based on this analysis, he concluded that for private holding companies such as the FLP, which are not subject to legally imposed holding periods or the risks attendant to restricted stock, the DLOM was around 12 percent.

Adopting this baseline, the IRS expert analyzed FLP-specific factors. Its failure to make distributions reduced marketability, whereas its holding of only Dell stock, and its transfer restrictions increased marketability because Dell stock was freely tradable and the buy-back provision permitted the partnership to dissolve and redistribute the assets to the remaining partners (under this provision, the economic self-interest of noncompliant LPs and the remaining members could increase marketability by encouraging sales of FLP units). Based on these factors, the expert concluded a discount range of 10 percent to 15 percent, the midpoint of which was 12.5 percent, which he felt was supported by his prior analysis. He did not adjust for the holding period because he believed that in this case it had no relevance. The court agreed and accepted his DLOM.

Gross v. Commissioner.[23] As in *Holman*, the court found that gifts of limited partnership interests were validly made eleven days after the transfer of assets to the FLP had occurred. Accordingly, it accepted the parties' stipulation, based on the court's ruling, that the fair market value of the gifted partnership interests should reflect a 35 percent combined discount for lack of marketability and lack of control.

Other Courts. It is reasonable to assume that bankruptcy courts and divorce courts will have to address issues relating to the valuation of limited partnerships and other entities increasingly in the future as owners of these types of interests become enmeshed in insolvency and marital division proceedings.

SUMMARY

The development of discount adjustments for LP and LLC interests for financial planning purposes is an exercise subject to professional appraisal standards and methods. Analysts developing valuation techniques for entity interests need to be aware of the empirical evidence and may want to maintain or purchase proprietary databases applicable to such

entities. The appraiser practicing in this area needs to work closely with legal and tax counsel to adhere to IRS regulations applicable to entity valuations.

NOTES

1. *Harwood v. Commissioner*, 82 T.C. 239 (1984).
2. *Knott v. Commissioner*, 55 T.C.M. (CCH) 424 (1988).
3. *Moore v. Commissioner*, 62 T.C.M. (CCH) 1128 (1991).
4. *LeFrak v. Commissioner*, 66 T.C.M. (CCH) 1297 (1993).
5. *Estate of McCormick v. Commissioner*, T.C. Memo 1995-371 (1995).
6. *Estate of Barudin v. Commissioner*, T.C. Memo 1996-395, 72 T.C.M. (CCH) 488 (1996).
7. *Estate of Schauerhamer v. Commissioner*, T.C. Memo 1997-242 (1997).
8. *Estate of Lehman v. Commissioner*, T.C. Memo 1997-392 (1997).
9. *Estate of Nowell v. Commissioner*, T.C. Memo 1999-15 (1999).
10. *Kerr v. Commissioner*, 113 T.C. No. 30, 1999 U.S. Tax Ct. LEXIS 58 (1999).
11. *Church v. United States*, 2000 U.S. Dist. LEXIS 714 (W.D. Tex 2000), *aff'd,* 268 F.3d 1063 (5th Cir. 2001).
12. *Shepherd v. Commissioner*, 115 T.C. No. 30, 2000 U.S. Tax Ct. LEXIS 77 (2000).
13. *Knight v. Commissioner*, 115 T.C. No. 36, 2000 U.S. Tax Ct. LEXIS 88 (2000).
14. *Estate of Strangi v. Commissioner*, 115 T.C. No. 35, 2000 U.S. Tax Ct. LEXIS 89 (2000).
15. *Gulig (Estate of Strangi) v. Commissioner*, 293 F.3d 279 (5th Cir. 2002).
16. *Estate of Strangi v. Commissioner*, T.C. Memo 2003-145 (2003).
17. *Strangi v. Commissioner*, 417 F.3d 468 (5th Cir. 2005).
18. *Estate of Jones v. Commissioner*, 116 T.C. No. 11, 2001 U.S. Tax Ct. LEXIS 11 (2001).
19. *Kimbell v. United States*, 244 F. Supp. 2d 700 (N.D. Tex. 2003), *vacated and remanded*, 371 F.3d 257 (5th Cir. 2004).
20. *Estate of Stone v. Commissioner*, T.C. Memo 2003-309 (2003).
21. *Astleford v. Commissioner*, T.C. Memo 2008-128 (2008).
22. *Holman v. Commissioner*, 130 T.C. No. 12 (2008).
23. *Gross v. Commissioner*, T.C. Memo 2008-221 (2008).

Chapter 22

Adjusting Values for Differences in Size

By Kimberly L. A. Linebarger

Income Approach
- Evidence of the Size Premium
- Examples Using Morningstar and Duff & Phelps Data

Market Approach
Criticisms of the Size Premium
Court Cases Involving the Size Premium
- Size Premium Accepted
  - Estate and Gift Tax Cases
  - Shareholder Dissolution and Dissent Cases
  - Marital Dissolution Cases
- Size Premium Rejected
  - Tax Cases
  - Shareholder Dissolution and Dissent Cases

Summary
Sources of Additional Data

The ‘‘size effect’’ is the concept that the smaller the company the greater the risk and thus the higher the companies’ cost of capital. The factors that contribute to smaller companies having increased risk include lack of product diversity, industry and geographic diversification, higher sensitivity to economic movement, and less access to capital, to list a few.[1] Most business valuation analysts recognize the size effect when valuing small closely held companies.

INCOME APPROACH[2]

EVIDENCE OF THE SIZE PREMIUM

The existence of the size effect has been heavily debated since the first empirical evidence was published in 1981 by Rolf W. Banz.[3] Today most analysts utilize two independent studies published by Morningstar and Duff & Phelps to adjust for the size effect

within the income approach. Both studies use data from the Center for Research in Security Prices (CRSP) at the University of Chicago's Graduate School of Business.

Morningstar devotes an entire chapter to the firm size premium in its well known annual publication *Stocks, Bonds, Bills, and Inflation*.[4] Morningstar breaks down stock returns from the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), and the National Association of Securities Dealers Automated Quotations (NASDAQ) into 10 deciles by size, as measured by the aggregate market value of common equity as evidence of the size effect. The excess returns over the basic realized return for the market increase dramatically with decreasing size and is especially noticeable for the smallest 10 percent of companies (Exhibit 22.1).

To further analyze the firm size phenomenon Morningstar calculates the size premium in a variety of ways. To assist in showing the pattern that the smaller the company the greater its size premium Morningstar breaks the 10th decile down further into 10a and 10b. To show that the size effect still exists after taking into account the

Exhibit 22.1 Long-Term Returns in Excess of CAPM with S&P 500 Benchmark

Long-Term Returns in Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ with 10th Decile Split: 1926–2006

Decile	Beta*	Arithmetic Mean Return	Realized Return in Excess of Riskless Rate**	Estimated Return in Excess of Riskless Rate†	Size Premium (Return in Excess of CAPM)
1—Largest	0.91	11.35%	6.13%	6.49%	–0.36%
2	1.04	13.25%	8.04%	7.39%	0.65%
3	1.10	13.85%	8.64%	7.82%	0.81%
4	1.13	14.28%	9.07%	8.04%	1.03%
5	1.16	14.92%	9.71%	8.26%	1.45%
6	1.18	15.33%	10.11%	8.45%	1.67%
7	1.23	15.63%	10.42%	8.80%	1.62%
8	1.28	16.61%	11.39%	9.12%	2.28%
9	1.34	17.48%	12.27%	9.57%	2.70%
10—Smallest	1.41	21.57%	16.36%	10.09%	6.27%
Mid-Cap, 3–5	1.12	14.15%	8.94%	7.97%	0.97%
Low-Cap, 6–8	1.22	15.67%	10.46%	8.70%	1.76%
Micro-Cap, 9–10	1.36	18.77%	13.56%	9.68%	3.88%

Source: Stocks, Bonds, Bills, and Inflation Valuation Edition 2007 Yearbook. Copyright © 2007 Morningstar, Inc. All rights reserved. Used with permission. To purchase copies of the *Valuation Edition Yearbook*, or for more information on other Morningstar publications, please visit global.morningstar.com/DataPublications. Calculated (or derived) based on CRSP data, © 2007 Center for Research in Security Prices (CRSP), Graduate School of Business, the University of Chicago.

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2006.

**Historical riskless rate is measured by the 81-year arithmetic mean income return component of 20-year government bonds (5.21 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (12.34 percent) minus the arithmetic mean income return component of 20-year government bonds (5.21 percent) from 1926 to 2006.

lagged price reaction of small company stocks Morningstar presents the size premium using sum beta. Morningstar concludes the chapter on the firm size premium with the following:

> The goal of this section was to review the most common arguments against [the size premiums] existence. Most criticisms presented to date, however, have not provided sufficient evidence to disprove the existence of a size premium.[5]

Duff & Phelps Risk Premium Report presents the results of Roger Grabowski and David King's study of the size premium. The study breaks down stock returns from the NYSE, the AMEX, and the NASDAQ into 25 deciles and utilizes 8 different measures of size. Exhibit 22.2 presents data from the study ranked by market value of equity for use in the CAPM. In each of the measures of size presented in the study the inverse relationship between size and risk is clearly visible especially for the lower deciles.

Additional studies on the size effect have been conducted. One such study by Eugene Fama and Kenneth French examined the contribution of the migration of stocks across size and value portfolios to the size and value premiums in average stock returns. They conclude:

> The size premium is almost entirely a result of the extreme positive returns of small-cap stocks that move to a big-cap portfolio from one year to the next. Three factors contribute to the value premium. (1) Plus transitions, with their high returns, occur more often for value stocks than for growth stocks. (2) Minus transitions and their low returns are more likely for growth stocks. (3) Value stocks that remain in the same portfolio from one year to the next have higher average returns than the matching (small-cap or big-cap) growth stocks. . . . [T]he size and value premiums in average returns are the result of rational risks of concern to investors. . . .[6]

EXAMPLES USING MORNINGSTAR AND DUFF & PHELPS DATA

Within the income approach the size effect or size premium is added to the cost of capital after the risk-free rate and equity risk premium. The data presented in both Morningstar and Duff & Phelps studies can be utilized in a variety of cost-of-capital models including CAPM and Build-up models. Exhibit 22.3 presents simplified examples of CAPM using Morningstar data presented in Exhibit 22.1 and Duff & Phelps data from the *Risk Premium Study*. An analyst should fully understand the data presented in each study before using the results.

MARKET APPROACH

Multiples of economic income used in the market approach are the reciprocal of the capitalization rate and are impacted by the same factors. Two of the most important influences on the capitalization rate are risk and growth. As mentioned earlier, size is an important indicator of risk and thus an important qualitative factor when determining value under the market approach.

Exhibit 22.2 Duff & Phelps Size Study for Use in CAPM

Companies Ranked by Market Value of Equity | **Premium over CAPM**

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2006

Portfolio Rank by Size	Average Mkt Value ($mils.)	Log of Size	Beta (SumBeta) Since '63	Arithmetic Average Return	Arithmetic Equity Risk Premium	Indicated CAPM Premium	Premium over CAPM	Smoothed Premium over CAPM
1	97,566	4.99	0.90	11.90%	4.76%	4.46%	0.30%	-1.70%
2	28,450	4.45	0.93	12.11%	4.97%	4.58%	0.38%	-0.12%
3	17,118	4.23	0.97	10.98%	3.84%	4.80%	-0.95%	0.53%
4	12,554	4.10	0.98	12.92%	5.78%	4.84%	0.94%	0.92%
5	9,494	3.98	0.96	13.43%	6.29%	4.77%	1.52%	1.28%
6	7,551	3.88	1.03	14.15%	7.01%	5.07%	1.93%	1.58%
7	5,218	3.72	1.02	14.82%	7.68%	5.02%	2.66%	2.05%
8	4,610	3.66	1.09	14.15%	7.01%	5.40%	1.61%	2.21%
9	3,905	3.59	1.09	15.34%	8.20%	5.38%	2.83%	2.42%
10	3,170	3.50	1.10	14.51%	7.37%	5.44%	1.93%	2.69%
11	2,757	3.44	1.10	15.06%	7.92%	5.42%	2.50%	2.86%
12	2,453	3.39	1.11	15.07%	7.93%	5.48%	2.44%	3.01%
13	2,115	3.33	1.10	13.87%	6.73%	5.43%	1.30%	3.20%
14	1,866	3.27	1.14	16.12%	8.98%	5.65%	3.33%	3.36%
15	1,552	3.19	1.15	15.63%	8.49%	5.67%	2.83%	3.60%
16	1,430	3.16	1.14	17.54%	10.40%	5.63%	4.77%	3.71%
17	1,186	3.07	1.21	17.35%	10.21%	5.98%	4.23%	3.94%
18	1,016	3.01	1.21	16.97%	9.83%	5.98%	3.85%	4.14%
19	900	2.95	1.24	16.99%	9.85%	6.14%	3.71%	4.30%
20	811	2.91	1.28	17.80%	10.66%	6.32%	4.34%	4.43%
21	685	2.84	1.27	18.18%	11.04%	6.28%	4.76%	4.65%
22	557	2.75	1.28	17.93%	10.79%	6.31%	4.48%	4.91%
23	389	2.59	1.24	18.01%	10.87%	6.16%	4.71%	5.37%
24	277	2.44	1.28	19.50%	12.36%	6.35%	6.01%	5.81%
25	105	2.02	1.30	23.37%	16.23%	6.45%	9.78%	7.04%
High financial risk			1.63	21.77%	14.63%	8.05%	6.58%	
Large Stocks (Ibbotson SBBI data)				12.09%	4.95%			
Small Stocks (Ibbotson SBBI data)				17.64%	10.50%			
Long-Term Treasury Income (Ibbotson SBBI data)				7.14%				

Equity Risk Premium Study: Data through December 31, 2006
Data Smoothing with Regression Analysis
Dependent Variable: Premium over CAPM
Independent Variable: Log of Average Market Value of Equity

Regression Output:		
Constant		13.006%
Std Err of Y Est		0.992%
R Squared		80%
No. of Observations		25
Degrees of Freedom		23
X Coefficient(s)	-2.948%	
Std Err of Coef.	0.304%	
t-Statistic	-9.69	

*Smoothed Premium = 13.006% - 2.948% * Log(Market Value)*

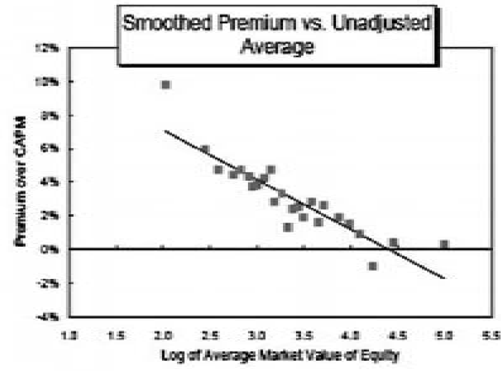

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Exhibit 22.3 Examples of the Size Premium in the CAPM

The formula for the modified CAPM is:

$$E(R) = R_f + B(RP_m) + RP_s + RP_u$$

where:

$E(R)$ = Expected rate of return
R_f = Rate of return available on a risk-free security as of the date of valuation
B = Beta
RP_m = General equity risk premium for the market
RP_s = Risk premium for size
RP_u = Risk premium attributable to the specific company (u stands for unique or unsystematic risk)

For simplicity the following assumptions are used in both examples:

R_f = 4.91% (20-year U.S. Treasury Bond Yield as of 12/31/2006)
B = 1.2
RP_m = 5.1%*
RP_u = 2%

Example 1: The Size Premium Using Morningstar Data

If the subject company is in the 10th decile as presented in Exhibit 1 then $RP_s = 6.27\%$ and the expected rate of return using Morningstar data is:

$$\begin{aligned} E(R) &= 4.91\% + 1.2(5.1\%) + 6.27\% + 2\% \\ &= 4.91\% + 6.12\% + 6.27\% + 2\% \\ &= 19.3\% \end{aligned}$$

Example 2: The Size Premium Using Duff & Phelps Data

The following is assumed:	Company Size	Guideline Portfolio	Premium over CAPM (1)
Market Value of Equity	$95 mil.	25	7.04%
Book Value of Equity	$50 mil.	25	5.70%
5-year Average Net Income	$7 mil.	24	5.48%
Market Value of Invested Capital	$120 mil.	25	6.59%
Total Assets	$250 mil.	24	5.10%
5-year Average EBITDA	$20 mil.	24	5.37%
Sales	$150 mil.	24	5.18%
Number of Employees	125	25	6.37%
Mean premium over CAPM, *RPs*			5.85%
Median premium over CAPM, *RPs*			5.59%

Source: Duff & Phelps' *Risk Premium Report 2007*, copyright Duff & Phelps LLC © 2007. Used with permission. All rights reserved. (1) Smoothed premium over CAPM from exhibits B-1 through B-8.

If we utilize the median of the data, $RP_s = 5.59\%$ then expected rate of return using Duff & Phelps' Risk Premium *Report – Size* Study is:

$$\begin{aligned} E(R) &= 4.91\% + 1.2(5.1\%) + 5.59\% + 2\% \\ &= 4.91\% + 6.12\% + 5.59\% + 2\% \\ &= 18.62\% \end{aligned}$$

(*continued*)

Exhibit 22.3 *Continued*

The long-horizon expected equity risk premium (historical) in the *SBBI 2007* book is 7.1%. This has been rounded down by 2% to arrive at 5.1%. It is not the purpose of this chapter to discuss the equity risk premium; see Chapter 9 in Shannon Pratt and Roger Grabowski, *Cost of Capital*, 3rd edition for a complete explanation of this adjustment.

The size effect is applied in the market approach by adjusting multiples derived from guideline companies; this is true under both the guideline publicly traded company method and the guideline merged and acquired company method. The adjustment is often first performed during the selection process of comparable guideline public companies and/or merged and acquired companies. The focus of the selection of guideline comparables is on finding companies with the same underlying economic drivers. Frequently differences in size will affect the selection of guideline comparables. For example, a publicly traded company that has revenues of $300 million with operations across the U.S. will most likely not be comparable to a company with revenues of $1 million with operations in a single U.S. city given that the economic drivers of each company may differ greatly.

Exhibit 22.4 Example of Adjusting for Size from Guideline Public Companies

The formula used for adjustment:

$$P/E_{subject} = \frac{1}{\frac{1}{P/E_{public}} + \Delta Risk + \Delta Growth}$$

where:

$P/E_{subject}$ = Subject company price/earning multiple

P/E_{public} = Public company price/earning multiple

$\Delta Risk$ = Increased (higher) or decreased (lower) risk of subject company as compared to public company

$\Delta Growth$ = Increased (lower) or decreased (higher) growth of subject company as compared to public company

Example:

The subject company is riskier and has higher expected growth compared to the public company. The following has been determined:

$$\frac{1}{P/E_{public}} = 8$$

$$\Delta Risk = 5\% \text{ higher then public company}$$

$$\Delta Growth = 2\% \text{ higher then public company}$$

$$\begin{aligned} P/E_{subject} &= \frac{1}{\frac{1}{8} + 5\% - 2\%} \\ &= \frac{1}{12.5\% + 5\% - 2\%} \\ &= \frac{1}{15.5\%} \\ &= 6.45\% \end{aligned}$$

Source: This is an expanded example from Shannon Pratt with Alina Niculita, *Valuing a Business*, 5th ed. (New York: McGraw-Hill 2008): 293.

Another method of adjustment for the size effect under the market approach is adjusting the multiples themselves. Frequently the analyst is able to find guideline comparables of similar size under the merged and acquired method and thus any further adjustment is not warranted. Sources for merged and acquired company transactions can be found at the end of this chapter.

When valuing small closely held companies under the guideline public company method comparables are regularly larger in size. This does not imply that the analyst does not have the obligation to search for smaller more comparable companies. As stated in *Valuing a Business*, fifth edition, "The search for guideline publicly traded companies should be as exhaustive as the scope of the particular valuation case permits. . . . The analyst must establish and adhere to an objective set of selection criteria so that the final list will not tend to bias the valuation result either upward or downward."[7] Numerous books present models on how to adjust multiples from guideline public companies. Exhibit 22.4 presents a simplified model focusing on the size adjustment.

CRITICISMS OF THE SIZE PREMIUM

While most business valuation analysts recognize the size effect when valuing small closely held companies, the debate as to the existence of the size effect continues. Even in 1981 while presenting his evidence on the size effect Rolf W. Banz made sure to note that "it is not known whether size *per se* is responsible for the effect or whether size is just a proxy for one or more true unknown factors correlated with size."[8] Some of the main criticisms of the size effect are issues with the underlying data, measurement of beta, composition of the deciles used, seasonality, and the delisting bias.

As mentioned earlier Morningstar looks at many of the criticisms of the firm size premium and concludes that the premium does exist. The *Risk Premium Study* does not specifically address the criticisms of the size premium. However, both Roger Grabowski and David King have addressed them repeatedly in other literature.[9]

When adjusting for differences in size, as with any adjustment, to properly apply the adjustment the analyst must be aware of the fundamentals of the underlying adjustment. This will assist the analyst in understanding whether the adjustment should be applied to a given subject company.

COURT CASES INVOLVING THE SIZE PREMIUM

The courts have not been consistent in their treatment of the small-firm risk premium. Some have accepted the application of such a premium, whereas others have not. What is clear is that for the premium to be accepted, it must be supported and substantiated by compelling evidence.

SIZE PREMIUM ACCEPTED

Estate and Gift Tax Cases

Estate of Klauss v. Commissioner.[10] In this case, the small-stock premium was accepted for developing a discount rate and adjusting the market valuation multiples in

the guideline public company method. The court rejected the position that such a premium does not exist, and determined that the IRS's expert had failed to properly apply the Ibbotson data on which the premium was based. Specifically, the court rejected looking at only data provided by Ibbotson Associates for the 1978–1992 period rather than the 1926–1992 period because small stock did not consistently outperform large stock during the 1980s and 1990s. The court said, ''Later data from Ibbotson Associates show that the small-stock premium has declined since about 1983 or 1984, but that small capitalization stocks were yielding higher average returns than large capitalization stocks in 1993.''

Estate of Smith v. Commissioner.[11] This case involved the valuation of minority interests in two companies with large assets and small returns. The estate used two experts, who both used the asset and income approaches to value the companies. One of these experts used a small-stock premium to determine the capitalization rate for one of the companies, and the court largely accepted this valuation. The court rejected the IRS's expert's valuation because he failed to use an income approach, instead relying exclusively on an asset approach.

Estate of Hendrickson v. Commissioner.[12] The court in this case faulted the IRS's expert for failing to apply a small stock premium while using the Ibbotson approach to calculate the cost of capital. The court said:

> In his rebuttal report, [the IRS expert] unsuccessfully tried to persuade us that the small stock premium is not supported by financial theory, characterizing the risk associated with a firm's size as unsystematic risk, for which the market does not compensate. The relationship between firm size and return is well known. It has been found that the greater risk of small stocks is not fully reflected by CAPM, in that actual returns may exceed those expected based on beta. . . . Consequently, when calculating a cost of capital under CAPM on a small stock, it is appropriate to add a small stock premium to the equity risk premium, to reflect the greater risk associated with an investment in a small stock in comparison to the large stocks from which the equity risk premium is calculated.

The court concluded that based on the company's size, a mirocapitalization equity size premium of 3.6 percent should have been added.

Estate of Maggos v. Commissioner.[13] In this case the court rejected a discounted cash flow (DCF) analysis presented by the IRS's expert in part for failure to add a small company risk premium in arriving at the discount rate. As part of this method, the expert used the weighted average cost of capital (WACC) and the capital asset pricing model (CAPM) and arrived at a 12 percent discount rate. However, since the expert failed to adequately explain why the small company risk premium should be excluded, and based on other evidence, the court concluded that the appropriate discount rate should be 17 percent.

Shareholder Dissolution and Dissent Cases

In re Dissolution of Bambu Sales, Inc.[14] This case was brought by a trustee in bankruptcy, as successor in interest to a minority stockholder, for the judicial

dissolution of Bambu Sales, Inc. (Bambu). The majority agreed to purchase the minority interest, and the company's fair value had to be determined. The court ruled that the appropriate method of valuation in this case was the investment value method, which involves determining what a prudent informed investor would be willing to pay to buy the entire business as a going concern considering all the factors indicated by the nature of the business, the risks involved, and the expected projected return, given that Bambu's only business was the wholesale distribution of cigarette rolling paper manufactured in Spain and used for illicit means, not tobacco products; there was a single foreign supplier; there was a limited geographic sales market, that is, the New York metropolitan area and the Caribbean; the sale of the product was subject to extensive government regulation and, thus, ability to advertise was limited; and the corporation had recently settled two lawsuits incurring over $1.2 million in liabilities. The trustee's expert testified that the Ibbotson small stock premium of 4 percent accounted for all of the risks in Bambu, whereas the majority's expert testified that the Ibbotson small stock premium was not sufficient for Bambu considering the inherent risks of the company. The court agreed with the majority owners, finding that since the Ibbotson data was based on publicly traded companies, the small stock premium for consideration of investment in Bambu was not realistic and a much higher risk factor had to be assigned. Thus, in reaching an acceptable capitalization rate, the court applied what it called a 20 percent small company premium. In this case, the court seemed to lump together risk factors in addition to size in arriving at its small company premium, instead of segregating those other factors into a company-specific risk factor. In any event, the court accepted a risk premium based on size.

In re Emerging Communications, Inc. Shareholders Litigation.[15] In this dissenters' rights action, the company's expert applied a small stock risk premium (1.7 percent), a micro cap risk premium (1 percent) and an additional company-specific risk premium (1.4 percent), which was applied to account for increased hurricane risks. The dissenters objected to these. The Delaware Chancery Court ruled that the small stock premium was appropriate, but that the micro cap risk premium was not. It stated, "[The company] may be small, but it is also a utility that was unusually protected from the hazards of the marketplace. [The company] . . . was well established, it had no competition, it was able to borrow at below market rates, and it was cushioned by regulators from extraordinary hazards." Therefore, it found no justification for a risk adjustment for size in excess of the small stock risk premium.

Gesoff v. IIC Industries Inc.[16] This case tested the application of a small company risk premium to foreign companies operating in either developed or emerging markets. The case involved a foreign holding company (CP Holdings, Ltd.) that owned 78 percent of a publicly traded U.S. subsidiary (IIC), which controlled various companies doing business worldwide: a Hungarian hotel operation; a Hungarian agricultural producer; an Israeli heavy machine and equipment manufacturer; and an East African equipment distributor. To simplify its cost structure, CP Holdings sought to remove IIC's minority stockholders in a going-private transaction. Ultimately, some minority shareholders brought suit, claiming unfair dealing and pricing, and seeking a statutory appraisal action.

The Delaware Chancery Court accepted the general framework of the company's expert's valuation, which included the application of a small-company risk premium to IIC's constituents, relying on Ibbotson's guidelines. Specifically, he added a 5.33 percent small-size premium to the WACC of all IIC companies—including its hotel holdings—arguing that they all fell within Ibbotson's 10th Decile. The court, however, questioned whether size risk premiums developed for the U.S. market apply to foreign corporations. The court indicated that the valuation "calls on the court to decide whether there is something inherently risky about the stock of companies that are small compared to their global competitors, or whether the small-stock premium arises only when a company is small in relation to the market on which it trades." After conducting a review of the scholarship on this issue, the court concluded that that a small-size premium "might well" apply to foreign companies in more highly developed markets, but would not apply at all (or to the same extent) to those in emerging markets. Accordingly, the court declined to apply a small-stock premium to IIC's African holdings, but did apply the Ibbotson Decile 10 small-size risk premium of 5.33 percent in deriving the WACC of its Israeli and smaller Hungarian operations. Nevertheless, because the Ibbotson data suggest that the hotel industry may be less subject to the size premium, and IIC's Hungarian hotels formed part of the index for the Budapest Stock exchange, the court ruled that these operations warranted a Decile 9 premium of 2.4 percent.

Marital Dissolution Cases

LeRoy v. LeRoy.[17] This marital dissolution, filed in 1995, involved the valuation of the famous Manhattan restaurant Tavern on the Green, owned 90 percent by the husband. The wife's expert valued the restaurant using the capitalization of earnings approach. In computing his capitalization rate, he started with the 1995 risk-free rate of return (6 percent) and to that he made adjustments including a small company risk premium of 3.5 percent. The husband's expert valued the business using the discounted cash flow method. In calculating his discount rate, he applied a 5.8 percent small company risk premium.

The New York trial court accepted the capitalization rate proposed by the wife's expert. In doing so, the court expressly accepted the 3.5 percent small company risk premium applied by her expert, noting that the husband's expert's 5.8 percent discount appeared excessive in light of "recent evidence . . . that in the past decade [1986–1995], the premium earned by small companies has been shrinking and was actually negative during much of the 1980's."

SIZE PREMIUM REJECTED

Tax Cases

Estate of Jung v. Commissioner.[18] The estate's expert in this case argued that the valuation discount rate in the discounted cash flow should be increased to 16.73 percent from 7.34 percent for an assumed small firm risk premium. The Tax Court, however, was not persuaded that a small firm risk premium should be added simply because the firm being valued was small. It indicated that it was not at all clear that there was any general validity in the small stock premium concept, except as a substitute for a beta rating.

Barnes v. Commissioner.[19] Relying on the decision and rationale of *Jung*, the Tax Court in this case ruled that the taxpayer's expert did not provide evidence that an investment in the corporation in question was riskier simply because of its small size. Accordingly, the court accepted the expert's methodology other than the application of the small company risk premium.

Estate of Hoffman v. Commissioner.[20] The IRS's expert in this case, in using CAPM, applied a 5.3 percent unsystematic risk premium to account for small company risk based on Ibbotson data. However, the court not only criticized the expert for using CAPM to value a small, closely held company, but also rejected the risk premium as inadequately supported. Although the expert's report stated that 5.3 percent is equivalent to the premium for investing in small company stocks as calculated by Ibbotson Associates, the court found that the expert did not explain why such a figure was appropriate specifically for the company being valued.

BTR Dunlop Holdings, Inc. v. Commissioner.[21] In this capital gains tax case involving corporate transfers, one of the taxpayer's experts, using WACC and CAPM to determine the appropriate discount rate, applied a 5 percent small company risk premium to the cost of equity, as well as a company-specific risk premium. A second taxpayer expert who also used WACC and CAPM, applied a 5.7 percent small company risk premium because, he argued, ''studies show that the CAPM does not fully capture the risk associated with small companies.'' The Tax Court rejected the valuations of the taxpayers' experts because they did not adequately consider the effects of synergy in their valuations. The court stated, ''Reliance solely on a stand-alone value and application of the small company risk premium and company-specific risk premium are not justified by the evidence in this case.'' Therefore, in its valuation, the court did not apply a company-specific or small company risk premium.

Shareholder Dissolution and Dissent Cases

Gesoff v. IIC Industries Inc.[22] In this case, which is previously discussed in greater detail, the Delaware Chancery Court ruled that a small company risk premium should not be applied to a foreign company operating in an emerging market (Africa). The court did, however, permit the application of such a premium to foreign countries in more highly developed markets (Israel and Hungary).

Le Beau v. M. G. Bancorporation, Inc.[23] In this appraisal of a bank holding company, the Delaware Chancery Court rejected the discount rate of both the minority shareholders' expert and the company's expert. The minority's expert applied a small stock premium of 1 percent, based on a 1996 Ibbotson study that was specific to banks. The court, however, rejected this because the study on which he relied was prepared after the 1993 merger date. The company's expert applied a small stock premium of 5.2 percent that was based on a 1992 Ibbotson study that was not specific to banks, and he increased his discount rate slightly for certain unspecified material risks. The court rejected this on the grounds that it was ''inappropriately high'' and not specifically related to banks.

SUMMARY

Today there are numerous articles and publications concerning the size effect. The size effect can be applied under both the income and market approach. In both the Morningstar and Duff & Phelps publications the size effect is strongest for the smallest decile companies. When adjusting for size an analyst must be able to support that the size effect does indeed apply to the subject company. As shown in the court cases presented, a size premium may be rejected by the courts if not substantiated.

SOURCES OF ADDITIONAL DATA

Sources of merged and acquired company data:

Large Transactions

- *Mergerstat Review*

  FactSet Mergerstat
  www.mergerstat.com
  (310) 315-3100
- *Mergerstat/BVRs Control Premium Study*

  Business Valuation Resources
  www.BVResources.com
  (888) 287-8258

Middle-Market and Smaller Company Transactions

- Pratt's Stats

  Business Valuation Resources
  www.BVResources.com
  (888) 287-8258
- Bizcomps

  www.bizcomps.com
  (702) 454-0072
- IBA Market Database

  www.go-iba.org
  (954) 584-1144

Sources of Guideline Publicly Traded Company Data

- Compustat

  Standard & Poor's Corporation
  www.compustat.com
  www.standardandpoors.com
  (800) 523-4534

- EDGAR Database

  Securities and Exchange Commission
  www.sec.gov/edgar/searchedgar/webusers.htm
- Mergent

  www.mergent.com
  (888) 411-0893
- Thomson Financial

  www.thomson.com/financial/financial.jsp
  www.dialog.com
  (800) 843-7747

For more extensive lists see *Valuing a Business*, 5th edition, Chapters 11 and 12.

NOTES

1. For a more extensive list of factors see Jeffrey S. Tarbell, "The Small Company Risk Premium: Does It Really Exist?" American Society of Appraisers, 18th Annual Advanced Business Valuation Conference, New Orleans, LA, October 1999; Republished in James R. Hitchner, "Financial Valuation: Applications and Models," 2nd edition, (Hoboken, NJ: John Wiley, 2006): 170.
2. For a more in-depth analysis and examples of the size effect within the income approach, see Shannon Pratt and Roger Grabowski, *Cost of Capital: Applications and Examples* 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008): Chapters 12 and 13.
3. Rolf W. Banz, "The Relationship between Return and Market Value of Common Stock," *Journal of Financial Economics* 9 (1981): 3–18.
4. Morningstar, "Stocks, Bonds, Bills, and Inflation, Valuation Edition" (2007): Chapter 7; Both the Valuation and Classic editions present data on firm size.
5. "Stocks, Bonds, Bills, and Inflation Valuation Edition 2007 Yearbook," Morningstar, Inc. (2007): 160.
6. Eugene Fama and Kenneth French, "Migration," *Financial Analysts Journal* (May/June 2007): 48–58.
7. Shannon Pratt with Alina Niculita, *Valuing a Business*, 5th ed., (New York: McGraw-Hill, 2008), p. 279.
8. Banz, "The Relationship between Return and Market Value of Common Stock," p. 3.
9. See Pratt and Grabowski, *Cost of Capital*, Chapter 13; David King, "Do Data Biases Cause the Small Stock Premiums?" *Business Valuation Review* (June 2003): 56–61.
10. *Estate of Klauss v. Commissioner*, T.C. Memo 2000-191, 2000 Tax Ct. Memo LEXIS 228 (2000).
11. *Estate of Smith v. Commissioner*, T.C. Memo. 1999-368, 1999 Tax Ct. Memo LEXIS 425 (1999).
12. *Estate of Hendrickson v. Commissioner*, T.C. Memo 1999-278, 1999 Tax Ct. Memo LEXIS 318 (1999).
13. *Estate of Maggos v. Commissioner,* T.C. Memo 2000-129 (2000).
14. *In re Dissolution of Bambu Sales, Inc.,* 672 N.Y.S.2d 613 (N.Y. Sup. 1997).
15. *In re Emerging Communications, Inc. Shareholders Litigation*, 2004 Del. Ch. LEXIS 70 (Del. Ct. Ch. 2004).
16. *Gesoff v. IIC Industries, Inc.,* 902 A.2d 1130, 2006 Del. Ch. LEXIS 91 (Del. Ct. Ch. 2006).

17. *LeRoy v. LeRoy*, NY Law Journal, July 15, 1999, New York Supreme Court IA Part 15.
18. *Estate of Jung v. Commissioner,* 101 T.C. 412 (1993).
19. *Barnes v. Commissioner*, T.C. Memo 1998-413 (1998).
20. *Estate of Hoffman v. Commissioner,* T.C. Memo 2001-109, 2001 Tax Ct. Memo LEXIS 136 (2001).
21. *BTR Dunlop Holdings, Inc. v. Commissioner,* T.C. Memo 1999-377 (1999).
22. *Gesoff v. IIC Industries, Inc.,* 902 A.2d 1130, 2006 Del. Ch. LEXIS 91 (Del. Ct. Ch. 2006).
23. *Le Beau v. M. G. Bancorporation, Inc.,* 1998 Del. Ch. LEXIS 9 (Del. Ct. Ch. 1998).

Chapter 23

Discounts and Premiums in ESOP Valuations[1]

By Alina V. Niculita

ESOP Definition, Types, and Benefits
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ESOP DEFINITION, TYPES, AND BENEFITS

An employee stock ownership plan (ESOP) is a qualified retirement plan under the Internal Revenue Code of 1986 (the Code) that is designed to invest primarily in employer stock. The Code and the Employee Retirement Income Security Act of 1974 (ERISA) govern the ESOPs and impose requirements for the ESOPs to gain qualified status.

There are two types of ESOPs, nonleveraged and leveraged. The nonleveraged ESOP does not use debt to purchase employer securities, instead it uses annual tax-deductible stock or cash contributions by the employer to purchase stock. In a leveraged ESOP situation, the employer company borrows money from the bank and then loans the proceeds of the loan to the newly formed ESOP. The ESOP then uses the proceeds to purchase stock from the existing shareholders. After the initial setup of the ESOP, the company makes annual tax-deductible employer contributions to the ESOP (or pays dividends on the ESOP stock). The ESOP then uses the employer contributions to make payments on the loan taken at the onset of the process.

There are benefits for all the parties involved in an ESOP, as follows:

- For the company, the most important benefit is the tax-deductibility of the principal payments on the ESOP acquisition loan for income tax purposes. In comparison to traditional financing, there is more cash after taxes left in the company. The employer may also experience positive effects from the fact that employees have a vested interest in the success of the company and may have an advantage in attracting and retaining employees.

- For the selling shareholders, there are the benefits of deferring the capital gains tax under Code section 1042 when selling to an ESOP along with the benefit of the liquidity opportunity.
- For the ESOP plan participants, there is the benefit of ownership in the company and to share in the future growth.
- For the lender, there is the benefit of lower risk on the investment, because of the tax-deductible nature of the principal on the ESOP loan, the company has more after-tax cash flow and thus less risk of defaulting on the loan.

"ADEQUATE CONSIDERATION" FOR ESOP VALUATION PURPOSES

Valuation for ESOP purposes follows the same principles as valuation for tax purposes, with the added complexities of the requirements of ERISA. For instance, ERISA requires that ESOPs pay no more than adequate consideration when investing in employer securities.

For purposes of adequate consideration under ERISA, fair market value is defined as:

> The price at which an asset would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, and both parties are able, as well as willing, to trade and are well informed about the asset and the market for such asset.[2]

In support of the adequate consideration, an ESOP appraisal of the employer shares must be performed and an appraisal report prepared. According to proposed regulations regarding adequate consideration by Department of Labor, the appraisal report must include an assessment of all "relevant factors" including:

a. The nature of the business and the history of the enterprise from its inception;

b. The economic outlook in general, and the condition and outlook of the specific industry in particular;

c. The book value of the securities and the financial condition of the business;

d. The earning capacity of the company;

e. The dividend-paying capacity of the company;

f. Whether or not the enterprise has goodwill or other intangible value;

g. The market price of securities of corporations engaged in the same or similar line of business, which are actively traded in a free and open market, either on an exchange or over-the-counter;

h. The marketability, or lack thereof, of the securities. Where the plan is the purchaser of securities that are subject to put rights and such rights are taken into account in reducing the discount for lack of marketability, such assessment shall include consideration of the extent to which such rights are enforceable, as well as the company's ability to meet its obligations with respect to the "put rights" (taking into account the company's financial strength and liquidity);

i. Whether or not the seller would be able to obtain a control premium from an unrelated third party with regard to the block of securities being valued, provided that in cases where a control premium is taken into account:

  1. Actual control (both in form and substance) passes to the purchaser with the sale, or will pass to the purchaser within a reasonable time pursuant to a binding agreement in effect at the time of the sale, and

  2. It is reasonable to assume that the purchaser's control will not be dissipated within a short period of time subsequent to acquisition.[3]

The fair market value definition for the purposes of ERISA adequate consideration is similar to the fair market value definition from Revenue Ruling 59-60. Also, factors (a) through (g) are also consistent with Revenue Ruling 59-60. The additional two factors, (h) and (i) are factors specific to valuations for ESOP purposes, and they address the two issues that are the subject of this chapter: discounts and premiums in ESOP-related valuations.

CONTROL PREMIUMS IN ESOP VALUATIONS

As explained elsewhere in this book, a controlling ownership interest generally changes hands at a premium compared to a minority interest. There is general agreement among valuation practitioners that whether the ESOP stock is appraised on a control or minority basis depends on whether the block of stock subject to the valuation is a majority or minority block of stock. The DOL proposed regulations discussed previously include the control premium as one of the relevant factors to consider as part of the adequate consideration standard. Most valuation analysts also agree that the ESOP should pay the amount a hypothetical buyer would pay for the subject block of stock, including control, if a control block. If control is acquired over time, as opposed to in one transaction, the situation becomes more complex, since empirical evidence suggests that control premiums are paid along the entire spectrum of creeping control. In this situation, to maintain fair treatment of the plan participants, there is a tendency to maintain consistency between annual appraisals for ESOP purposes.

DISCOUNTS FOR LACK OF MARKETABILITY IN ESOP VALUATIONS

What distinguishes the valuation of ESOP shares from the valuation of other shares in closely held companies in terms of marketability is the fact that a put option is required to be attached to the ESOP shares.

A put option attached to the ESOP shares has the effect that the employer has the obligation to repurchase the ESOP shares from the ESOP plan participants. The plan participants have the right to put the ESOP shares back to the employer. This obligation to provide liquidity to plan participants is commonly referred to as the repurchase obligation.

Under Code Section 409(h)(1)(B), employer securities that are acquired by an ESOP after December 31, 1979, must be subject to a put option if the securities are not readily tradable on an organized market at the time of the distributions to plan participants.

Employer securities that are acquired using an ESOP loan after September 30, 1976, must also be subject to a put option if the securities are not readily tradable on an organized market at the time of the distributions to plan participants. For employer securities not subject to a mandatory put option, it is important to read the ESOP plan documents, since the employer may provide a voluntary put option.

As discussed previously in this chapter, the DOL proposed regulations regarding adequate consideration require the consideration of (1) the extent to which the put rights are enforceable and (2) the company's ability to meet the repurchase obligation. In order to consider the two factors required by DOL, a longer list of economic factors needs to be looked at, as follows:

- The provisions of the ESOP plan documents, including the put rights
- The terms of the put option, including whether the payment is to be made in cash, or if not, the terms of the note payable to the ESOP plan participant
- The financial strength and solvency of the employer corporation
- The size of the share block owned by the ESOP
- The degree of the liquidity in the ESOP trust and the company
- The extra borrowing capacity of the employer corporation
- The repurchase liability and the expected funding requirements
- The extent to which the company has planned and managed the repurchase liability
- Past practices in repurchases by the company
- The form and timing of payments to selling shareholders and ESOP lenders
- The overall priority of acknowledged and contingent claims that may conflict with achieving liquidity for plan participants over time

It is generally accepted among valuation professionals that the existence and enforceability of a put option for the ESOP shares reduces the discount for lack of marketability that would otherwise be applied to closely held shares. In our experience such discounts have been in the range of 0 to 20 percent.

ESOP COURT CASES

INVOLVING A DISCOUNT FOR LACK OF MARKETABILITY

Howard v. Shay.[4] This case involved the termination of an employee stock ownership plan (ESOP) that owned approximately 38 percent of the stock of Pacific Architects and Engineers (PA&E). The stock was sold to a trust controlled by the stockholder who owned the other approximately 62 percent of PA&E stock. Other discounts were discussed in Chapter 4.

The final adjustment to value made by the ESOP financial advisor who valued the stock was a 50 percent DLOM. The employees brought a class action suit claiming that the stock was undervalued; the size of the DLOM was a major issue.

Unlike most ESOPs today, this ESOP stock had no put right, because it was established before ESOP laws were changed to require such rights. Consequently, its marketability (or lack of it) was no better than that of any other closely held minority interest.

The evidence presented showed all transactions in a pre-IPO database for the five years preceding the valuation date where the sale involved 25 to 49.9 percent of the outstanding stock. These data showed average discounts of very close to the 50 percent that was used in the original stock appraisal. The 50 percent discount was upheld at the trial level and again on remand from the Ninth Circuit for further valuation proceedings.

Foltz v. U.S. News & World Report, Inc.[5] This case actually involves two related decisions: (1) *Charles S. Foltz, et al., v. U.S. News & World Report, Inc., et al.*, and (2) *David B. Richardson, et al., v. U.S. News & World Report, Inc., et al.* The *Foltz* case, a class-action case, dealt with the years 1973 through 1980; the *Richardson* case, not a class-action case, covered 1981. Although the U.S. News & World Report cases concerned a profit-sharing plan and a stock bonus plan, the issues were similar to those that would have been involved in an ESOP. Through the two plans, employees owned 100 percent of the stock. The case was, therefore, followed with great interest by ESOP valuation practitioners.

Suits were brought by retirees who claimed that they were underpaid at retirement because the closely held stock of U.S. News & World Report, Inc. (U.S. News), was undervalued by independent appraisers in the years 1973 through 1981.

In 1975, the U.S. News stock was appraised at $69 per share. By 1980, the appraised stock price had risen to $152 per share. And, in 1981, the U.S. News stock was appraised at $470 per share. From 1962 until the company was sold in 1984 at $2,842 a share, the same independent appraisal firm appraised the company stock each year. The amount of profit-sharing plan benefits distributed to retirees was based on the annual appraisal. In addition, the company exercised its option to purchase stock from certain stockholders who left the firm, at a price based on the annual appraisal.

Most of the annual appraisals applied a 10 percent discount for lack of marketability. The plaintiffs contended that no discount for lack of marketability should have been taken. It is an important point that the stock had no put option. The company had a call option at the appraised price. The company exercised its call option consistently to retire stock from the stock bonus plan when employees left. Most such calls were for cash. However, on certain occasions, the company exercised its option to purchase the stock on extended terms and at a low interest rate. This payment scheme was allowed under the call option.

The District Court concluded:

> [T]he company was under no obligation to repurchase the stock. It has, rather, an option to call the stock. . . . Moreover, . . . the company could—and from time to time did—exercise its option . . . to pay for the stock on terms that would not have been accepted gladly by an outside investor. . . . [T]he modest 10 percent marketability discount that [the appraisal company] applied generally to the U.S. News stock in the aggregate was perfectly appropriate.

The District of Columbia Court of Appeals affirmed.[6]

Eyler v. Commissioner.[7] In this case, Eyler, the former CEO and majority shareholder of Continental Training Services, Inc. (CTS), disputed the IRS's determination that he had engaged in a prohibited transaction with CTS's ESOP when he sold $10 million worth of CTS stock to the ESOP in December 1986.

In 1985, Eyler had started to explore the possibility of taking the company public, and an investment firm that was to serve as the underwriter for an IPO valued CTS stock at

between $13 and $16 per share for IPO purposes. However, there was insufficient interest in the IPO, and, when it did not materialize, Eyler established the ESOP, which paid him $14.50 per share.

At the Tax Court, Eyler argued that $14.50 per share represented fair market value, as it was in the range determined by the IPO underwriter. The Tax Court disagreed, finding among other things, that the underwriter had assumed a public market for the shares, which never materialized. Accordingly, the court also concluded that the underwriter's valuation did not represent fair market value because it had not applied a discount for lack of marketability, noting that such a discount is appropriate in the face of a failed IPO.

On appeal, the Seventh Circuit Court of Appeals affirmed. It agreed with the Tax Court that there were several reasons why the underwriters' estimated price range of $13 to $16 per share did not establish the fair market value to be at least $14.50 on the date of the sale. First, that price range was established after the underwriters conducted a due diligence investigation and as a part of CTS's anticipated IPO. That price range did not purport to determine the fair market value of CTS stock at any specific point in time, nor did it in any way purport to be a final determination. The purpose of selecting that price was to see how investors might respond. Second, that price range was not binding and did not represent a firm commitment by the underwriters. The Appeals Court concluded that the lack of public interest in CTS stock also weighed against Eyler's reliance on the underwriters' valuation. When the stock was offered nationally to individual and institutional investors, the ''circled interest'' was small, no more than $1 million. Clearly, the public showed little interest in buying CTS stock within the underwriters' price range.

With regard to the marketability discount, the Appeals Court concluded that Eyler's argument failed for the fundamental reason that, as of the date of the ESOP transaction, CTS had no history of paying ESOP distributions in cash. Whatever effect the CTS history of payouts might have had on the fair market value of CTS stock at the time of the ESOP transaction was pure speculation. Similarly, the Appeals Court rejected Eyler's assertion that the marketability discount was inappropriate because the ESOP put option had no fixed price and could be paid out over five years under the terms of the ESOP. The Appeals Court stated: ''Nothing in the record convinces us that the Tax Court clearly erred when it concluded that the marketability discount should apply to the [underwriters'] valuation.''

Armstrong v. LaSalle Bank National Ass'n.[8] This is a case that has generated significant interest in the ESOP community; a key issue was whether an ESOP trustee breaches his or her fiduciary duty by failing to apply a discount for lack of marketability (DLOM) to a redemption.

Under the company's ESOP, Amsted Industries employees received company stock from the date of hire until date of separation, when they could redeem all their shares for cash. Historically, employee departures fell within a 9 percent to 11 percent range. In 1999, Amsted obtained unsecured credit to purchase a trucking operation. Valuation professionals from Duff and Phelps, LLC valued the company at $184 per share—about 32 percent higher than the prior year's valuation. The trustee accepted the valuation, but the 2000 redemptions turned out to be 32 percent—around three times higher than the historic range. Given the excessive demands on cash flow, the trustee amended the ESOP to permit deferred eligibility and redemption. A class of participants then brought suit in federal district court for breach of fiduciary duty, charging the trustee with an imprudent valuation for failing to apply a discount for lack of marketability (DLOM) to the redemption price.

The court, applying a due deference standard, found that the trustee had acted within its discretion by accepting the valuation without a DLOM, based on Amsted's history of redeeming employees' stock in full and in cash, as though sold on the open market.

On appeal, although the Seventh Circuit upheld the due deference standard as correct, that court added that "a discretionary judgment cannot be upheld when discretion has not been exercised." The appellate court observed that there was no indication in the record that the trustee had considered how best to balance the interests of the various participants in the ESOP in the novel circumstances created by the company's acquisition or how that affected the risks borne by ESOP participants. Accordingly, the court remanded for a determination as to whether, under the circumstances, the trustee acted unreasonably by failing to apply a DLOM.

INVOLVING A DISCOUNT FOR LACK OF CONTROL

Howard v. Shay.[9] This was a class action suit in which ESOP participants sued for undervaluation on termination of the ESOP and sale of its 38.6 percent stock interest to a trust controlled by the controlling stockholder. One of the many issues was whether a series of minority interest discounts should have been taken and, if so, their magnitude.

The first discount applied was 60 percent from NAV on a 50 percent interest in a Japanese real estate holding company, in which the Japanese partner was the managing partner. It is not clear exactly how much of this 60 percent was for lack of control because other factors were included, such as the confiscatory Japanese real estate capital gains structure, adverse changes in the Japanese real estate market, and questionable confidence in the real estate appraisal.

The appraiser then applied a 45 percent minority discount to the stock held by the ESOP. This was based partly on REIT discounts from NAV at the time plus lack of dividend distributions. The appraiser then applied a 50 percent discount for lack of marketability. The case was heavily litigated, but in the end the appraiser's value was upheld.

Reich v. Hall Holding Co.[10] The ESOP owned a 9.96 percent interest in Hall Holding Co. stock. One expert had considerable experience in the industry. The court accepted his conclusion of company value based on DCF, comparable acquisitions, and the guideline public company method, but the court did not accept his opinion that there should be no minority interest discount. The other expert had considerable experience in valuing stock for ESOP purposes. The court concluded that a 13 percent minority discount should be applied to the industry expert's discounted cash flow value and comparable acquisitions value, because the ESOP held only 9.96 percent of Hall Holding stock. The court also held that the minority discount should not apply to the value derived from the guideline public company method, because that analysis yielded a minority interest value.

Chao v. Hall Holding Co., Inc.[11] The U.S. Department of Labor brought suit against Hall Holding Co. and others on the grounds, among others, that they breached their fiduciary duty by purchasing Hall Holding stock for the employee stock ownership plan (ESOP) without conducting a prudent and independent investigation to determine the stock's fair market value.

Goldman Financial Group, Inc. (GFGI), purchased Hall Chemical Co., through Hall Holding Co. (Hall Holding). Hall Chemical was Hall Holding's primary asset, with Hall Holding owning 95 percent of Hall Chemical. The decision was made to create Hall

Chemical ESOP, and a valuation expert was hired to value Hall Chemical. However, the expert was not informed and never knew that the purpose of the valuation was to determine how much an ESOP should pay for Hall Chemical stock. The expert concluded that Hall Chemical was worth between $32.4 and $37.4 million, exclusive of debt. Based on this valuation, Hall Chemical's president and vice president, who were also trustees of the ESOP, offered to and did purchase for Hall Chemical ESOP 110 shares, or 9.9 percent, of Hall Holding stock for $3.5 million (the appraiser had not valued Hall Holding, however).

The District Court, finding that Hall Holding stock should have been valued, conducted its own valuation. The court concluded that the fair market value of Hall Holding stock was $2,450,451. It arrived at this value by using the valuation expert's range of value for the Hall Chemical stock, subtracting a $13.6 million debt of Hall Holding, and applying a 13 percent minority discount to account for the fact that the ESOP purchased only a minority interest (9.96 percent) in Hall Holding (as well as other discounts, including a 5 percent marketability discount). This decision was affirmed on appeal.

SUMMARY

The main lesson of this chapter is that ESOP valuations should be done for that purpose only, with ESOP regulations in mind, and that valuations done for other purposes should not be relied on for ESOP purposes. It is best to retain an appraiser who has experience with ESOP valuations.

NOTES

1. This chapter was summarized from portions of Chapter 32, ''Valuations for Employee Stock Ownership Plans,'' in *Valuing a Business*, 5th edition, where more details on this topic may be found.
2. Proposed Regulation Relating to the Definition of Adequate Consideration, 53 Fed. Reg. 17,632 (1988), pp. 17,734.
3. *Id.,* pp. 17,637–38.
4. *Howard v. Shay,* 1993 U.S. Dist. LEXIS 20153 (C.D. Cal. 1993), *rev'd and remanded by* 100 F.3d 1484 (9th Cir. 1996), *cert. denied,* 520 U.S. 1237 (1997).
5. *Charles S. Foltz, et al., v. U.S. News & World Report, Inc., et al.*, 663 F. Supp. 1494, 1987 U.S. Dist. LEXIS 5592 (D.D.C. June 22, 1987); and *David B. Richardson, et al., v. U.S. News & World Report, Inc., et al.,* 663 F. Supp. 1494, 1987 U.S. Dist. LEXIS 5592 (D.D.C. June 22, 1987).
6. *Foltz v. U.S. News & World Report, Inc.*, 865 F.2d 364, 1989 U.S. App. LEXIS 282 (D.C. Cir. Jan. 13, 1989).
7. *Eyler v. Commissioner*, 88 F.3d 445, 1996 U.S. App. LEXIS 15831 (7th Cir. 1996), *aff'g* T.C. Memo 1995-123 (1995).
8. *Armstrong v. LaSalle Bank National Ass'n,* 2006 U.S. App. LEXIS 11077 (7th Cir. 2006).
9. *Howard v. Shay,* 1993 U.S. Dist. LEXIS 20153 (C.D. Cal. 1993), *rev'd* and *remanded by* 100 F.3d 1484 (9th Cir. 1996), *cert. denied,* 520 U.S. 1237 (1997).
10. *Reich v. Hall Holding Co.,* 60 F. Supp. 2d 755 (1999).
11. *Chao v. Hall Holding Co., Inc.,* 285 F.3d 415, 2002 U.S. App. LEXIS 5929 (6th Cir. 2002).

Chapter 24

Discounts and Premiums in Divorce Disputes

By Angelina McKedy

Control Premiums in Divorce
Discounts for Lack of Marketability in Divorce
Discounts for Lack of Voting Rights in Divorce
Key Person Discounts in Divorce
The Effective Discount for Personal Goodwill in Divorce
Active versus Passive Appreciation
Summary

In this chapter we will look at the premiums and discounts associated with business valuations done in marital dissolution cases. Divorce cases are unique in that the laws that dictate are on a state-by-state basis and can vary depending on the state the case is in; therefore, applicability of discounts and premiums can vary by jurisdiction. An appraiser needs to know and understand which discounts and premiums are allowable in each state and how to properly apply them.

CONTROL PREMIUMS IN DIVORCE

In many divorce cases the asset being valued is on a controlling basis (that is, the husband or the wife or both are the sole owners). If the interest being valued is a controlling interest, the basis on which the methodologies are chosen needs to reflect that. In the income approach this allows for controlling adjustments to be made to the financials. In the market approach, utilizing the M&A method delivers a controlling value; however, in some cases, using the guideline public company method delivers a minority value. If the basis is a minority basis, then the indicated value needs to be adjusted to reflect the controlling nature of the assets. The extent of the control premium is dependent on how easily the controlling shareholder can change corporate policy, structure, compensations, and financing to name a few. The facts and circumstances of each valuation assignment need to be considered, for example, whether the articles of incorporation have provisions that would limit the controlling shareholders' power.

DISCOUNTS FOR LACK OF MARKETABILITY IN DIVORCE

The effects of marketability are similar in divorce cases. In most cases the asset being valued is not being sold, but if it falls under the fair market value standard the appraiser

needs to consider willing buyer and willing seller. The appraiser also needs to consider the state statutes and case law regarding the acceptability of discounts for lack of marketability in divorce cases. Unique aspects to the discount for lack of marketability in divorce cases require understanding the ownership structure and involvement of the spouse or spouses in the business because these factors can affect the DLOM. Also consideration needs to be paid to whether the interest is a controlling interest or a minority interest; both can affect the magnitude of the DLOM. In some states, the standard of value is "fair value." Most of these states do not allow discounts for lack of marketability.

DISCOUNTS FOR LACK OF VOTING RIGHTS IN DIVORCE

This discount is sometimes reflected in the discount for lack of control or lack of marketability; however, in some circumstances this discount may be taken separately from these measures. According Bruce Richman's *Guide to Tax and Financial Issues in Divorce*, "Of the studies performed, they have consistently found that the incremental difference in value between voting and nonvoting shares was not great when all other things are equal. The percentage discounts are in the range of 1 percent to 3 percent."[1]

KEY PERSON DISCOUNTS IN DIVORCE

This issue is critical in divorce cases. Most states view postmarital efforts of either spouse to be separate of marital property. If one or the other spouses is key to the business, an appropriate discount needs to be reflected for the potential loss of this person. This discount can also be reflected as an adjustment to compensation; many times a key person takes on multiple positions in a company, and the business would need to replace that key employee with more than one person. This discount is also sometimes reflected as an adjustment to the indication of value appropriated to personal and enterprise goodwill (which will be discussed later in this chapter).

In order to determine a key person discount, an appraiser needs to consider the impact that the loss of that key person would have on the earnings of the company. Also for consideration is the management relationship with key employees; if one or the other spouses has a positive relationship with key employees and the other spouse has an adverse relationship, this needs to be considered in the valuation.

THE EFFECTIVE DISCOUNT FOR PERSONAL GOODWILL IN DIVORCE

Many states do not recognize the personal goodwill efforts of a spouse as marital property and therefore not divisible. As quoted in a Florida case, *Williams v. Williams*:[2]

> the goodwill of (a) professional practice can be a marital asset subject to division in a dissolution proceeding, if it exists and was developed during the marriage. . . . However . . . for goodwill to be a marital asset, it must exist separate and apart from the reputation and continued presence of the marital litigant.[3]

If one spouse is a key employee to the business, such as a doctor who owns a personal practice, that spouse has typically developed personal relationships with clients and employees, so much so that a portion of the success of the business and its earnings stream is dependent on that spouse continuing in the business in the same manner. An appraiser will conclude a value for the business and then apply a proportion of the intangible value between personal and enterprise goodwill. Factors to be considered in quantifying personal goodwill include (as referenced in the *In re Marriage of Lopez)*:[4]

- The age and health of the professional
- The professional's demonstrated earning power
- The professional's reputation in the community for judgment, skill, and knowledge
- The professional's comparative professional success
- The nature and duration of the professional's practice, either as a sole proprietor or as a contributing member of a partnership or professional corporation[5]

Other factors to be considered by the appraiser are the individual's business relationships, specialized skill or knowledge, and how many hours she or he works compared with similar professionals.

ACTIVE VERSUS PASSIVE APPRECIATION

As stated throughout this chapter, some states recognize a distinction between active and passive appreciation in a business. This application comes into play when a spouse becomes married after a business has been formed and the martial property is the appreciated value of the business during the marriage. This appreciation can be attributed to both active and passive appreciation. Active appreciation is the decision making and skill of the owner to grow the business, where passive appreciation is growth by changes in factors that are out of the control of the owner (such as inflation rate, equity risk premiums, and so forth). Active appreciation is then viewed as a marital asset and divisible between the parties, but passive appreciation remains a separate asset.

One way to determine this appreciation is to conduct a cash flow analysis as of the date of the marriage and conduct a second analysis as of the date of separation. An appraiser would then take the date of separation cash flows and holding all other factors constant apply the date of marriage factors for risk-free rate, equity risk premium, and size premium. The appraiser can then see how the date of marriage inputs would affect the value of the date of separation valuation and help determine how much of the increase may be due to passive appreciation in the inputs. The amount allocated to passive appreciation would then be discounted in the increase in value of the company.

SUMMARY

An appraiser needs to be most aware of applicable laws for divorce cases when conducting a valuation to ascertain which discounts and premiums may be applicable. An appraiser needs to consider control premiums (or, inversely, a minority discount), discounts for lack of marketability, discounts for lack of voting rights, discounts for key

person, how the effect of personal vs. enterprise goodwill and how active vs. passive appreciation will change the value of a business for divorce purposes.

NOTES

1. Bruce Richman, *Guide to Tax and Financial Issues in Divorce* (New York: John Wiley & Sons, 2002).
2. *Williams v. Williams,* 667 So. 2d 915, 1996 Fla. App. Lexis 864 (FLA Ct. App.)
3. As cited from a presentation by Jay Fishman at the 2004 AICPA Business Valuation Conference "Personal Goodwill v. Enterprise Goodwill."
4. *In re Marriage of Lopez,* 113 Cal. Rptr. 58, 38 Cal. App. 3d 1044 (1974).
5. *In re Marriage of Lopez,* 113 Cal. Rptr. 58, 38 Cal. App. 3d 1044 (1974).

Chapter 25

Discounts and Premiums in Corporate and Partnership Dissolution and Oppression Cases

By Noah J. Gordon

Dissolution for Shareholder (Partner) Oppression
Discounts
- Minority and/or Marketability Discounts Rejected
- Marketability Discounts Permitted
- Minority (Lack of Control) Discounts Permitted
- Discounts Decided Case by Case
- Other Discounts

California Oppression Cases
Delaware's Approach
Summary

DISSOLUTION FOR SHAREHOLDER (PARTNER) OPPRESSION

Oppressed shareholders or partners are usually minority owners who have been treated unfairly or prejudicially by the majority shareholders or the board of directors in a corporation, or by the majority partners in a partnership. On rare occasions, a majority owner may be oppressed by a minority shareholder.[1] Oppression cases often involve shareholder or partnership employees and can involve termination of dividends, compensation, or employment, or a siphoning of corporate or partnership assets for the benefit of the majority at the expense of the minority. In these cases, in the majority of states, shareholders or limited partners may petition to dissolve the corporation or partnership to regain what was taken from them. Usually, the corporation or partnership may elect to buy their shares or interest at fair value, or the courts may order the buyout with the powers given by the individual state's statute. Because the concepts that follow apply to shareholders and, in some cases partners, we use the term *shareholders* to also include partners.

While similar to appraisal actions in some respects, oppression/dissolution actions do not involve dissent from corporate action. Delaware, which is considered a bellwether of corporate law and is the state most looked to for guidance on appraisal actions, does not even have a judicial dissolution statute and instead determines whether actions taken by

controlling shareholders meet an entire fairness standard that is comprised of a fair dealing prong and a fair price prong. This approach is discussed next.

Because of the relative lack of control and the lack of liquidity faced by many minority shareholders, appraisers often apply discounts for lack of control and a lack of marketability to the pro rata value of the enterprise to account for the minority's relative lack of control and illiquidity. In proceedings that look to determine fair value, however, a significant controversy is whether the application of one or both of these discounts is appropriate to compensate oppressed shareholders in a judicial proceeding. Occasionally other discounts, such as a discount for trapped-in capital gains, are also applied.

Although most states apply a fair value standard of value in minority oppression actions, the statutory definition of "fair value" may differ from one state to the next, and the parameters of judicially created "fair value" in oppression cases may similarly differ among the states. Courts in most states look to the definition of value in the state's dissenters' rights statutes. Even if the same statutory definition of fair value is used, such definitions are sufficiently loose to endow the courts with broad discretion and leeway, so that different jurisdictions may develop different approaches to fair value using the same statutory definition. Thus, different jurisdictions may differ in their view of fair value and whether discounts should be applied.[2]

An increasing number of states have enacted "judicial dissolution statutes." These generally allow minority shareholders to sue for dissolution of the corporation or partnership if they can demonstrate minority oppression or a deadlock on decision making. As can be seen in Exhibit 25.1, a majority of states now have such statutes.

Some of the statutes specify a minimum percentage of the shares outstanding required to bring a judicial dissolution action. California is among the highest of these, requiring at least 33 1/3 percent of the stock in order to bring an involuntary judicial dissolution action;[3] yet, California has more judicial dissolution cases than any other state.

Although there is little uniformity in the remedy for minority oppression, there are key issues involved in the determination of fair value for oppressed minority shareholders. One of the most significant issues is whether discounts and/or premiums are applicable at the shareholder level. If the discounts or premiums are permitted, the issue is what their magnitude should be.

The judicial opinions that have addressed these issues vary considerably from state to state:

1. Some do not allow either lack of control or lack of marketability discounts.
2. Some allow discounts for lack of control but not for lack of marketability.

Exhibit 25.1 Dissolution Statutes

Has Judicial Dissolution Statute
Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming

No Judicial Dissolution Statute
Delaware, Kansas, Nevada, Oklahoma, Guam, Northern Mariana Islands, Puerto Rico, Virgin Islands

3. Some allow discounts for lack of marketability but not for lack of control.
4. Several states have taken the position that discounts for lack of control and lack of marketability must be decided in each case on the basis of the facts and circumstances of that case.

The balance of this chapter discusses these permutations.

DISCOUNTS

MINORITY AND/OR MARKETABILITY DISCOUNTS REJECTED

In the Maryland case *East Park Ltd. Partnership v. Larkin*,[4] the court, in determining whether discounts should be applied to determining fair value of withdrawing limited partner interests, noted that the majority of states that have considered the issue in the dissenting shareholder context have concluded that discounts do not apply to a fair value analysis. As to this issue, the court ruled that, ordinarily, discounts should not be applied since no open market transaction takes place when a partner withdraws from a limited partnership. The court also ruled, however, that as with dissenting shareholder cases, the method used in determining the fair value of shares is specific to each case.

In *Edler v. Edler*,[5] two brothers were co-owners of a closely held corporation. One was the president and the majority shareholder with a 60 percent interest, and the other owned the remaining 40 percent and was vice president. The corporation also owned two parcels of land on which the brothers lived separately.

At some point, the majority brother began moderating the minority brother's role by demoting him to an hourly, rather than a salaried, employee; taking away his corporate check-writing privilege; and finally, terminating his employment and replacing him with the majority brother's wife as vice president. The majority brother also underpaid rent and retained revenue from the sale of corporate property.

The minority brother sought judicial dissolution of the corporation, claiming oppressive conduct. The parties retained a joint expert to calculate the fair market value of the minority 40 percent interest. The expert used a net asset approach, appraising the company as a going concern and applying a combined 30 percent minority and marketability discount. Using this valuation as a starting point, the trial court ordered the majority brother to buy out the minority brother's interest, minus a 6 percent liquidation discount. But it declined to apply the minority/marketability discount, relying on precedent that rejected discounts in the dissenting shareholder context. The total buyout, including certain offsets and additional awards, amounted to approximately $334,000.

In determining the propriety of applying the statutory remedy for shareholder dissent to shareholder oppression cases, the court found a direct analogy. "The exclusion of [the minority owner] from the corporation created the same situation faced by a dissenter in a closely held corporation," it said. "The shareholder not only lacks control over corporate decision making, but also upon the application of a minority discount receives less than proportional value for loss of that control." The same rationale applied to the rejection of a marketability discount. Any other ruling would "minimize the finding of oppression," the court said, and confirmed the trial court's valuation.

As to the 6 percent liquidation discount, the minority brother conceded in his appellate brief that a "reasonable" remedy would be to put the parties in the same position as

if the company were liquidated. He "cannot simultaneously complain that the liquidation discount was inequitable," the court ruled, and affirmed.

In *Garlock v. Southeastern Gas & Power, Inc.*,[6] minority shareholders and Hilliard, the majority owner, were also the employees of a natural gas marketing company. Hilliard was CEO and sole director. None of the shareholders executed noncompete or employment agreements with the company. Although the business was formed as a corporation, by the agreement of the shareholders it operated more like a partnership in light of the fact that Hilliard, the company's salesman and rainmaker, had to do eight months prison time on a tax fraud conviction. The business was successful in Hilliard's absence, but became much more successful after his release from prison. Hilliard sought to expand the business, but realized that under the current profit-sharing agreement, established during his prison sentence and favorable to the minority owners, he could not. He then sought to change the agreement through the use of employment agreements and other devices, but was unsuccessful. Leveraging his voting power and position as sole director, he then fired two of the minority owners, and the third resigned. The minority shareholder then brought suit for dissolution of the business. Through Hilliard, the business elected to purchase the minority owners' interest.

The trial court determined that Hilliard was guilty of oppression and appointed an appraiser to determine the fair value of the stock on the date Hilliard terminated the minority owners. The appraiser valued the business using an income approach. In valuing the business, he applied a high equity risk premium. The premium was large, in part to account for Hilliard's key man position in the company. Hilliard's key man position was also considered in the expert's use of a high salary for him. The expert also considered an offer to purchase the business for $5.5 million, which had been rejected by Hilliard and the minority owners. The expert lastly applied a discount for lack of marketability to the whole company in his valuation. He determined that the fair market value of the company was greater than $2.4 million.

In considering the court-appointed expert's valuation, the court noted that "[a]s a general proposition, the Court considered market value, equitable considerations, practical considerations and changes in condition of the company from the market valuation date" when determining the fair value of a company. It found that both minority and lack of marketability discounts were inappropriate under the facts of the case, concluding that it would be inequitable to impose a minority discount where the minority shareholders' loss was more than simply being forced to sell their shares since Hilliard had made the final decision to change the arrangement under which the business had been organized. It also considered the importance of Hilliard to the company, the lack of noncompete agreements, and the volatility of the natural gas market. It concluded that the company had a fair value of $2.4 million, and the plaintiffs were collectively entitled to $936,000.

The Oregon Court of Appeals in *Hayes v. Olmstead*[7] summarily dismissed minority and marketability discounts, stating that Oregon courts had previously determined that these discounts were not appropriate in determining the fair value of the stock of a victim of oppressive conduct.

In *In re Penepent*,[8] a shareholder in a close corporation petitioned for dissolution, and his brother, another shareholder, elected to purchase his shares at fair value. After the election, but before a determination as to fair value, the petitioning shareholder died. A shareholder agreement provided that, upon the death of any shareholder, the shareholder's estate must surrender the deceased's stock to the corporation in exchange for a

specified price. That price was less than fair value. New York State's highest court, the Court of Appeals, held that the brother who elected to purchase the petitioning shareholder's stock at fair value remained bound by that election.

In determining fair value, the court also ruled that the value of the shares of the first minority shareholder who had petitioned for dissolution should not be discounted for increased lack of marketability merely because another dissolution proceeding brought subsequently by another minority shareholder was pending when the second petition was filed (generally, New York courts have accepted a discount for lack of marketability in oppression cases, but not a discount for lack of control). The court reasoned that although any litigation pending against the corporation could be considered in assessing the fair value of the corporation's shares, the pending dissolution proceeding had no bearing on fair value since the other shareholders had elected irrevocably to purchase the shares of the initial petitioner, and thus the corporation itself was in no danger of dissolution.

The court also ruled that a minority shareholder's stock should not be further discounted because of its minority status, because to impose upon petitioning minority shareholders a penalty because they lacked control would improperly deprive them of their proportionate interest in the corporation as a going concern and would result in shares of the same class being treated unequally.

One of the most important issues in *Powell v. Anderson*[9] was whether the trial court erred in applying discounts for lack of control and lack of marketability in valuing a minority shareholder's imputed interest under her claim for usurpation of a corporate opportunity. On review, the court of appeals first held that it was error to apply a discount for lack of control because this case was essentially a court-ordered buyout of the minority owner's imputed interest in the corporation. Prior case law in the state (Minnesota) had already determined that such a discount fails to fulfill the legislative purpose of protecting minority shareholders in court-ordered buyouts. The appellate court also looked to precedent (see the upcoming discussion of *Advanced Communication Design, Inc. v. Follett*) on court-ordered buyouts in holding that a discount for lack of marketability was not appropriate absent "extraordinary circumstances." Accordingly, the trial court was ordered to determine on remand whether such extraordinary circumstances existed.

In *Ex parte Baron Services, Inc.*,[10] a shareholder oppression case, the Alabama Supreme Court rejected the application of an entity level marketability discount because the company's expert did not rely on publicly traded companies and did not use the guideline public companies approach. The Court also rejected a shareholder level marketability discount because it found that any "cost of capital" difference between the subject company and public companies was accounted for in the discount and capitalization rates used in the valuation.

In *DiLuglio v. Providence Auto Body*,[11] the trial court refused to apply a minority discount and a discount for lack of marketability when it valued the minority shareholder's 20 percent interest. The trial court had ruled that neither minority interest nor lack of marketability discounts would be applied because "the sale of this minority block of stock was assured because a known and qualified buyer . . . existed to purchased [the minority owner's] shares"—that buyer being the majority owner. The court's reasoning was not based upon the express language or the underlying purpose of the dissolution statute, however, so that implying there was a market that enhanced marketability based on the majority owner's purchase under the dissolution statute seems to constitute a tautology. In affirming, the Rhode Island Supreme Court did not address this seemingly

circular reasoning, but merely focused on the end result and stated that it was following precedent that had adopted the rule of not applying a minority discount or a discount for lack of marketability in such dissolution proceedings.

MARKETABILITY DISCOUNTS ACCEPTED

A Minnesota case, *Advanced Communication Design, Inc. v. Follett*,[12] where a minority shareholder in a closely held corporation sought dissolution as a counterclaim to the company's suit against him for breach of fiduciary duty, is an example of a case where a marketability discount was permitted. The Minnesota Supreme Court reviewed the state's dissenters' rights statute and noted that it was designed to produce a fair and equitable result, and that allowing a marketability discount could enable the corporation to reap the benefits of oppression. At the same time, the court chose not to apply a bright-line rule barring marketability discounts in all cases since that may not be equitable from case to case. The court noted that the exclusion of a marketability discount in this case yielded a valuation that was in excess of the company's operating cash flow, net income, or net worth. The court employed a marketability discount to yield a more equitable value at which the minority shareholder could be bought out. This was viewed as an extraordinary circumstance, as recognized by the American Law Institute (ALI) in its definition of fair value.

Similarly, *Devivo v. Devivo*,[13] a Connecticut case, relying on *Advanced Communication*, found extraordinary circumstances where the company would not be able to achieve the liquidity to compensate the departing shareholder, so the court applied a marketability discount in order to be fair to the parties involved. Specifically, the fair value of the company was 1.6 times the company's net worth, more than 2.7 times its operating cash flow, and 7 times its net income for that year; this warranted application of a 35 percent lack of marketability discount.

In *Balsamides v. Protameen Chemicals*,[14] a 50 percent shareholder claimed oppression and brought a dissolution action pursuant to New Jersey's oppression statute, which permits the consideration of equitable adjustments in case of illegal, fraudulent, or oppressive conduct. The trial court rejected the idea of dissolving the corporation, concluding that it was worth significantly more as a going concern. It concluded that a buyout by the plaintiff shareholder presented the greatest possibilities of resolving the matter quickly and of maximizing the benefit to both parties. It reached this conclusion based on its belief that the defendant was more at fault; that the company's dynamic growth primarily resulted from the plaintiff's skill and connections; and that most customers viewed the plaintiff as the face of the company. Accordingly, the trial court ordered the defendant shareholder to sell his interest in the company to the plaintiff shareholder, and, in determining the fair value of the shares, accepted the plaintiff's expert's use of the excess earnings method, which resulted in a 35 percent lack of marketability discount. On appeal, the New Jersey Appellate Division reversed as to the discount, finding that such a discount was inappropriate because there was no sale of the defendant's stock to the public, nor was the plaintiff buying an interest that might result in the later sale of that interest to the public. On further appeal, the New Jersey Supreme Court reversed, concluding that the lack of marketability discount was appropriate in this particular case. The court reasoned that the discount would ensure that the oppressing defendant shareholder was not unjustly enriched by the undiscounted value of his shares since disallowing the discount

would force the oppressed plaintiff shareholder to incur the effects of the diminished value if he were ultimately to sell the company to an outside investor.

MINORITY (LACK OF CONTROL) DISCOUNTS ACCEPTED

In another Connecticut oppression case, *Johnson v. Johnson*,[15] the Connecticut court, finding that the alleged oppressive conduct (failure to declare dividends and to nominate the plaintiffs to the board) did not constitute oppression, assessed a 20 percent lack of control discount. The court indicated that the decision was within its discretion and that assessing the discount was in accord with "sound business judgment."

It should be noted, however, that subsequent to the time *Devivo* and *Johnson* were handed down, Connecticut adopted the American Bar Association's 1999 Revised Model Business Corporation Act (RMBCA), which provides that fair value is determined without discounting for lack of control or lack of marketability.[16] This change most likely will impact Connecticut's case law regarding the applicability of discounts in the determination of shareholder fair value in oppression cases, since the courts typically look to the fair value definition in the state's appraisal statute for guidance in determining fair value in oppression cases—notwithstanding the ALI's position that fair value can be viewed differently for oppression and dissent cases. In fact, some courts have expressly indicated that they believe that the meaning of "fair value" is the same in both the shareholder dissent and shareholder oppression contexts.[17]

The New Mexico courts have "vast discretion" in deciding whether to apply discounts in arriving at fair value. In *McCauley v Tom McCauley & Son, Inc.*[18] the trial court applied a 25 percent lack of control discount in a closely held family corporation where it found that the minority shareholder had been frozen out of corporate management and profit sharing. On appeal, the plaintiff minority shareholder argued that had the court ordered liquidation, as she claimed it was required to do, she would have received her proportionate share of the corporation's assets. The appellate court in affirming noted that the trial court was not bound to simply order dissolution, but could choose from a variety of available remedies "including utilization of its reservoir of equitable powers."

In the federal case *Hall v. Glenn's Ferry Grazing Assoc.*,[19] which interpreted Idaho law, the court permitted a minority discount. Hall was a minority shareholder in Glenns Ferry Grazing Association (GFGA). The purpose of GFGA was to "engage in the business of providing . . . lands for grazing and recreational purposes." Dissension developed between Hall and the other shareholders, and Hall brought suit in federal district court for dissolution of GFGA based on oppression.

To arrive at a fair value of GFGA, Hall's expert used the adjusted net tangible asset method, subtracting tangible liabilities from tangible assets, and then adjusting for market value. The expert also used comparable sales of land. GFGA's expert calculated a minority discount of 8.74 percent, which the court accepted and applied. Hall objected to the discount. The court, however, referenced a comment to the appraisal statute, which states in pertinent part that "[i]n cases where there is dissension but no evidence of wrongful conduct, 'fair value' should be determined with reference to what [Hall] would likely receive in a voluntary sale of shares to a third party, taking into account his minority status." The court found dissension but no wrongful conduct, and, accordingly concluded that fair value should be determined by taking into account a minority discount.

DISCOUNTS DECIDED CASE BY CASE

The courts in Illinois have taken the position in oppression cases that the issue of lack of control and lack of marketability discounts should be decided on a case-by-case basis depending on the facts and circumstances of the particular case. This approach was used by the court in *Jahn v. Kinderman*,[20] which said, ''We believe that Illinois law firmly establishes that [shareholder level discounts] [are] a matter for the trial court's discretion.'' (In that case, noting the preponderant view that such discounts are not to be applied in determining fair value, the court rejected the application of discounts.) It should be noted, however, that Illinois modified its dissenters' rights statute to provide that fair value is determined without discounting for lack of control, and, absent extraordinary circumstances, lack of marketability.[21] This change will inevitably reduce the courts' discretion in this area.

Massachusetts courts have also failed to adopt a bright-line rule against discounts and determine the issue on a case-by-case basis. In *Keating v. Keating*,[22] the 49 percent minority shareholder in a family-owned close corporation brought suit against the majority shareholder, his father, for breach of fiduciary duty on the grounds that by discharging him, his father froze him out of his stock ownership. The court found that a freezeout had occurred and ordered a buyout. In determining the value to which the son was entitled, the court said, ''The Court must decide whether it is appropriate to compute damages on the basis of the stock's *fair value* or its discounted *fair market value*.'' The court also noted, ''Where freezeout conduct is of an exacerbated nature without mitigating factors, then the remedy should include a punitive aspect. Conduct that intentionally inflicts injury on a blameless fiduciary is an example of conduct that warrants no marketability discount. On the other hand, the absence of a *mens rea* may well warrant consideration of mitigation and the award of compensatory damages which more approximates fair market value damages.'' The court held that the father's decision to discharge the son ''was a highly emotional one without an analysis of the repercussions'' and, thus, found discounts appropriate since there were no exacerbating factors. Significantly, the court considered the conduct of the parties when determining whether to apply a discount.

New York courts, while generally rejecting discounts for lack of control, have also permitted discounts in the determination of fair value and have ruled that market value comprises one component of fair value.[23]

Thus, for example, in the New York case *In the Matter of Markman*,[24] a 50 percent shareholder in each of three closely held corporations petitioned for judicial dissolution, alleging wrongdoing, including that the manager/director had paid himself excessive compensation, purchased his wife a life insurance policy, and rented a luxury car for their personal use. In response, the nonpetitioning shareholders invoked their statutory right to purchase the petitioner's shares and avoid liquidation.

The parties submitted the issue of the fair value of the petitioner's shares in two corporations to a special referee, but only the nonpetitioners offered expert valuation evidence. The referee relied on this evidence, accepting an income/investment value method to capitalize the excess earnings via a cash flow analysis for the first company, and accepting a comparable sales approach for the second company. Although the petitioner had not challenged either valuation or obtained additional expert appraisals, on appeal, the petitioner claimed that the referee had failed to adjust either valuation for the alleged misdeeds by the corporate director/manager.

The trial court agreed, concluding that the referee had erred in valuing the shares of the first corporation without considering petitioner's allegations of misappropriation of corporate funds. The court reasoned that those allegations were relevant to the proper valuation of petitioner's shares if any alleged misconduct adversely impacted the corporation's value. In fact, the court said that the issue of misappropriation was ''intertwined with the determination of 'fair value' of [a] petitioner's shares.'' If proven, the alleged misappropriation of corporate funds would have had a detrimental effect on the corporation's value under the investment value method. Specifically, net income would have to be adjusted by eliminating excess compensation and the unauthorized purchase of personal life insurance and rental of a luxury car. As for the valuation of the second corporation, the court ruled that the referee had erred in refusing to adjust the stock valuation by adding the corporation's excess cash. Accordingly, the court remanded the case to the referee.

OTHER DISCOUNTS

The case of *Murphy v. U.S. Dredging Corp.*,[25] demonstrates how discounts other than those for lack of control or lack of marketability may be handled in oppression cases. In *Murphy*, the company held property with $11.6 million in capital gains taxes that had been deferred. After minority shareholders brought suit to dissolve the company, and the company agreed to purchase their shares at fair value, a key issue was how to handle the built-in capital gains.

The company's expert deducted 100 percent of the $11.6 million deferred capital gains tax to arrive at a company value of approximately $15 million, to which he applied a 15 percent discount for lack of marketability to arrive at a value of $12.8 million. The minority owners' expert deducted approximately $3.4 million in gains tax representing present value, assuming liquidation in 19 years, to arrive at a company value of $24.8 million. He applied no discount for lack of marketability.

The New York trial court agreed that liquidation was not imminent, but also found persuasive the minority owners' position that such liquidation would occur in the future after a lengthy holding period. Accordingly, it concluded that while a willing buyer would not expect to deduct the entire gains tax, some deduction for this tax was appropriate. The court reasoned:

> under these circumstances with the [built-in gains] representing such a large portion of corporate assets it appears that a willing purchaser would expect to deduct the present value of the [built-in gains] tax along with a percentage for lack of marketability.

Therefore, the court deducted the $3.4 million present value of the gains tax liability and applied a 15 percent discount for lack of marketability to arrive at a net asset valuation of the company of approximately $18 million.

CALIFORNIA OPPRESSION CASES

California's minority oppression dissolution statute, California Corporations Code § 2000, which must be invoked by the majority shareholder(s) seeking to avoid dissolution, provides that a complaining minority shareholder who seeks dissolution of the corporation is entitled to ''fair value.'' However, unlike ''fair value'' in most states, fair value in California is ''determined on the basis of the liquidation value as of the valuation

date but taking into account the possibility, if any, of sale of the entire business as a going concern in a liquidation.''[26]

''Fair value'' in California does not mean ''fair market value.'' Not only did the California legislature not use the term ''fair market value'' (which it used in the state's appraisal statute), but the elements of ''fair value'' provided in section 2000 do not include some of the elements typically found in a ''fair market value'' standard, such as a willing buyer and seller. Instead, the seller (the majority) is unwilling and is under a compulsion to sell. For example, in *Ronald v. 4-C's Packaging Inc.*,[27] the court rejected a valuation that assumed that ''fair value'' in section 2000 is the equivalent of ''fair market value'' and accordingly the court rejected an appraisal that relied solely on a price-earnings ratio analysis.

Notwithstanding that a ''fair value'' determination, and not a ''fair market value'' determination, is the goal, section 2000 can require a valuation exercise that is conducted in connection with a fair market value analysis: a determination of value based on a hypothetical willing buyer and hypothetical willing seller. That is because there is inherent in section 2000 a dual valuation concept. The first value to be determined is the piecemeal liquidation value of the company's assets. The second is the company's going concern value in liquidation, if a going concern in liquidation sale is possible, which means that an appraiser must evaluate the possibility that a buyer can be found for the company before its assets are liquidated piecemeal.[28] Because the going concern in liquidation value must be determined where such a going concern sale is possible:

> [S]ection 2000 necessarily requires that the appraisers contemplate a hypothetical sale scenario: *a sale of the entire corporation, in a liquidation setting, on the valuation date*. Further, since the corporation will almost always be closely held, ''there will be no actual market value or any actual cash sales by which the market value could be determined. Therefore, the value to be determined must necessarily be a constructed or hypothetical market value at which the hypothetical willing seller would sell and the hypothetical willing buyer would purchase'' (Citing 2 Marsh et al. Cal. Corporation Law (4th ed. 2001 supp.) § 21.08 [C], pp. 21-45).[29]

Thus, in *Mart v. Severson*,[30] the California Court of Appeals held that the appraisers applied section 2000 properly by assuming that a hypothetical willing seller of the corporation would execute a covenant not to compete with the corporation after the sale, and reversed the trial court's decision that rejected the appraisers' fair value determination because it found that determination was premised upon the execution of an effective covenant not to compete by the parties and no such covenant had been or could be executed in the case. In that case, the court also indicated that the appraisers should assume that the parties to the hypothetical sale would negotiate the other requisite terms to the hypothetical sale agreement, which presumably could include employment agreements, warranties, representations, indemnities, and other terms that might not be given in reality.

In these dissolution matters discounts for lack of control are typically not considered. The California Appellate Court stated the reasoning for this in *Brown v. Allied Corrugated Box Co.*:[31]

> It has been noted, however, that the rule justifying the devaluation of minority shares in closely held corporations for their lack of control has little validity when the shares are to be purchased by someone who is already in control of the corporation. In such a situation, it can hardly be said that the shares are worth less to the purchaser because they are non-controlling.

As a result of this reasoning, business appraisers also do not generally apply a discount for lack of marketability in a section 2000 action.

***Brown v. Allied Corrugated Box Co.* (California).**[32] This California case is often cited for the general rule that, under the California shareholder dissolution statute, the oppressed shareholder is entitled to a proportionate share of the enterprise value with no minority discount.

The remedy for oppression under the California statute is to dissolve the corporation and distribute the proceeds to the stockholders. Dissolution can contemplate selling the business of the dissolving company to a third party as a going concern. The controlling shareholders can avoid the dissolution by paying the oppressed stockholders *fair value*. This is interpreted to mean not less than the proceeds that would be realized if the corporation were dissolved, including proceeds if the business of the corporation were sold as a going concern, if that would be the most valuable option.

California corporate attorney Arthur Shartsis explains this process thoroughly and takes the position that courts often overvalue because they fail to take into account all the costs and risks of dissolution.[33]

***Ronald v. 4-C's Electronic Packaging, Inc.* (California).**[34] Another frequently cited California dissolution case quotes *Brown* and confirms the position:

> [T]he Brown court held that where a decision is made to buy the plaintiffs' shares to avoid a dissolution of the corporation, the shares are not to be devalued even though they represent a minority interest in the corporation. (91 Cal. App. 3d at pp. 485–487.) The court then emphasized that "there is no question but that the lack of control inherent in plaintiffs' minority shares would substantially decrease their value if they were placed on the open market." (*Id.*, at p. 486.) The court reasoned that "[had] plaintiffs been permitted to prove their case and had the corporation then been dissolved, it is clear that upon distribution of the dissolution proceeds each of the shareholders would have been entitled to the exact same amount per share, with no consideration being given to whether the shares had been controlling or noncontrolling" [fn. omitted].
>
> We agree with the Brown court that the lack of control inherent in plaintiff's minority shares should not be devalued under the statutory "buyout" procedure of section 2000.

DELAWARE'S APPROACH

Unlike many other states, Delaware does not statutorily provide oppressed minority shareholders with a dissolution remedy, and only in the case of deadlock may shareholders file for the involuntary dissolution of the corporation (only Kansas and Oklahoma follow suit in this regard). In addition, the Delaware Supreme Court has rejected the judicial creation of special rules to protect minority shareholders of closely held corporations,[35] in part as a matter of public policy, since actions for oppression generally run counter to the doctrine of independent legal significance, given that the majority shareholder has not violated any specific provision in the state's corporations statute.

Instead, the Delaware courts have left the question of minority oppression for review under an exacting "entire fairness" standard of judicial review, one component of which is "fair dealing" and another component of which is a determination of "fair price," which is akin to a determination of "fair value" in an appraisal action.[36] In certain

circumstances, the effective remedy for oppression is the appraisal remedy itself. However, if controlling shareholders or directors have failed the entire fairness test, damages may go beyond the appraisal remedy. Conceptually, this is because the courts will treat the claims independently, as though there were an appraisal action and, in addition, a separate breach of fiduciary duty action.[37] Delaware's approach in the minority oppression area is thus unique.

SUMMARY

As this chapter has demonstrated, the majority of states that decide shareholder or partner oppression cases provide the oppressed minority shareholder with fair value, and typically look to the state's dissenters' rights statute in deciding whether discounts are appropriate in determining such value. As in the majority of dissenters' rights cases, discounts for lack of control and lack of marketability are typically not permitted, although some states do permit them under ''extraordinary'' circumstances and to promote the interests of equity. A few states endow the courts with great discretion as to whether discounts are permitted—essentially permitting the courts to make this determination on a case-by-case basis. Finally, California has a unique shareholder dissolution scheme whereby value is determined on a liquidation basis with consideration of the possibility of a sale of the entire business as a going concern. Delaware, ordinarily a leader in corporate law, does not even provide minority shareholders a judicial dissolution remedy. Overall, there is little uniformity in the approaches taken by the other states; ''[a] true legislative and judicial patchwork has emerged.''[38]

NOTES

1. See, e.g., *Trifad Entertainment, Inc. v. Anderson*, 2001 MT 227, 2001 Mont. LEXIS 479 (Mont. 2001) (minority shareholder who converted corporate assets for his own use was found to have oppressed the majority shareholder, who was entitled to damages based on the corporation's fair value).
2. For a general discussion of the fair value standard in shareholder dissent and oppression cases, see Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications* (New York: John Wiley & Sons, 2007).
3. Cal. Corp. Code § 1800 (2008).
4. *East Park Ltd. Partnership v. Larkin*, 2006 Md. App. LEXIS 32 (Md. Ct. App. 2006),
5. *Edler v. Edler*, 2007 Wis. App. LEXIS 1130 (December 27, 2007).
6. *Garlock v. Southeastern Gas & Power, Inc.*, 2001 NCBC 10, 2001 NCBC LEXIS 9 (N.C. Supr. Ct. Mecklenburg County 2001).
7. *Hayes v. Olmstead & Associates*, 173 Or. App. 259, 21 P.3d 178, 2001 Or. App. LEXIS 404 (Ore. Ct. App. 2001).
8. *In re Penepent*, 96 N.Y.2d 186, 726 N.Y.S.2d 345, 750 N.E.2d 47, 2001 N.Y. LEXIS 978 (N.Y. 2001).
9. *Powell v. Anderson*, 2003 Minn. App. LEXIS 1389 (Minn. Ct. App. 2003).
10. *Ex parte Baron Services, Inc.*, 874 So. 2d 545 (Ala. 2003).
11. *DiLuglio v. Providence Auto Body*, 755 A. 2d 757, 2000 R.I. LEXIS 159 (R.I. 2000).
12. *Advanced Communication Design, Inc. v. Follett,* 615 N.W.2d 285 (Minn. 2000).

13. *Devivo v. Devivo*, 2001 Conn. Super. LEXIS 1285 (Conn. Super. Ct. 2001).
14. *Balsamides v. Protameen Chemicals*, 160 N.J. 352, 734 A.2d 721, 1999 N.J. LEXIS 836 (N.J. 1999).
15. *Johnson v. Johnson*, 2001 Conn. Super. LEXIS 2430 (Conn. Super. Ct. 2001).
16. Conn. Gen. Stat. §33-855(4) was amended in 2001 to reflect the new definition.
17. See, e.g., *Balsamides v. Protameen Chemicals*, 160 N.J. 352, 734 A.2d 721, 1999 N.J. LEXIS 836 (N.J. 1999); *Robblee v. Robblee*, 68 Wash. App. 69, 841 P.2d 1289, 1294 (Wash. Ct. App. 1992).
18. *McCauley v Tom McCauley & Son, Inc.*104 N.M. 523, 724 P.2d 232 (N.M. Ct. App. 1986).
19. *Hall v. Glenn's Ferry Grazing Assoc.,* 2006 U.S. Dist. LEXIS 68051 (D. Idaho 2006).
20. *Jahn v. Kinderman*, 2004 Ill. App. LEXIS 628, (Ill. Ct. App. 2004).
21. Ill. Compiled Statutes Ch. 805, §5/11.70(j) (i) (2008).
22. *Keating v. Keating*, 17 Mass. L. Rep. 241, 2003 Mass. Super. LEXIS 472 (Mass. Super. Ct. 2003).
23. See, e.g., *In re Joy Wholesale Sundries, Inc.*, 508 N.Y.S.2d 594, 595–596 (N.Y. App. Div. 1986) (upholding lack of marketability discount); *Blake v. Blake Agency, Inc.*, 486 N.Y.S.2d 341, 349 (N.Y. App. Div. 1985) (discussing various components used to determine fair value and ruling that a lack of marketability discount is appropriate, but a lack of control discount is not, since the corporation would receive a windfall for electing to purchase the minority shareholder's stock if such a discount were applied); *In re Fleischer*, 486 N.Y.S.2d 272, 274–275 (N.Y. App. Div. 1985) (noting market value comprises one component of fair value).
24. *In the Matter of Markman*, 2006 N.Y. Slip. Op. 26528, 14 Misc. 3d 910, 831 N.Y.S.2d 656, 2006 N.Y. Misc. LEXIS 3969 (N.Y. Sup. Ct. 2006).
25. *Murphy v. U.S. Dredging Corp.*, 2008 NY Slip Op 31535 (N.Y. Sup. Ct. 2008) (unpublished).
26. Cal. Corp. Code §2000(a).
27. *Ronald v. 4-C's Packaging Inc.*, 168 Cal. App. 3d 290, 214 Cal. Rptr. 225 (Cal. Ct. App. 1985).
28. For a detailed discussion of Cal. Corp. Code section 2000's dual valuation requirement, see Arthur J. Shartsis, "Dissolution Actions Yield Less than Fair Market Enterprise Value (Appraising for 'Fair Value' under California Corporations Code Section 2000)," in Chapter 6 of Business Valuation Resource's *Annual Guide to Fair Value in Shareholder Dissent, Oppression, and Marital Dissolution* (Portland, OR: 2008).
29. *Mart v. Severson*, 95 Cal. App. 4th 521, 115 Cal. Rptr. 2d 717, 2002 Cal. App. LEXIS 791 (Cal. Ct. App. 2002).
30. *Id.*
31. *Brown v. Allied Corrugated Box Co.*, 91 Cal. App. 3d 477, 1979 Cal. App. LEXIS 1589 (Cal. Ct. App. 1979).
32. *Brown v. Allied Corrugated Box Co.*, 91 Cal. App. 3d 477 (Cal. Ct. App. 1979).
33. Shartsis, "Dissolution Actions Yield Less than Fair Market Enterprise Value." *Op. cit.*
34. *Ronald v. 4-C's Electronic Packaging, Inc.*, 168 Cal. App. 3d 290 (Cal. Ct. App. 1985).
35. *Nixon v. Blackwell*, 626 A.2d 1366 (Del. 1993).
36. *Gesoff v. IIC Indus. Inc.*, 902 A.2d 1130, 1153 n.127 (Del. 2006) ("[I]n general, the techniques used to determine the fairness of price in a non-appraisal stockholder's suit are the same as those used in appraisal proceedings.").
37. See, e.g., *In re Emerging Communications, Inc. Shareholders Litigation*, 2004 Del. Ch. LEXIS 70 (Del. Ct. Ch. 2004).
38. John H. Matheson and R. Kevin Maler, "A Simple Statutory Solution to Minority Oppression in the Closely Held Business," 91 Minn. L. Rev. 657, February 2007, p. 661.

Chapter 26

Discounts and Premiums in Fair Value for Financial Reporting

By Roger J. Grabowski, ASA

Introduction
Fair Value of Reporting Units
- What Is a Reporting Unit?
- Testing for Impairment of Goodwill
- Determining Fair Value of Reporting Units
- Applicability of Discounts and Premiums in Applying the Income Approach
- Applicability of Discounts and Premiums in Applying the Market Approach
- Applicability of Discounts and Premiums in Applying the Asset-Based Approach
- Parallel of Fair Value to Fair Market Value
- Measuring the Fair Value of Reporting Units Within the Context of an Integrated Firm

Fair Value of Share-Based Compensation
Summary
Additional Reading

INTRODUCTION

In this chapter we discuss consideration of discounts and premiums in the financial reporting of reporting units, with particular emphasis on the appropriate treatment within an integrated firm. While this book is not a treatise on financial reporting under FAS 141 (R) and 142, it is helpful to review some of the background prior to discussing the applicability of premiums and discounts. The standard of value applicable for FAS 141R and 142 is fair value as referenced in these and other standards issued by the Financial Accounting Standards Board (e.g., FAS 157, which actually defines fair value). Therefore, when we use the term *fair value* in this chapter we mean the accounting definition, not fair value in the context of shareholder disputes.

We also address consideration of discounts within the context of valuing share-based compensation for financial reporting and valuing employee stock options (ESOs).

FAIR VALUE OF REPORTING UNITS

Reporting units are a by-product of FASB Statement of Financial Accounting Standard 142 Goodwill and Other Intangible Assets (FAS 142) (June 2001). That accounting standard calls for grouping of firm assets, including goodwill, by reporting units. With the adoption of FAS 142, goodwill was not subject to amortization but tested for impairment at the reporting unit level, the same level as or one level below an operating segment as defined in *Disclosures about Segments of an Enterprise and Related Information No. 131* (FAS 131). Designating reporting units is based on FAS 131 operating segments before aggregation into reportable segments. (See ''What Is a Reporting Unit?'' discussed next.)

Determining the value of a reporting unit is the first step in testing for goodwill impairment. Because if impairment is indicated under the step 1 test, company assets must be assigned to reporting units for a goodwill impairment testing, and those assets must be valued in testing for impairment of goodwill in step 2; we will also discuss the appropriate treatment of premiums and discounts in the valuation of a reporting unit. This discussion is also relevant in the valuation of businesses accounted for under Statement of Financial Accounting Standard 141(R) Business Combinations (FAS 141R) (December 2007).

WHAT IS A REPORTING UNIT?

A reporting unit may be at a level below the operating segment if the components of the operating segment have different economic characteristics. The components with common economic characteristics become a reporting unit. Issues involved in identifying reporting units are:

- Is it a business (Emerging Issues Task Force 98-3) for which discrete financial information is available?
- Does segment management regularly review the operating results of that component of the segment?

Two or more components of an operating segment are aggregated and considered a single reporting unit if they have similar economic characteristics (SFAS 131, par. 17).

Companies have a great deal of discretion in identifying reporting units.

TESTING FOR IMPAIRMENT OF GOODWILL

Goodwill must be tested for impairment at least annually, though different reporting units may be tested for impairment at different times. In addition, interim impairment tests are required if an event occurs or circumstances change that would ''more-likely-than-not'' reduce the fair value of a reporting unit below its carrying value, a so-called triggering event. Examples of such events are such matters as significant adverse change in business climate, legal issue, regulatory issue, change in competition, loss of key personnel. Another reason for interim goodwill testing arises if a ''more-likely-than-not'' expectation surfaces that a reporting unit (or significant portion) will be sold or otherwise disposed of.

Testing for goodwill impairment is a two-step test.

Step 1: Compare Fair Value to Carrying Amount (Including Goodwill) of Reporting Unit

If the carrying amount (that is, book value) of the reporting unit is greater than fair value of the reporting unit, then goodwill of the reporting unit may be impaired and step 2 is required to measure impairment. Failure of the step 1 test indicates impairment exists, but this reflects an aggregate net impairment across all assets. The impairment may actually be in specific identified assets (requiring testing of impairment of those assets) under Accounting for the Impairment or Disposal of Long-Lived Assets No. 144 (FAS 144) or to goodwill.

Step 2: Measure Excess of Recorded Goodwill over Its Implied Fair Value

Fair value of reporting unit minus the fair values of its recognized/unrecognized assets (i.e., whether carried on the books or not) and liabilities (again whether carried on the books or not), excluding goodwill, but including in-process research and development of the segment.

The process of measuring the fair values of assets and liabilities is the same as a purchase price allocation under FAS 141, although one does not record unrecognized or restate recognized assets, as this is only a test to determine the extent to which goodwill should be reduced or impaired.

Exhibit 26.1 shows a simplified example of a goodwill impairment calculation, comparing fair values (FVs) to carrying values (CVs).

Consideration of the appropriate premium or discount applicable in concluding on the fair value of reporting units has a significant impact on determining such impairment charges.

DETERMINING FAIR VALUE OF REPORTING UNITS

As a reference point for this discussion, Exhibit 26.2 summarizes the valuation methodologies in terms of their assumptions and resulting levels of value.

One determines the fair value of a reporting unit by looking at:

- Quoted market price of reporting unit's stock (if publicly traded), though the aggregate market value need not be the sole measurement basis of fair value of the

Exhibit 26.1 Example Goodwill Impairment Calculation

Reporting Units:		**A**	**B**
Step 1:			
	FV of Reporting Unit	$1,000	$500
	CV of Reporting Unit	600	600
		$400	**$(100)**
Step 2:			
	FV of Reporting Unit B	**Step 2**	$500
	FV of Reporting Unit's Individual Assets/ Liabilities- (both recognized and unrecognized)	**N/A**	425
	Implied FV of Goodwill		75
	CV of Reporting Unit's Goodwill		200
	Goodwill Impairment Charge		**$125**

Exhibit 26.2 Summary of How the Valuation Methodology Affects the Resulting Value

Approach/Method	Assumptions	Resulting Value
Income Approach	Control cash flows	Control[a]
	Minority cash flows	Minority, marketable
Guideline merged & acquired company method	Control transacted	Control[a]
Guideline publicly traded company method[b]	Trading at or above control value	Control
	Trading below control value	Minority, marketable
Asset accumulation method[c]	Control over assets	Control
Excess Earnings method	Control over assets	Control

Source: Shannon P. Pratt, *Business Valuation Discounts and Premiums*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, Inc. 2009) p. 39.

[a] If synergies involved, could be acquisition value.

[b] As discussed in Chapter 1 [of source], this can cover a wide spectrum.

[c] Asset-Based Approach.

reporting unit (e.g., control premium may be appropriate to add in applying the guideline publicly traded company method).

- Present value techniques (i.e., the Income Approach) (with reference to FASB *Concepts Statement No. 7* and *Statement of Financial Accounting Standard No. 157, Fair Value Measurements*) (FAS 157).
- Market multiples of "pure play" guideline publicly traded companies.

Net cash flows of the reporting units and assets of the reporting units should be based on assumptions of market participants, if available, under the premise that *fair value is the price to sell an asset or liability* and therefore *represents an exit price, not an entry price* (FAS 157) for 100 percent of the asset or liability (i.e., controlling interest). Market participants are defined as buyers and sellers in the principal (or most advantageous) market for the subject assets that are not related parties; that are knowledgeable and have a reasonable understanding of the subject assets and the transaction based upon all available information; and that are willing and able to enter into an orderly transaction for the subject assets. Reporting units and assets are grouped for valuation such that their fair value would be maximized (i.e., assuming the highest and best use of the assets to the market participants would be to bundle the assets together). It is not necessary to identify the specific market participants. The valuation can involve examining a hypothetical transaction.

According to FAS 157, in assessing market participant assumptions one must evaluate the risks inherent in the particular valuation technique used to measure fair value (pricing model risk) and/or the risk inherent in the inputs to the valuation technique (input risks).

APPLICABILITY OF DISCOUNTS AND PREMIUMS IN APPLYING THE INCOME APPROACH

In applying the Income Approach, one must remember that it can result in either a minority or controlling value depending on the cash flows. The cash flow representing

the benefit stream being discounted or capitalized largely determines whether one arrives at an indication of controlling value or minority value. That is, if the benefit stream would be what a minority holding would expect, then income approach produces a minority value. (Control-oriented adjustments have not been made.) If the benefit stream is adjusted to what a control owner would expect, then the income approach produces a control value (control adjustments made). If synergies with potential acquirers are injected into the benefit stream, then the income approach produces an acquisition value (investment value). In essence, in valuing reporting units, one is looking for the investment value that market participants would realize, not the current owner.

For goodwill testing (and purchase price allocation of an acquisition), the expected cash flows for the reporting unit (and for the underlying assets in the step 2 test) should represent those that could be expected by market participants, including synergies that may be available to market participant buyers of the reporting unit. Therefore, the cash flows should be constructed as controlling interest cash flows but without unique synergies that may be achievable uniquely by the current owner of the reporting unit (for goodwill testing) (or in the case of an allocation of purchase price without the unique synergies that may be expected by the actual buyer). The cash flows that are expected because of the unique synergies of the current owner of the reporting unit (or the actual buyer of the acquisition) are associated with the goodwill of the reporting unit (or goodwill of the acquisition).

There is also an issue with net operating losses (NOLs). While carry forward of NOLs will increase the expected cash flows to the existing owner of the reporting unit by reducing future income taxes, those income tax savings will be severely limited in any assumed hypothetical sale of the reporting unit.

Some analysts contend that since the discount or capitalization rates are drawn from returns in the public stock market and these represent the results of minority interest investments, the income approach must produce a minority value. In practice, most control and minority investors seek similar rates of return for equally risky and equally marketable investments, so the influence as to control versus minority level of value is largely in the projected benefit stream.

In concluding the fair value of a reporting unit, one should consider appropriate entity level discounts such as key person (taken at control level if significant; otherwise factored into risk affecting the discount rate); contingent liabilities (such as environmental or litigation); and the risk of concentration of customer or supplier base (more often factored into risk affecting the discount rate).

Finally, market evidence indicates private companies sell at a discount from otherwise identical publicly traded companies; this discount is called a Private Company Discount. Therefore, in concluding on a value for a closely held business or a reporting unit of a closely held business, one must consider applying a private company discount. (See Chapter 12.)

Further market evidence indicates that subsidiaries of publicly traded companies sell for a discount from the prices paid for otherwise identical, stand-alone publicly traded companies. (See Chapter 12.) Many practitioners ignore the fact that the reporting units themselves are not publicly traded and conclude that the appropriate discount rates should be that of a public company because the parent company is a public company. This is contrary to market evidence, and it may be appropriate to apply a Private Company Discount in valuing a reporting unit of a public company.

APPLICABILITY OF DISCOUNTS AND PREMIUMS IN APPLYING THE MARKET APPROACH

In applying the Market Approach, we are looking for a control value. Therefore, the guideline merged and acquired company method that yields a control value often looks at first glance to be the preferred approach to use. But observed transaction prices are the amounts paid by the highest bidders. So unless we observe more than one transaction in an industry with comparable pricing, the transaction price may represent a unique value due to unique buyer synergies that are not achievable by other market participants.

The guideline publicly traded company method, in terms of the traditional levels-of-value chart, may be minority, control, or even at or above acquisition value, depending on how the public guideline stocks are trading, so it may or may not be appropriate to apply a control premium when valuing a controlling interest. (See Chapter 3.) One should examine the implied multiples derived from current market prices of the guideline public companies and compare those implied multiples to acquisition multiples paid in acquisitions of comparable companies to determine if and how much of a control premium is already built into the current trading prices.

As discussed previously, in concluding the fair value of a reporting unit one should consider appropriate entity level discounts such as key person (taken at control level if significant; otherwise factored into risk affecting the market multiple); contingent liabilities (such as environmental or litigation); and the risk of concentration of customer or supplier base (more often factored into risk affecting the market multiple).

Finally, as discussed here, one must consider the applicability of a Private Company Discount.

APPLICABILITY OF DISCOUNTS AND PREMIUMS IN APPLYING THE ASSET-BASED APPROACH

The asset-based approaches represent controlling interest values. In developing asset level cash flows for applying the Income Approach in valuing the underlying assets (for instance, individual real property assets such as shopping centers), one must estimate cash flows from the view of market participants. Similarly, in applying the Market Approach in valuing underlying assets (e.g., individual real property assets such as land parcels) one must view market prices for comparable assets based upon prices paid without unique synergies to the buyer (e.g., the price paid for land parcel to complete a block of land for development).

In concluding the value of a reporting unit, one should consider appropriate entity level discounts such as trapped-in capital gains (applicable to the Asset Accumulation Method); key person (taken at control level of the entire reporting unit if significant); contingent liabilities (such as environmental or litigation); and the risk of concentration of customer (for instance, shopping centers with same department store anchor) (taken at the entity level though may be factored into risk affecting the asset discount rate or appropriate asset multiple).

PARALLEL OF FAIR VALUE TO FAIR MARKET VALUE

The consideration of fair value in terms of market participants parallels the concept of fair market value as defined by the courts. The definition of *fair market value* is in terms

of the hypothetical willing-buyer–willing-seller test. What does that mean? Some contend that the correct premise of fair market value of an entire business is the value of the subject business as a stand-alone entity. But consistent with achieving maximum economic advantage, the willing seller would investigate the marketplace for the subject business and may conclude that the market consists of a number of potential synergistic buyers. Theoreticians espouse that the synergistic buyer should not give the seller any of the benefits that the seller expects to realize from the proposed transaction. But the reality is that synergistic buyers often give up some (and sometimes a great deal) of the synergistic value to the sellers in order to outbid other buyers.

Courts have determined that fair market value of property (in this case a business) should reflect the highest and best use to which the property could be put on the valuation date.[1] Highest and best use requires study of the market for the property to determine in which market the likely selling price would be maximized. While the hypothetical willing buyer is an abstraction and not a single buyer with unique circumstances, for many sellers highest and best use may equate to sale of the subject business to any one of several likely synergistic buyers.

The Tax Court has held that the hypothetical buyer and hypothetical seller must be disposed to maximum economic gain;[2] and in *BTR Dunlop* the court determined that since there were six potential synergistic buyers for the subject business, synergy should be considered (while bids were solicited from all potential synergistic buyers, only the actual buyer submitted a bid).[3]

MEASURING THE FAIR VALUE OF REPORTING UNITS WITHIN THE CONTEXT OF AN INTEGRATED FIRM

The fair value for a reporting unit is not necessarily the allocated value of the firm owning the reporting unit. Rather it is the value that market participants would determine is appropriate for the risks of each (or appropriate grouping) of the reporting units' businesses. Thus synergies of the reporting unit with the parent company that are unlikely to be available to market participants who would likely buy the reporting unit should not enter into the estimation of the expected cash flows and value of the reporting unit. On the other hand, if a market participant buyer would be able to realize similar synergies that the current owner (assumed seller) is currently benefiting from, it would not be unreasonable to factor these into the reporting unit's projected cash flows (operating synergies) and/or cost of capital (e.g., financing synergies).

The valuation consultant must study and understand the market of potential buyers. Are the market participants entrepreneurs or financial buyers who will value the subject business only as a stand-alone? Or are the market participants made up of potentially synergistic buyers?

If indeed we are to consider synergy in a valuation using the income approach, just how are we to go about it? Data are available on acquisition premiums and are readily used in the guideline publicly traded company method. Imbedded in these premiums are often contributions the buyers add to the combined businesses from the perceived synergies. From the buyer's perspective no more is going to be offered than what the buyer believes will clear the market. In the world of the hypothetical market participants, we cannot know or assume which buyer will prevail; that is, we cannot assume that the potential buyer with the greatest potential synergy will be the successful buyer. Does this

mean that we need to attach probabilities to the various possible buyers and come up with some blended scenario?

Some believe that in any synergistic scenario the discount rate should reflect the size of the buyer or the size of the combined businesses. But the discount rate applied should reflect the risk of the subject reporting unit business (or appropriate grouping of reporting units' businesses) being valued. While all of the market participant synergistic buyers may be large companies, the risk of the subject reporting unit business may be understated if the valuation consultant uses a discount rate derived solely from the discount rate applicable for the pool of market participant synergistic buyers. In a synergistic scenario the resultant business equals the sum of the buyer's business plus the subject business (though in a company with multiple lines of business, the risk should be measured in terms of the ''pure play'' business being valued, not the company as a whole).

Also operating synergies that could be expected by market participants need to be used within any synergistic cash flow model—maybe not full synergies, but assuming multiple likely synergistic market participants would bid up the price, at least some sharing of the synergies with the seller. The amount of sharing will depend on how much competition among potential buyers for the subject business might be anticipated.

Some have suggested that a simple solution is to automatically apply a control premium in any valuation performed using the discounted cash flow approach. But that simple solution may be contrary to the facts surrounding an industry and inappropriate given the size of the subject reporting unit business. One needs to study what is happening in the target industry. Is consolidation occurring? Or are strategic alliances being formed? If acquisitions are plentiful in an industry, that may provide a good indication of market pricing among the pool of market participant synergistic buyers. Even then, what size companies are typically being acquired by the strategic buyers? If acquisitions are typically only of companies significantly larger than the subject business, then the pool of market participants (likely buyers) for the subject business may not include synergistic buyers at all. By contrast, if acquisitions by synergistic buyers are rare in an industry, one should not count on a synergistic acquisition.

FAIR VALUE OF SHARE-BASED COMPENSATION

Statement of Financial Accounting Standards 123R Share-Based Payment (December, 2004) (FAS 123R) requires companies to expense the fair value of their employee stock options. Stock options are derivative securities whose values are contingent upon the value of publicly traded common stock (e.g., ESOs of a public company) or closely held common stock (e.g., ESOs of a closely-held company). The derivative we are discussing here are call options to purchase the common stock of either a public company or a closely held company.

FAS 123R does not detail specific valuation techniques to be used for valuing ESOs that do not have an observable market value. This provides valuation professionals with flexibility to customize the models to capture the unique characteristics of individual companies and their employees. Customization is intended to capture the employees' exercise pattern of ESOs, which are key factors in determining ESO value. FAS 123R explicitly mentions lattice models (a generalization of binomial models) and closed-form models (for instance, the Black-Scholes-Merton model) and recommends that any ESO

model should address the factors affecting expectations about employees' exercise and postvesting employment termination behavior. Factors suggested include vesting period, expected stock price volatility, blackout periods, and employees' historical exercise behavior with regard to similar option grants, ages, and length of employment.

The relationship of the value of a simple call option to the value of its underlying common stock is as follows:

$$\text{Minimum Call Value} = \text{Current stock price}$$

Minus: Present value of the exercise price
Minus: Present value of dividends expected during life of option
Plus: Value of the implicit put option if the value of the stock on the expiration date is less than the exercise price.

In determining the current stock price of a publicly traded stock, one should use the observed trading price. But the valuation analyst may conclude that for some companies the observed trading prices may not represent the value of the stock of the underlying company (e.g., thinly traded stock of public companies), particularly when one values the subject company using the income or an asset-based approach (e.g., asset accumulation method). The Securities and Exchange Commission (SEC) takes a strict view for registrants that a discount for lack of control in applying an income or asset-based approach should not be applied without evidence of disproportionate returns between controlling and minority shareholders.[4] There is the implicit assumption that expected cash flows represent controlling cash flows for a public company and that, absent evidence of disproportionate returns, the shareholder returns will reflect those cash flows, controlling shareholders will act in a beneficial fashion for all stockholders (i.e., the interests of controlling shareholders and minority shareholders are aligned), and, therefore, all shareholders will benefit proportionately from those cash flows. The SEC does recognize discounts for lack of marketability (i.e., exercise of the option results in receiving restricted stock upon exercise).

FAS 123R does not permit explicit discounts for lack of marketability or lack of transferability of the option itself, or the inability to reasonably hedge. These three conditions of the option are taken into account by shortening the option's time to expiration.

In determining the current stock price of a closely held company's stock, one should reflect the appropriate discounts for lack of control (from the indicated value obtained from the income or asset-based approaches) and lack of marketability of the underlying stock. However, if the closely held company is planning for a liquidity event in the near future (e.g., an IPO), one should likely not apply a discount for lack of control from the indicated value obtained from the income or asset-based approaches unless there is evidence of disproportionate returns between the controlling and minority shareholders.

But again, FAS 123R does not permit explicit discounts for lack of marketability, or lack of transferability of the option itself, or the inability to reasonably hedge, and these three conditions of the option are taken into account by shortening the option's time to expiration. If one follows FAS 123R in determining the fair value of illiquid ESOs on closely held company stock, one is implicitly assuming that the options will be exercised early to gain liquidity (i.e., the shortening of the option's time to exercise from the expiration date). This approach differs from the approach most practitioners apply in determining the fair market value of ESOs for income tax reporting and other purposes.

In creating ESOs, the issuing company usually wants to set the option's exercise price equal to or greater than the fair market value (not fair value) of the underlying company stock at the date of issuance of the option (generally considered equal to the current stock price for actively traded public companies). When the exercise price is set at or greater than current fair market value, the intrinsic value equals zero. If these requirements are met, the Internal Revenue Service has determined that the recipient of the option has no income to report during the year of issuance.

SUMMARY

Application of discounts and premiums in determining fair values for financial reporting requires one to become familiar with the pronouncements of the FASB. The specific circumstances and method of considering discounts and premiums differ from those that apply in determining fair market values.

ADDITIONAL READING

Hitchner, James R., *Financial Valuation: Application and Models,* 2nd ed. (Hoboken: NJ: John Wiley & Sons, 2006), pp. 1097–1119.

Mard, Michael J., James R. Hitchner, and Steven D. Hyden. *Valuation for Financial Reporting,* 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2007).

Pratt, Shannon. *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), Chapter 25 "Introduction to Valuing Stock Options."

NOTES

1. *Mitchell v U.S., 267, U.S.* 341, 344–345 (1925); *Hilborn v Commissioner*, 85 T.C. 677 (1985); *Stanley Works & Subs v. Commissioner,* 87 T.C. 389,400 (1986)
2. *BTR Dunlop Holdings., et al. v. Commissioner*, T.C. Memo 1999-377.
3. Roger J. Grabowski, "Identifying pool of willing buyers may introduce synergy to fair market value," *Business Valuation Update* (April 2000).
4. Todd E. Hardiman, SEC; *32nd AICPA National Conference on Current SEC & PCAOB Developments*, December 6, 2004.

Chapter 27

Premium and Discount Issues in Undivided Interest Valuations

Description and Characteristics of Undivided Interests
- Joint Tenancy
- Tenancy in Common
- General Ownership Characteristics of an Undivided Interest
  - Lack of Control
  - Lack of Marketability
  - Partition Rights
- Summary of Undivided Ownership Characteristics

Appraisal of Assets in Fee-Simple Interest
- Asset Appraisal Approaches
  - Income Approach
  - Sales Comparison Approach
  - Cost Approach
- Asset Appraisal Information
- Summary of Asset Appraisal Factors to Consider

Factors Affecting the Value of an Undivided Interest
- Partition of the Property
- Operational Business Enterprise
- Financial Performance of the Property
- Debt Obligations
- Prior Transactions in the Undivided Interest
- Number of Co-Tenants

Valuation Adjustments for Undivided Interests
- Lack of Control
  - Acquisition Premium Evidence
  - Publicly Traded Real Estate Investment Trusts
- Lack of Marketability
- Combined Lack of Control and Lack of Marketability
- Partition Analysis
  - Proceeds and Expenses of a Partition Action
  - Partition Period
  - Present Value Discount Rate
- Summary of Valuation Adjustment Discussion

This chapter was originally contributed by Daniel R. Van Vleet. It was updated from the first edition by Frances Fan.

Court Decisions Related to Undivided Interest Discounts
Estate of Forbes v. Commissioner
Estate of Busch v. Commissioner
Estate of Williams v. Commissioner
Estate of Barge v. Commissioner
Shepherd v. Commissioner
Estate of Baird v. Commissioner
In re Harvey
Stone v. United States
Summary

When an analyst is asked to estimate the value of an undivided interest in real or personal property, the quantification and application of valuation adjustments applicable to the appraisal value of the property in fee-simple interest is often controversial. The controversy typically surrounds one or more of the following issues:

- Scarcity of empirical studies on market transactions involving undivided interests
- Economic characteristics of the subject property
- Applicability of empirical studies of fractional ownership interests to undivided interests
- Applicability and assumptions used in a partition analysis
- Applicability and assumptions used in the appraisals of assets in fee-simple interest

It is important to point out that an undivided interest is a fractional equity ownership interest and not a pro rata share of property. Consequently, asset appraisal techniques do not adequately address the economic issues of an undivided interest.

This chapter examines the relevant economic characteristics of an undivided interest and potential methods to quantify appropriate valuation adjustments to the appraised value of the underlying assets in fee-simple interest. Also provided are certain examples of court case opinions involving valuation discounts attributable to undivided interests.

DESCRIPTION AND CHARACTERISTICS OF UNDIVIDED INTERESTS

An undivided interest is a form of co-ownership in which each tenant has an equal right to use and enjoy the underlying asset. However, in some cases, one owner may have more control, such as being the designated manager. Typically, undivided interests are formed as either a joint tenancy or tenancy in common. Relevant definitions are shown in Exhibit 27.1.

JOINT TENANCY

A joint tenancy is a form of concurrent ownership in which two or more people own equal and undivided interests in the whole (property). A joint tenancy has the right of survivorship. In other words, the property interest of a deceased tenant will transfer to the

Exhibit 27.1 Definitions Related to Undivided Ownership Interests

Concurrent Ownership Persons who share ownership rights simultaneously in particular property are said to be concurrent owners. The principal types of concurrent owners are twofold: (1) joint tenancy and (2) tenancy in common.

Fee Simple A fee-simple estate is one in which the owner is entitled to the entire property, with unconditional power of disposition during life, and which descends to the heirs and legal representatives upon the owner's death intestate. A fee-simple estate is unlimited as to duration, disposition, and descendibility.

Highest and Best Use The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria of highest and best use are legal permissibility, physical possibility, financial feasibility, and maximum profitability.

Joint Tenancy A form of concurrent ownership in which each of two or more persons owns an equal and undivided interest in the whole (property), attached to which is the right of survivorship.

Partition The division of property, held by joint tenants or tenants in common, into distinct portions, so that the tenants may hold the ownership of these portions individually. Partitioning may by compulsory (judicial) or voluntary.

Right of Survivorship The right of a survivor of a deceased person to the property of said deceased. A distinguishing characteristic of a joint tenancy relationship.

Tenancy in Common A form of concurrent ownership in which each of two or more persons owns an undivided portion of the property. It is an ownership interest in which there is unity of possession but separate and distinct titles.

Unity of Interest In the case of joint tenancy, no single tenant can have a greater interest in the property than any of the others. In the case of tenancy in common, one tenant may have a larger share than any of the other tenants.

Unity of Possession The requirement that concurrent owners must hold the same undivided possession of the whole and enjoy same rights until the death of one of the tenants.

Sources: Adapted from *West's Business Law*, 6th ed., *Black's Law Dictionary*, 6th ed., and *The Dictionary of Real Estate Appraisal*, 3rd ed.

remaining tenant(s) and not to the heirs of the deceased. Joint tenancy can be terminated at any time prior to a tenant's death either by gift or by sale of the ownership interest.

If a joint tenancy is terminated, the new owner(s) become tenants in common unless some other arrangements have been made. A joint tenancy also can be transferred by partition; that is, the tenants can physically divide the property into equal parts when that option is legally permissible and physically possible. A joint tenant's interest can be conveyed without the approval of other tenants.

TENANCY IN COMMON

A tenancy in common is a form of concurrent ownership in which two or more people own an undivided portion of a property. Unity of possession (i.e., all tenants are entitled to equal use and possession of the property) and separate and distinct ownership titles are necessary components of a tenancy in common.

There are two primary differences between a joint tenancy and tenancy in common:

1. A tenant in common may own a greater percentage of the property than another tenant.

2. The interest of a tenant in common does not terminate upon death (i.e., there is no right of survivorship).

Tenants in common are entitled to a pro rata share of the revenues of the property and bear the responsibility for an equivalent share of the expenses. Similar to joint tenancy, an interest in a tenancy in common can be transferred by partition and conveyed without the approval of other tenants.

GENERAL OWNERSHIP CHARACTERISTICS OF AN UNDIVIDED INTEREST

An undivided interest in a property is subject to greater risk—and consequently may be a less desirable investment—than a fee-simple interest in an identical property. This additional risk is primarily attributable to the relative lack of control and lack of marketability (or liquidity) of an undivided interest when compared with a fee-simple interest.

Lack of Control

A fee-simple owner has the following unilateral rights, among others, to

- Use the property and maintain exclusive occupancy
- Lease the property
- Liquidate the property
- Improve or maintain the property
- Leverage the property

These ‘‘control rights’’ are assumed in an appraisal of a fee-simple interest. An undivided interest does not have the unilateral ability to engage in any of these activities. By contrast, an undivided interest only has the right to occupy the property without permission from the other co-tenants. Most decisions related to the management and liquidation of the property require unanimous consent among the co-tenants.

Lack of Marketability

In addition to lack of control, an undivided interest also is characterized by a lack of marketability compared with a fee-simple interest. This lack of marketability is primarily attributable to the following:

- The market for undivided interests is limited.
- Obtaining financing for a fractional ownership interest is usually more difficult than for a fee-simple interest.
- Co-tenants may be jointly and severally liable for the debt obligations of the property.
- There are expenses, risks, delays, and negative tax consequences attendant to the alternative of suing for partition of the property.
- Creditors of individual co-tenants may be able to force the sale of the property.

Partition Rights

A partition is the division of property—held by joint tenants or tenants in common—into distinct portions, so that the tenants may hold ownership of these portions individually. A partition of the property may by compulsory (i.e., judicial) or voluntary. The right to partition provides a co-tenant with a theoretical liquidation option. However, partition actions may be costly and require significant delays prior to actual liquidation. The time and expense required for a partition action may substantially reduce the desirability of an undivided interest to a potential investor. Typically, investors are wary of purchasing an asset that may require litigation to obtain liquidity.

SUMMARY OF UNDIVIDED OWNERSHIP CHARACTERISTICS

An undivided interest suffers from a lack of control and lack of marketability when compared with a fee-simple interest. Consequently, the market for undivided interests is limited and typically subject to discounts from the pro rata share of the appraised value in fee-simple interest. However, in *Estate of Young v. Commissioner,* the U.S. Tax Court found that a joint tenancy arrangement was not subject to valuation adjustments for undivided interests.[1] Consequently, it is important for the analyst to determine whether the subject ownership interest is a joint tenancy or tenancy in common and, thus, whether valuation adjustments are appropriate. For the purpose of this chapter, references to undivided interests will refer to tenancy in common arrangements.

APPRAISAL OF ASSETS IN FEE-SIMPLE INTEREST

Typically, the first step in determining the value of an undivided interest is to have the underlying assets appraised in fee-simple interest. This is often accomplished by an independent appraisal of the subject assets by a qualified appraiser. Appraisals of assets in fee-simple interest inherently assume that the ownership interest being appraised has all of the rights and prerogatives of control associated with a fee-simple interest. The asset appraisal may include adjustments and assumptions that only a controlling interest owner could contemplate. Consequently, the components of an appraisal in fee-simple interest may not be relevant to the valuation of an undivided interest. Therefore, the analyst should review and analyze the assumptions and approaches used to appraise the value of the property in fee-simple interest.

ASSET APPRAISAL APPROACHES

Asset appraisal approaches generally are categorized as follows:

- Income approach
- Sales comparison approach
- Cost approach

Income Approach

Income approach methods are based on the premise that the value of the asset is the present value of the future income to be derived by the owners of the asset. Income approach methods typically fall into one of the following two categories:

1. Yield capitalization method
2. Direct capitalization method

The yield capitalization method is similar to the discounted cash flow method used by business appraisers. Under this method, a projection of economic returns is prepared for multiple periods over a discrete period of time. A present value discount rate is then applied to these economic returns to estimate the present value of the property in fee-simple interest. The direct capitalization method is similar except that a single period of economic returns is capitalized to conclude value.

The income approach assumptions used in an asset appraisal may affect the determination and selection of appropriate valuation adjustments for an undivided interest. For example, the appraisal may be based on a highest-and-best-use assumption that is inconsistent with the current use of the property. If so, the property may require significant modifications to achieve its highest and best use. Modifications of this type typically require significant time and the unanimous consent of all co-tenants. If the other tenants are not favorably disposed to the proposed modifications, the probability of the highest-and-best-use realization may be low. Consequently, it may be necessary to consider the partition of the property and how the resulting division of ownership would affect the highest-and-best-use assumption.

In addition to highest-and-best-use issues, income approach methods involve the quantification of capitalization rates. These capitalization rates typically are based on an assumed level of interest-bearing debt. The assumed level of debt may not be appropriate for the following reasons:

- Lenders may be reluctant or unwilling to provide debt capital to a property owned by several undivided interests.
- Other co-tenants may not be favorably disposed to increasing the leverage on the property.

Therefore, the assumed level of debt used in an asset appraisal may not be appropriate for the valuation of an undivided interest.

Sales Comparison Approach

The sales comparison approach typically is based on an analysis of sales of comparable properties in fee-simple interest. Within this approach, an appraiser will make adjustments for differences between the subject property and the comparable property. These adjustments may include differences related to:

- Age of the transaction
- Physical condition of the property

- Location of the property
- Age of the property

As with the income approach, the assumptions used in the sales comparison approach may not be consistent with the appraisal of an undivided interest. For instance, if a theoretical partition of the property is used to value the undivided interest, the analyst should recognize that the fundamental characteristics of the property might change upon partition. If so, the appraised value of the property quantified using the sales comparison approach may be misleading when estimating the value of an undivided interest.

Cost Approach

The cost approach is based on the assumption that an asset is worth no more than the costs necessary to reproduce an identical asset or an asset of equal utility. The cost approach assumes that the subject asset is fungible and that assets of similar utility may be obtained by purchase or by construction. If the asset is unique, it may not be appropriate to use the cost approach.

The cost approach often is used to appraise the value of buildings and improvements. Within this approach, assumptions are made regarding the current cost of replacing the actual buildings or improvements. These cost estimates are then adjusted for various types of depreciation, including:

- Physical deterioration
- Functional obsolescence
- Economic obsolescence

As with the sales comparison approach, the assumptions used in the cost approach may not be consistent with the appraisal of an undivided interest. For instance, it may not be possible to partition buildings or improvements. Consequently, a judge may order the sale of the property in a partition action. In that case, the cost approach may be less relevant than other asset appraisal approaches.

ASSET APPRAISAL INFORMATION

The Financial Institution Reform, Recovery, and Enforcement Act (FIRREA) requires that appraisers comply with the Uniform Standards of Professional Appraisal Practice (USPAP) for all federally related real estate transactions. Although not mandated by law, USPAP has been adopted and endorsed by major appraisal organizations, including the Appraisal Institute and the American Society of Appraisers.

The USPAP standards state that written real property appraisal reports must be prepared in one of the following three formats:

1. Self-contained appraisal report
2. Summary appraisal report
3. Restricted use appraisal report

The essential difference between these three options is the level of disclosure. The self-contained appraisal report provides the greatest level of disclosure, and the restricted use appraisal report provides the least.[2]

Asset appraisal information can come in other forms, including the following:

- Written or verbal estimation of sale price by a broker or auctioneer
- Property tax assessment values
- Opinions of value provided by the owner

Obviously, the best indication of asset value is provided by a contemporaneous cash transaction involving the subject property to an arm's length buyer. Most often this type of information is not available. Consequently, a self-contained appraisal report prepared by a qualified asset appraiser is typically the best indication of value.

SUMMARY OF ASSET APPRAISAL FACTORS TO CONSIDER

Analysts should be familiar with the approaches and assumptions used in the asset appraisal when valuing an undivided interest. Aggressive and unsupportable asset appraisals will cause difficulty and unnecessary complexity in supporting opinions of value for an undivided interest. Also, the assumptions used in an appraisal of assets in a fee-simple interest may not be relevant to the appraisal of an undivided interest.

FACTORS AFFECTING THE VALUE OF AN UNDIVIDED INTEREST

In most states, co-tenancy rights require unanimous consent of the undivided interest owners to manage or liquidate the property. Therefore, an undivided interest suffers from a significant lack of control when compared with a fee-simple interest. Also, the market for undivided interests is very limited compared with the market for fee-simple interests. Consequently, an undivided interest has some of the same economic characteristics as a minority equity position in a closely held company. The lack of control and lack of marketability of an undivided interest are mitigated by the fact that, in most states, an investor can file suit to have the property partitioned by the court. If the court decides that the property cannot be partitioned equitably, then it can order a forced sale of the property and a division of the net proceeds after costs.

Despite the ability to achieve liquidity through a partition action, an undivided interest lacks elements of control and marketability when compared with a fee-simple interest. Consequently, it is often necessary to adjust the indication of value provided by a property appraisal to value an undivided interest properly. Assuming the analysis contained in the appraisal is reasonable and properly supported, the analyst should then consider the following relevant factors:

- Partition of the property
- Operational business enterprise
- Financial performance of the property
- Debt obligations

- Prior transactions in the undivided interests
- Number of co-tenants

PARTITION OF THE PROPERTY

One of the most consistent themes in various court cases dealing with undivided interests is an analysis of the expense and time necessary to conduct a judicial partition of the subject property. When conducting a partition analysis, the analyst should obtain answers to the following questions:

- Is a partition legally permissible and physically possible?
- Would a partition action result in the sale of the entire property or merely a division of ownership?
- Would a division of ownership change the assumptions used in the appraisal of assets in fee-simple interest?
- Are the assumed future proceeds based on a highest-and-best-use analysis that is inconsistent with the current use of the subject property?
- What are the out-of-pocket expenses associated with the partitioning action?
- How much time is necessary to conduct the partition action and liquidate the property?
- Will the property generate income and/or necessitate expenses during the assumed time period necessary to conduct a partition action?
- What is the appropriate present value discount rate applicable to the future proceeds derived from a partition action?

OPERATIONAL BUSINESS ENTERPRISE

The empirical studies of valuation adjustments for lack of control or lack of marketability are based most often on transactions of securities of operational business enterprises. In general, these studies fall into one of the following categories:

- Private transactions in the common stock of companies prior to an initial public offering
- Price to net asset value of registered limited partnership interests
- Price to net asset value of closed-end mutual funds
- Private transactions of restricted stocks (i.e., letter stock) of publicly traded companies
- Acquisition premiums paid by acquirers of publicly traded companies

Occasionally the courts have been critical of the naïve application of these empirical studies when the underlying assets of an undivided interest did not involve an operational business enterprise. For instance, certain courts have criticized the application of discounts for lack of control to the appraised value of nonoperational assets such as vacant land.

FINANCIAL PERFORMANCE OF THE PROPERTY

Undivided interests are entitled to a pro rata share of the revenues and expenses attributable to the property. Consequently, a property with a history of income or expenses may be a more or less desirable investment, depending on the historical and projected financial performance. Obviously, properties that are expected to provide substantial cash distributions are more desirable than otherwise identical properties with little or no anticipated cash distributions. Also, the projected income and expenses associated with a property during the time period necessary to conduct a partition action will likely be a consideration in the valuation of an undivided interest.

DEBT OBLIGATIONS

Typically, debt obligations attributable to a property are subtracted from the appraised value in the process of valuing an undivided interest. In addition to this calculation, the analyst should ask the following questions:

- Are the co-tenants jointly and severally liable for the debt obligations of the property?
- Would the partition and sale of the property result in the call of the debt obligation?
- Are the debt obligations assumable by the purchaser of an undivided interest?

Depending on the answers to these questions, the analyst may elect to increase or decrease the valuation adjustment applicable to the appraised value of the property in fee-simple interest.

PRIOR TRANSACTIONS IN THE UNDIVIDED INTEREST

Almost without exception, the analyst should consider arm's length transactions in the subject undivided interest during the three- to five-year period prior to the valuation date. In most cases, historical transactions involving the subject interest do not exist. If transactions are present, often they were not on an arm's length basis. Consequently, a review of the factors and motivations behind any historical transaction should be conducted.

NUMBER OF CO-TENANTS

Another factor to consider is the total number of co-tenants. The complexity of managing any asset increases with the number of co-tenants. Consequently, the relative lack of control increases as the number of co-tenants increases. However, even if the property has only two co-tenants, valuation adjustments for lack of control and lack of marketability typically are justified.

VALUATION ADJUSTMENTS FOR UNDIVIDED INTERESTS

If the starting point for an appraisal of an undivided interest is the appraised value of the underlying property in fee-simple interest, valuation adjustments for lack of control and lack of marketability should be considered. Ideally, these discounts should be derived from empirical studies of market transactions involving undivided interests.

Unfortunately, transactions in undivided interests typically are conducted between private parties, and the pertinent data are difficult or impossible to obtain. Thus, the analyst should consider whether to use proxies for valuation adjustments derived from market evidence and/or empirical studies of other types of ownership interests. This section provides a brief summary of these studies and market evidence as well as a discussion of valuation adjustments based on a theoretical partition of the subject property.

LACK OF CONTROL

Empirical studies and/or market evidence on lack of control valuation adjustments generally fall into one of the following categories: acquisition premiums paid by acquirers of publicly traded companies or publicly traded real estate investment trusts (REITs).

Acquisition Premium Evidence

Acquisition premiums paid for publicly traded companies often are used to quantify the discount for lack of control. The acquisition premiums paid for publicly traded companies may not be attributable solely to issues surrounding control, as discussed in Chapters 2 and 3. However, these empirical studies indicate that investors are generally willing to pay more for the acquisition of an entire business enterprise than for a minority interest position on a pro rata basis. If control premiums are used in the analysis of an undivided interest, the analyst should attempt to locate financial acquisitions of acquired companies with similar risk profiles as the subject property.

Publicly Traded Real Estate Investment Trusts (REITs)

Publicly traded REITs may provide additional market evidence regarding the discount for lack of control. A comparison of the public price of REIT units to the underlying net asset value of the properties owned by the REIT may provide insight into the valuation adjustment that investors consider appropriate for a minority interest position in a publicly traded REIT.

LACK OF MARKETABILITY

Empirical studies on the lack of marketability generally fall into one of the following categories: private transactions of restricted stocks (i.e., letter stock) of publicly traded companies or private transactions in the common stock of companies prior to an initial public offering. These studies were described in Chapter 5.

The restricted stock studies quantify the price discount for securities that are restricted from trading for a specified period of time. Upon the removal of these restrictions, the securities will possess all the benefits of an unrestricted publicly traded stock, including a liquid market. Conversely, the prospect for liquidity of undivided interests may be dependent on a partition of the subject property. A partition action may require costly litigation and several years to complete. Consequently, the empirical evidence provided by restricted stock studies may understate the appropriate valuation adjustment when used to value an undivided interest.

In general, the empirical studies on the lack-of-marketability discounts are based on transactions of securities of operational business enterprises. If the risk profile of the

property owned by the undivided interests is different from the risk profile of the securities included in the empirical studies, the appropriate discount for lack of marketability may be different. For instance, the historical price volatility and risk profile of real estate tends to be less than that of publicly traded equity securities. Thus, there is less risk associated with a mandatory holding period for real estate than for corporate equity securities. Based solely on this factor, the discount for lack of marketability would be less for an undivided interest than for publicly traded equity securities.

COMBINED LACK OF CONTROL AND LACK OF MARKETABILITY

Publicly syndicated limited partnership interests trade in a limited and somewhat illiquid secondary market. Also, limited partnership interests have no vote in the operations of a partnership. These ownership interests therefore suffer from a lack of control and lack of ready marketability. Consequently, transactions involving these partnership interests can be studied and used to quantify combined discounts for lack of control and lack of marketability.

The *Partnership Re-Sale Discount Study* is a research report published by Partnership Profiles, Inc. that tracks the secondary market in publicly registered limited partnership interests. This report provides the market trading prices of the limited partnership interests as well as distribution yields and the estimated net asset value of the partnerships. The partnerships studied in the *Partnership Re-Sale Discount Study* contain a variety of assets, including undeveloped land, triple-net lease programs, cable and television systems, conventional real estate, and oil and gas properties.

The *Partnership Re-Sale Discount Study* conducts an annual survey that compares the market price of limited partnership interests with the pro rata net asset value of the partnership. The results of these surveys for the 1993 through 2004 period are presented in Exhibit 27.2.

Exhibit 27.2 The *Partnership Re-Sale Discount Studies*, 1993–2004

1993 Study		
	Number of LPs	**Average Discount (%)**
Equity	65	51
Triple Net Lease	21	20
Equity/Mortgage Hybrids	9	60
Mortgages—Uninsured	12	59
Mortgages—Insured		7
Mortgages—Zero Coupon	3	78
1994 Study		
	Number of LPs	**Average Discount (%)**
Equity—Distributing	71	49
Equity—Nondistributing	17	76
Triple-Net Lease	22	19
Equity/Mortgage Hybrids	23	54
Mortgages—Uninsured	6	53
Mortgages—Insured	4	28

(*continued*)

Exhibit 27.2 *Continued*

1995 Study

	Number of LPs	Average Discount (%)
Equity—Distributing	87	41
Equity—Nondistributing	32	64
Triple-Net Lease	26	20
Equity/Mortgage Hybrids	24	42
Mortgages—Uninsured	6	44
Mortgages—Insured	14	19

1996 Study

	Number of LPs	Average Discount (%)
Equity—Distributing	77	37
Equity—Nondistributing	33	56
Triple-Net Lease	27	22
Equity/Mortgage Hybrids	15	37
Mortgages—Uninsured	3	66
Mortgages—Insured	12	25

1997 Study

	Number of LPs	Average Discount (%)
Equity—Distributing (No Debt)	48	28
Equity—Distributing	24	37
Equity—Nondistributing	27	42
Triple-Net Lease	19	16
Mortgages—Insured	12	20

1998 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low Debt)	34	27	8.0
Equity—Distributing	29	36	6.7
Equity—Nondistributing	21	43	0.0
Triple-Net Lease	19	17	9.7
Mortgages—Insured	10	12	9.8

1999 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	27	25	8.8
Equity—Distributing (Larger Debt)	17	35	6.9
Equity—Nondistributing	15	46	0.0
Undeveloped Land	4	46	0.0
Triple-Net Lease	22	14	9.5
Mortgages—Insured	10	14	11.8

2000 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	24	24	9.2
Equity—Distributing (Higher Debt)	18	26	7.7
Equity—Nondistributing	9	35	0.0
Undeveloped Land	3	40	0.0
Triple-Net Lease	24	21	10.5
Mortgages—Insured	9	21	12.5

2001 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	16	25	9.5
Equity—Distributing (Higher Debt)	14	26	6.1
Equity—Nondistributing	9	42	0.0
Undeveloped Land	3	38	0.0
Triple-Net Lease	26	24	10.9
Mortgages—Insured	7	28	12.3

2002 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	18	16	8.6
Equity—Distributing (Higher Debt)	14	26	6.5
Equity—Nondistributing	5	32	0.0
Undeveloped Land	3	35	0.0
Triple-Net Lease	23	19	10.5
Mortgages—Insured	7	19	13.6

2003 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	15	16	8.4
Equity—Distributing (Higher Debt)	19	27	6.2
Equity—Nondistributing	8	32	0.0
Undeveloped Land	3	29	0.0
Triple-Net Lease	26	16	9.7
Mortgages—Insured	6	15	9.7

2004 Study

	Number of LPs	Average Discount (%)	Average Yield (%)
Equity—Distributing (Low/No Debt)	15	16	8.6
Equity—Distributing (Higher Debt)	19	29	6.9
Equity—Nondistributing	12	38	0.0
Undeveloped Land	5	33	0.0
Triple-Net Lease	23	14	9.7
Mortgages—Insured	5	14	9.1

Source: The Partnership Spectrum (May/June 1993–2003), *The Direct Investment Spectrum* (May/June 2004).

Beginning with 2005, Partnership Profiles, Inc. no longer publishes this study as a stand-alone report in the May/June issue of *Partnership Spectrum* (renamed *Direct Investment Spectrum* in 2004). In 2007, this study was replaced by a new report called *The 2007 Executive Summary Report* which is available through an annual subscription to the company's database.

As indicated by the studies highlighted in the exhibit, there is a general trend of slightly declining price-to-net-asset-value discounts in recent years, especially for partnerships that consistently pay significant distributions or carry low levels of debt. This may be attributable to an increase in the number of partnership liquidations in recent years. Even with this slight decline, the price-to-net-asset-value discounts remain significant.

Similarly to undivided interests, registered limited partnership interests suffer from lack of control and a relative lack of marketability compared with fee-simple interests. However, these partnership interests are generally more liquid than undivided interests. Typically, it takes approximately two to three months to effectively liquidate a registered limited partnership interest. Theoretically, it may take years to liquidate an undivided interest, especially if a partition action is required.

These limited partnership interests trade at significant price discounts to the net asset value of the underlying assets. As a result, one would expect that undivided interests—which are less liquid than limited partnership interests—would be subject to even greater valuation discounts. When using this information to value an undivided interest, it is appropriate to evaluate the distribution yields and level of debt associated with the subject property.

PARTITION ANALYSIS

A theoretical partition of the property often is used to quantify a valuation adjustment to apply to the appraised value in fee-simple interest. This analysis estimates the value of an undivided interest by subtracting the costs attributable to a partition action from the appraised value of the property. The Internal Revenue Service generally favors this approach and often assumes that the total economic cost to partition is limited to out-of-pocket attorney fees and that these expenses are borne equally by all co-tenants. Neither of these assumptions is necessarily correct.

When conducting a partition analysis, the analyst should consider whether a partition action would result in the sale of the entire property or merely a division of ownership. If the property can be partitioned, it may be necessary to consider whether the division of ownership would change the underlying assumptions used in the appraisal of the interest. For instance, the shape or configuration of land may be an important characteristic of the appraisal value. If the property is theoretically partitioned, the assumptions used in the appraisal may no longer be relevant.

A partition analysis is primarily based on the following three factors:

1. Quantification of the proceeds and expenses
2. Amount of time necessary to conduct a partition action
3. Present value discount rate used to estimate the present value of the proceeds and expenses

Proceeds and Expenses of a Partition Action

The future value of the net proceeds available from the hypothetical sale of the property should be considered in the analysis. The future value of the property should be based on the projected price appreciation of the property, if any, during the partition period. Also, the expenses necessary to liquidate the property should be considered in the determination of the future net proceeds. These expenses may include sales commissions, legal fees, survey fees, taxes, and so forth. The present value of these future net proceeds can then be estimated using a present value discount rate appropriate for undivided interests. If the property is expected to produce income or incur expenses during the partition period, the present value of these projected revenues and expenses should be recognized and included in the analysis.

The expenses associated with a partition action should also be estimated and included. These expenses may include the following, among others:

- Attorney fees
- Court costs
- Survey expenses
- Expenses related to governmental licensing and zoning changes
- Costs associated with the replacement of shared infrastructure

The present value of these expenses should be calculated using an appropriate present value discount rate.

Partition Period

The amount of time necessary to conduct a partition varies by jurisdiction and by the characteristics of the subject property. Generally, the courts have considered two to four years to be reasonable. Under certain circumstances, the partition period may be longer. If the appraised value in fee-simple interest is estimated based on a highest-and-best-use assumption that is inconsistent with the current use of the subject property, the assumed length of time associated with conversion and subsequent partition may be significantly greater than two to four years.

Present Value Discount Rate

The calculation of a present value discount rate to use in a partition analysis should consider the following ownership characteristics of an undivided interest:

- Lack of control over the management and operations of the property
- A likely holding period of two to four years
- The prospect of negative economic consequences resulting from actions by other cotenants
- The expenses and headaches associated with litigation in order to achieve liquidity

Often the courts will use capitalization rates derived from appraisals of fee-simple interests to estimate the value of the economic returns associated with a partition action. These rates of return are derived from transactions involving the sales of entire properties in fee-simple interest. Thus, the capitalization rates assume a controlling interest owner with the ability to liquidate the assets at will. Obviously, these assumptions are not valid for an undivided interest. A capitalization rate derived from the sales of properties in fee-simple interest is likely understated when used to estimate the present value of proceeds attributable to an undivided interest. Therefore, other proxy present value discount rates should be considered.

Depending on the characteristics of the underlying property, it may be possible to identify proxy rates of return from publicly available market evidence. Since an undivided interest is an equity interest in the subject property, the following sources of equity rates of return should be considered:

- *Cost of Capital Quarterly*, Morningstar, a source of equity rates of returns on publicly traded companies in a wide variety of industries. Data is sorted by standard industrial classification (SIC) code.
- *Stocks, Bonds, Bills, and Inflation, Valuation Edition,* Morningstar, a source of equity risk premiums of publicly traded companies. This data typically is used in the capital asset pricing model (CAPM) to quantify equity rates of return specific to certain industries.
- *Duff & Phelps Risk Premium Report*, previously known as Standard & Poor's Corporate Value Consulting Risk Premium Report, a source of equity risk premiums of publicly traded companies. Generally the Duff & Phelps report tends to adopt a lower equity risk premium when compared to the Morningstar's report because they focus on the time frame after 1963.
- *Appraiser News*, Appraisal Institute, a source of equity yield rates for real property investments. These rates of return typically are based on transactions involving fee-simple interests.
- *Korpacz Real Estate Investor Survey*, PriceWaterhouseCoopers, a source of equity yield rates for real property investments. These rates of return typically are based on transactions involving fee-simple interests.
- *Real Estate Report*, Real Estate Research Corporation, a source of equity yield rates for real property investments. These rates of return typically are based on transactions involving fee-simple interests.

The equity rates of returns provided by these publications may assist in quantifying appropriate present value discount rates for undivided interests. The Morningstar and Duff & Phelps equity rates assume that the ownership interest is readily marketable and lacks control. The Appraisal Institute and PriceWaterhouseCoopers studies assume the equity ownership is in fee-simple interest. Consequently, it may be necessary to adjust the indications of value provided by these rates of return for lack of control and/or lack of marketability.

SUMMARY OF VALUATION ADJUSTMENTS DISCUSSION

Although no universally accepted rule to assist in the selection of valuation adjustments has been developed, the following factors should be considered in the analysis:

- Historical and projected cash distributions to the undivided interest
- Historical and projected income and expenses of the subject property
- Total number of undivided interest co-tenants
- Length of time and expenses necessary to conduct a partition action
- Whether the subject property can be subdivided
- Arm's length transactions involving comparable undivided interests
- Length of time necessary to sell the subject property at the conclusion of a partition action if physical partition is impossible or impractical

- The assumptions and analysis used in the appraisal of the subject property in fee-simple interest
- The debt obligations of the subject property

COURT DECISIONS RELATED TO UNDIVIDED INTEREST DISCOUNTS

The courts consider a variety of quantitative and qualitative factors when determining the value of an undivided interest. Obviously, each decision is based on various facts and circumstances. In general, no valuation methodologies for undivided interests are universally accepted by the courts. As a result, analysts should be familiar with the factors that influence courts' thinking regarding the valuation of undivided interests.

The courts have been somewhat fickle in their selection and application of valuation adjustments. Certain courts have allowed valuation adjustments of nearly 45 percent. Other courts have selected valuation adjustments closer to 5 to 10 percent. Some courts have cited the relative lack of control and lack of marketability of an undivided interest when compared with a fee-simple interest. Other courts have solely focused on the out-of-pocket expenses associated with a partition action. Obviously, the facts and circumstances of each court case differ. Also, the quality and nature of the fee-simple interest appraisal report can have a substantial impact on the disposition of the court toward valuation adjustments.

Estate of Forbes v. Commissioner.[3] One of the primary issues in this case was the fair market value of undivided interests in two parcels of real property held in a qualified terminable interest property (QTIP) trust. The undivided interests at issue included a 42 percent undivided interest in 3,321 acres and a 42.9 percent undivided interest in 2,033 acres. The value of the undivided interests reported on the decedent's federal estate tax return included a 30 percent fractional interest discount.

The taxpayer and the IRS stipulated that the fair market value of the entire 5,354 acres of the subject property in fee-simple interest was $1,746,795. The taxpayer then adjusted this value downward using a 30 percent discount. At trial, the expert for the taxpayer testified that a valuation discount was appropriate because the undivided interests lacked control and also ready marketability. The expert did not locate comparable sales but testified that local real estate brokers had applied fractional interest discounts of 10 to 30 percent in liquidating partnerships. In calculating the valuation adjustment, the expert also took into consideration the following:

- Specific characteristics of the subject property
- Limited pool of potential buyers
- The difficulty of securing financing
- The costs of partitioning the two separate parcels
- Possible intrafamily conflicts
- Other factors adversely affecting the marketability of the undivided interests

He concluded that a valuation discount of 30 percent was appropriate.

The expert for the IRS identified and selected "comparable" transactions that the court did not consider credible or relevant. Incredibly, this expert's own comparable transactions indicated valuation discounts in the range of 25 to 64 percent. With little explanation, this expert then selected 18 percent as the appropriate valuation adjustment. Consequently, the court disregarded the testimony from the IRS expert.

In general, the court expressed dissatisfaction with the analysis provided by all experts. The court conceded that this lack of support might have been attributable to the lack of available empirical data related to undivided interests. Since the taxpayer and the IRS agreed that some valuation discount was warranted, the court accepted the taxpayer's expert's recommendation for a 30 percent valuation discount.

Estate of Busch v. Commissioner.[4] At the date of death, the decedent owned a 50 percent undivided interest in 90.74 acres of real property. In its decision, the court calculated the value of the property in its highest and best use as a residential development in fee-simple interest. Since the property was not a residential development at the date of death, the court determined the value of the property based on the future proceeds derived from the hypothetical sale of the property as a residential development.

The court concluded the initial value of the property at $13.6 million based on appraisals of the property in fee-simple interest provided by experts for the taxpayer and the IRS. The court then assumed it would require three to six years to convert the property to its highest and best use as a residential development. The future value of the property three to six years into the future was assumed to be the appraised value in fee-simple interest as of the date of death. These future proceeds were then discounted back to the present value at a 9 percent discount rate to conclude a value of $9.3 million. The 9 percent discount rate was derived from capitalization rates provided in the property appraisal reports. The court then subtracted from this amount the out-of-pocket costs associated with a judicial partitioning of the property. The out-of-pocket costs were estimated based on a factor of 10 percent of the appraised value of the undivided interest. Based on the court's calculations, the total discount from the appraised value in fee-simple interest appraisal was over 38 percent. A summary of the court's calculations is provided in Exhibit 27.3.

Estate of Williams v. Commissioner.[5] At the date of death, the decedent owned a 50 percent undivided interest in Florida timberland. In this case, the court accepted the

Exhibit 27.3 Tax Court's Calculations in *Estate of Busch v. Commissioner*

Value of the Property in Fee-Simple Estate[a]	$13,611,000
Present Value of the Sales Proceeds[b]	$9,312,992
Multiplied by: Undivided Interest Percentage	50.0%
Equals: Value Attributable to the Subject Undivided Interest	$4,656,496
Less: Cost to Partition[c]	$466,000
Equals: Value of the Undivided Interest	$4,190,496
Total Discount from Fee-Simple Appraisal[d]	38.4%

[a] Proceeds available from the hypothetical sale in three to six years.

[b] Assumes a 9% present value discount rate.

[c] $4,656,496 × 10%.

[d] 1 − [($4,190,496 × 2)/$13,611,000].

taxpayer's 44 percent total discount from the appraised value of the property in fee-simple interest. This decision ignored the position often taken by the IRS that any discount from the appraised value of the property in fee-simple interest should be limited to the estimated cost of a partition action. The 44 percent discount was based on a lack-of-control discount of 30 percent and a lack-of-marketability discount of 20 percent, with the two discounts applied multiplicatively. The court considered the potential $413,000 in partition costs and real estate commissions of 10 percent that would be incurred upon the partition and sale of the property in determining the discount for lack of control. The court viewed the lack of relevant market transactions in undivided interests as an indication of the lack of marketability of the subject interest.

The expert for the IRS argued that a business appraiser was not qualified to value the subject undivided interests. The court disagreed, stating that taxpayer's expert "was an experienced business appraiser who has given expert opinions in valuing fractional interests in partnerships, businesses and real property." The court went on to say that he "correctly considered various factors affecting the potential costs of partitioning the properties in issue," "the time and expense of selling real property in that market," and "gave a reasonable explanation" for his discounts.

A summary of the court's calculations are provided in Exhibit 27.4.

In the *Williams* decision, the court recognized real estate commissions associated with the partitioning and sale of the property. The court also acknowledged that an undivided interest suffers from both lack of control and lack of marketability, and applied these discounts in succession. It further acknowledged that business valuation experts are qualified to value an undivided interest in real property.

Estate of Barge v. Commissioner.[6] The taxpayer and the IRS stipulated that the fair market value of the Mississippi timberland in fee-simple interest was $40 million. The taxpayer requested that the court apply a discount of 50 percent to the appraised value of the property in order to calculate the value of the undivided interests. The record is unclear whether the taxpayer's experts—who were registered foresters—provided any empirical evidence that would establish discounts for lack of control or lack of marketability.

In its decision, the court used a partition analysis to calculate the value of the undivided interest. The partition analysis was based on the following assumptions:

- A 10 percent present value discount rate
- A partition period of four years

Exhibit 27.4 Tax Court's Calculations in *Estate of Williams v. Commissioner*

Value of the Property in Fee-Simple Estate	$3,093,250
Multiplied by: Undivided Interest Percentage	50.0%
Equals: Value Attributable to the Subject Undivided Interest	$1,546,625
Less: Lack of Control Discount @ 30%	$463,988
Equals: Marketable Minority Value	$1,082,637
Less: Lack of Marketability Discount @ 20%	$216,527
Equals: Nonmarketable Minority Value	$866,110
Total Discount from Fee-Simple Appraisal[a]	44.0%

[a] 1 − [($866,110 × 2)/$3,093,250].

- A future income stream of $293,000 per year
- A $41 million property value at the end of four years
- Estimated partition costs of $1,325,000 allocated evenly to each 50 percent ownership interest over the four-year partition period

Exhibit 27.5 provides a summary of the court's calculations.

The court determined the fair market value of the 1987 gift to be $7,404,649, resulting in an effective undivided interest discount of 26 percent from the appraised value in fee-simple interest. The present value discount rate used by the court was derived from information contained in the asset appraisals. It appears that the court did not consider costs associated with marketing and selling the partitioned property at the end of the four-year period. Also, the court did not address the propriety of using a capitalization rate derived from an appraisal of a fee-simple interest as the present value discount rate in determining the value of an undivided interest.

Shepherd v. Commissioner.[7] The taxpayer provided an appraisal report that indicated that the value of property in fee-simple interest was $400,000. Experts for the IRS determined that the value of the property in fee-simple interest was $1,278,600. The taxpayer presented three real estate appraisers to support its valuation of the leased timberland. Each appraiser used slightly different approaches and assumptions. Two of the appraisers applied discounts for undivided interests of 27 percent and 15 percent, respectively. The IRS presented one appraiser who appraised the value of the land in fee-simple interest using an income approach at $1,547,000. The determination of value by the IRS's expert reflected no discounts for lack of control or lack of marketability.

The experts for the taxpayer and the IRS disagreed over the following issues:

- Valuation discounts for the undivided interest
- The discount rate to use in calculating the present value of the property lease payments
- Whether to use pretax or after-tax lease income in the discounting calculation

Ultimately, the court determined that one of the taxpayer's experts had taken the lack of marketability into the calculation of the capitalization rate used in the appraisal of the

Exhibit 27.5 Tax Court's Calculations in *Estate of Barge v. Commissioner*

Year	Timber Income	Partition Costs	Partition Payment[a]	Total	Present Value[b]
1	$293,000	$165,625	$0	$127,375	$115,795
2	$293,000	$165,625	$0	$127,325	$105,268
3	$293,000	$165,625	$0	$127,325	$95,699
4	$293,000	$165,625	$10,250,000	$127,325	$7,087,887
Total					$7,404,649
Total Discount from Fee-Simple Appraisal					26.0%

[a] Assumes that the appraised fee-simple value of the property will increase from $40 million to $41 million during the four-year partition period.

[b] Based on a present value discount rate of 10%.

fee-simple appraisal interest. This same expert then opined that an appropriate discount for the undivided interest was 27 percent. The court determined that this analysis amounted to double counting. Consequently, the court rejected the expert's opinion on undivided interest discounts. The taxpayer's other expert concluded an undivided interest discount of 15 percent based on the following:

- Lack of control
- Potential disposition of the property due to disagreements between co-owners
- The negative consequences of a partitioning action

Apparently, no empirical evidence was offered to establish any of these discounts. The court ultimately concluded that the appropriate discount for the undivided interest was 15 percent.

The IRS's expert concluded that the discount should be limited to the estimated cost to partition of $25,000. The court rejected this opinion as ''failing to give adequate weight to other reasons for discounting a fractional interest in the leased land, such as lack of control in managing and disposing of the property.''

On appeal, the Eleventh Circuit affirmed, finding that the discount applied by the Tax Court accounted for ''the lack of complete control over the parcel, the risk of disagreement about disposition of the land and the possibility of partition of the land.'' The appellate court also rejected the taxpayer's argument that a stipulated 33.5 percent discount should have been applied because the stipulation itself limited that discount to a valuation of an interest in the FLP. In addition, the gifts were to be valued ''at the time of transfer'' without reference to the partnership interest they later became a part of.[8]

A dissenting opinion would have ruled that, regardless of the classification of the gifts to be valued, the valuation would have to take into account the effect of the partnership, since the concept of valuing the gifts ''at the time of transfer'' so as to not take into account the partnership ''is not helpful when the nature of the gift is transformed in transit from realty to personalty.'' The dissent argued that the willing buyer and willing seller would consider the impact of the partnership, and, therefore, that the stipulated 33.5 percent discount should have been applied when valuing the gifts.

Estate of Baird v. Commissioner.[9] The issue in this case was whether the IRS's position in applying discounts to fractional, noncontrolling interests in timberland was justified for purposes of determining whether the taxpayers were entitled to administrative and litigation costs. The Tax Court had ruled that the IRS's position was justified so that taxpayers were not entitled to their costs.

John Baird's estate included a 14/65 undivided interest in a Louisiana trust that held 2,957 acres of timberland in 16 noncontiguous tracts, and his wife's estate included a 17/65 interest in the same trust.

Both estates claimed a 50 percent fractionalization discount from the pro rata fair market value of the timberland. The IRS took the position that the only discount allowable when valuing the estates' noncontrolling fractional interests was the cost of partitioning the property based on the estimated costs of a hypothetical partition in kind in an IRS forester's report, which amounted to approximately 3 percent. The estates protested this position, criticizing the forester's use of transactions involving sales of controlling

interests, and explaining the risks and difficulties involved with partitioning the 16 tracts. They pointed out that the IRS position was not in line with a substantial body of data suggesting that the discounts for undivided interests should be significantly higher than the pro rata share of the estimated cost of partition.

In a prior decision, the Tax Court had held that the taxpayers established 55 percent as the average amount by which noncontrolling fractional interests in Louisiana timberland were discounted and that an additional 5 percent discount was appropriate due to peculiar circumstances with respect to the decedents' remaining family members (for a total of 60 percent).

On appeal, the Fifth Circuit reversed and remanded on the issue of costs. It found that before the IRS issued the notices of deficiency, the taxpayers had provided enough information to the IRS to alert it to the fact that the in-kind partition described in the forester's report was not viable. The court also concluded that the IRS's estimate of the costs of a hypothetical in-kind partition was speculative and unsupported.

The Fifth Circuit, therefore, concluded that the Tax Court abused its discretion by determining that the IRS satisfied its burden of proof of substantial justification for its position.

In re Harvey.[10] One of the issues in this marital dissolution was whether a discount for fractional interests in real estate was appropriate. The husband owned a 100 percent interest in a dental practice that was founded by his father. The husband's father retained control over the practice's finances including the husband's compensation, and the husband also held undivided interests in rental property as well as the property housing the dental practice.

Although the husband's appraiser valued the undivided interests by applying a fractional interest discount, the trial court refused to include the discount in making its valuations. On appeal, the New Hampshire Supreme Court affirmed, finding that the husband's expert could not support his discount with "actual market evidence," and that, in any event, no New Hampshire precedent supported a fractional interest discount.

Stone v. United States.[11] The Stone estate owned a 50 percent undivided interest in 19 paintings by renowned masters, and the estate's trustees were the other owners. In its tax return, the estate applied a 44 percent discount to the fractional ownership, assessing its interest at 28 percent of the collection's fair market value (FMV), or $1.42 million. On audit, the IRS determined the FMV to be $2.77 million. The federal district court initially rejected the IRS's contention that a fractional interest discount may be applied only to real estate, and it also rejected the IRS's argument that since the trustees owned the other undivided interest, the close relationship between the parties should be considered in a determination of value. The court reasoned that this was a nonissue given that FMV is to be determined using an objective hypothetical-buyer–hypothetical-seller standard.

Accordingly, the sole issue before the court was the extent of the discount. To determine the discount, the estate engaged a business appraiser. Although admitting that he could not find comparable sales of fractional interests in art, the appraiser presented transactional data involving undivided interests in real estate and real estate holding companies. The court rejected these, finding that sales in real estate are not comparable to sales of art, which is not "fungible." The court observed that some collectors prefer to own a fractional interest in higher-valued works, despite lack of control and marketability, than a 100 percent interest in a lesser work. The court also said, "More importantly,

although there is evidence that partial interests in real estate have been sold at a discount, there is no evidence that similar sales have . . . occurred in the art market.'' The court concluded that a hypothetical willing seller would likely sell the entire body of art and split the proceeds instead of selling his/her fractional interest at a discount. Because ''one of the characteristics of an undivided interest is the right to partition,'' the court indicated that ''some discount is appropriate to allow for the uncertainties involved in waiting to sell the collection until'' a hypothetical partition action can be resolved.

Based on discussions with auctioneers of fine art, the estate's expert assumed three years of appreciation at an inflation rate of 3 percent, and sales commissions of 2 percent as well as $50,000 in legal fees and $5,000 in appraisal costs. Using these assumptions, he determined a 51 percent cost-to-partition discount. The court accepted the $50,000 in legal fees and the 2 percent in commissions, but rejected the appraisal costs. Also, although the IRS did not present its own cost-to-partition analysis, the court nonetheless rejected the estate's 51 percent discount as incongruent with the evidence presented. Ultimately, the court encouraged the parties to reach settlement on this issue, warning them that if they could not, it would conclude its own discount somewhere between the IRS's proposed 2 percent discount and the estate's 51 percent discount.

SUMMARY

Undivided interests suffer from a variety of relatively unattractive economic and ownership characteristics. These characteristics contribute to the relative lack of marketability of these ownership interests when compared with fee-simple interests. The dearth of market-based data on undivided interests is indicative of the limited and inefficient market for these ownership interests. Also, the lack of control associated with an undivided interest leaves the unsatisfied investor with one of three options:

1. Sell the ownership interest to the other co-tenants
2. Attempt to locate another willing investor
3. Conduct a potentially protracted and expensive partition lawsuit

Whichever means is selected to obtain liquidity, it is likely that the resulting transaction price will be considerably less than the pro rata value of the property in fee-simple interest.

Empirical studies and market evidence related to valuation adjustments for lack of control and lack of marketability generally are available to the analyst. This information may provide guidance in selecting appropriate valuation adjustments for undivided interests. Market transaction evidence also may be available for undivided interests. The applicability of this evidence, however, generally is limited, due to the differing characteristics that the subject undivided interests may have when compared with the undivided interests involved in the market transactions. These differences may include various transaction dates, geographic locations, and types of property, among others.

The analyst should attempt to locate transactions involving comparable undivided interests; however, the results of this exercise often are less than satisfactory. Consequently, the analyst should consider whether empirical studies and market evidence regarding other types of ownership interests are applicable to the subject undivided interest. To the

extent that the general characteristics of the securities in the empirical studies differ from undivided interests, these differences should be pointed out in the valuation report and appropriate adjustments made.

Almost without exception, a theoretical partition of the property should be considered in the analysis. A partition analysis should be based on all of the costs and proceeds associated with a partition and subsequent sale of a property. Also, an appropriate present value discount rate—consistent with the risks and investment characteristics of an undivided interest—should be quantified and applied in the analysis. Remember that capitalization rates used in the appraisals of fee-simple interests are not necessarily relevant to the analysis of an undivided interest.

The valuation of an undivided interest requires knowledge and expertise from two appraisal disciplines: asset appraisal and business valuation appraisal. The court decisions seem to indicate that litigants often rely on asset appraisal experts to value both the underlying assets and the undivided interest. The courts continue to express frustration with the lack of reasonable evidence and supportable analysis when determining the value of an undivided interest.

It is important to point out that an undivided interest is a fractional equity ownership interest and not a pro rata share of property. An undivided interest has much more in common with a minority equity position in a closely held business than with a proportional ownership interest in a real property. Consequently, asset appraisal techniques do not adequately address the economic issues of an undivided interest. Therefore, it is inappropriate to automatically assume that an asset appraiser is qualified to appraise the value of an undivided interest.

NOTES

1. *Estate of Young v. Commissioner*, 110 T.C. 297 (1998).
2. Uniform Standards of Professional Appraisal Practice, Rule 2-2 (Appraisal Foundation, 2008).
3. *Estate of Forbes v. Commissioner*, T.C. Memo 2001-72 (2001).
4. *Estate of Busch v. Commissioner,* T.C. Memo 2000-3, 79 T.C.M. (CCH) 1276 (2000).
5. *Estate of Williams v. Commissioner,* T.C. Memo 1998-59, 75 T.C.M. (CCH) 1758 (1998).
6. *Estate of Barge v. Commissioner,* T.C. Memo 1997-188, 73 T.C.M. (CCH) 2615 (1997).
7. *Shepherd v. Commissioner,* 2000 U.S. Tax Ct. LEXIS 77 115 T.C. 376 (2000), *aff'd,* 283 F.3d 1258 (11th Cir. 2002).
8. *Shepherd v. Commissioner,* 283 F.3d 1258 (11th Cir. 2002).
9. *Estate of Baird v. Commissioner,* T.C. Memo 2001-258, 2001 Tax Ct. Memo LEXIS 292, *rev'd and remanded,* 2005 U.S. App. LEXIS 13905 (5th Cir. 2005).
10. *In re Harvey,* 153 N.H. 425 (N.H. 2006).
11. *Stone v. United States,* 2007 U.S. Dist. LEXIS 38332 (N.D. Cal. 2007).

Chapter 28

Common Errors in Applying Discounts and Premiums

Using Synergistic Acquisition Premiums to Quantify Premiums for Control
Assuming That the Discounted Cash Flow Valuation Method Always Produces a Minority Value
Assuming That the Guideline Public Company Method Always Produces a Minority Value
Valuing Underlying Assets Rather Than Stock or Partnership Interests
Using Minority Interest Marketability Discount Data to Quantify Marketability Discounts for Controlling Interests
Using Only Restricted Stock Studies (and Not Pre–Initial Public Offering Studies) as Benchmark for Discounts for Lack of Marketability
Inadequate Analysis of Relevant Factors
Indiscriminate Use of Average Discounts or Premiums
Applying (or Omitting) a Premium or Discount Inappropriately for the Legal Context
Applying Discounts or Premiums to the Entire Capital Structure Rather Than Only to Equity
Quantifying Discounts or Premiums Based on Past Court Cases
Using an Asset Appraiser to Quantify Discounts or Premiums for Stock or Partnership Interests
Summary

This chapter discusses some of the most common errors in applying discounts and premiums that have been encountered repeatedly in actual practice. We hope that the chapter will provide a heads-up so that practitioners will not allow such errors to slip through in the future.

Many of the errors discussed in this chapter go unrebuttled in court testimony and thus lead to bad case decisions. We hope that this chapter will help the reviewer of an appraisal report—whether a supervisor, lawyer, judge, trustee, IRS agent or examiner, or other interested party—to identify any such errors for what they are and not allow them to be accepted by the decision maker without challenge.

USING SYNERGISTIC ACQUISITION PREMIUMS TO QUANTIFY PREMIUMS FOR CONTROL

In many cases, if not a majority, premiums paid in corporate takeover transactions include some part of the value of synergies to the buyer. If the object is to value the company on a stand-alone basis, as is the case in dissenting stockholder or corporate dissolution actions, data involving premiums for synergistic acquisitions should not form part of the basis for the control premium. Analysts can eliminate synergistic transactions by utilizing the transaction purpose codes in the *Control Premium Study* (online version at BVMarketdata.com) back from the beginning of 1998.

If fair market value is the applicable standard of value, then normally any value that reflects synergies would not be appropriate. The reason is because the synergies would be applicable to a *particular* buyer, thus resulting in *investment value,* while fair market value reflects value to a *hypothetical* buyer. The exception to this rule is in situations in which there is a *group* of prospective buyers having the same synergies with the subject, in which case they might collectively create a market, as with industries undergoing consolidation.

ASSUMING THAT THE DISCOUNTED CASH FLOW VALUATION METHOD ALWAYS PRODUCES A MINORITY VALUE

Some believe that the discounted cash flow (DCF) valuation method always results in a minority value. Thus, when seeking a control value and using a DCF valuation result as a starting point, such people would always apply a control premium. They are wrong.

The reasoning leading to the conclusion that DCF always results in a minority value is based on the fact that the discount rate used in the DCF method often is developed using Morningstar and/or Duff & Phelps data, which are based on minority interest public trading prices. While this is correct, it does *not* follow that DCF values necessarily are minority. As discussed in Chapter 2, the DCF can produce *either* a minority or a control value. *Whether the DCF result represents a minority or control value depends primarily on whether control or minority cash flows are projected in the analysis, not on the discount rate.* The discount rate varies little, or not at all, between minority and control DCF valuations. So when faced with a DCF base value, it is necessary to examine the underlying assumptions, especially the minority or control nature of the projected cash flows, to determine whether a control premium is warranted.

ASSUMING THAT THE GUIDELINE PUBLIC COMPANY METHOD ALWAYS PRODUCES A MINORITY VALUE

As detailed in Chapters 1 and 2, marketable minority interests in the public market can provide an indication of value for a private company that is below, at, or above what control buyers would be expected to pay, based on either a guideline merged and acquired company analysis, a DCF analysis, or a capitalization analysis. When the guideline public company market value is at or above control value, application of a control premium could significantly overvalue a firm. Likewise, failure to apply a discount for lack of control could overvalue a minority interest.

This is a new perspective on the meaning of public market data and where it fits as a level of value (see Exhibits 1.2, 1.3, 2.3, 2.4, and 2.5). Although it is not without controversy, professionals should be aware of and understand this perspective. Appraisers can no longer blindly apply control premiums to public market value indicators to derive control value. Nor can they safely assume that discounts for lack of control must never be applied when using guideline public companies as the base.

VALUING UNDERLYING ASSETS RATHER THAN STOCK OR PARTNERSHIP INTERESTS

Sometimes reports determine the underlying net asset value and then simply assume that the stock or partnership interest is worth a proportionate share. That is almost never the case. An intervening entity between the owner and the assets almost always leads to a lower value for the minority stock or partnership interest than for a proportional share of the assets. This is because the owner of the stock or partnership assets has no control over those assets. The entity shareowner cannot redeploy, liquidate, or hypothecate the assets. It is for this reason that discounts from net asset value usually are greater for stock or partnership interests than for individual fractional direct ownership interests in assets.

USING MINORITY INTEREST MARKETABILITY DISCOUNT DATA TO QUANTIFY MARKETABILITY DISCOUNTS FOR CONTROLLING INTERESTS

Examiners who conduct the peer reviews of reports submitted for accreditation for both the American Society of Appraisers and the Institute of Business Appraisers say that a common failure is trying to support discounts for lack of marketability for controlling interests with empirical data from observed minority interest transactions.

Extensive empirical studies are available, as detailed in this book, to help quantify discounts for lack of marketability for minority interests. However, starting with such data and somehow moving from there to a discount for lack of marketability for a controlling interest is an unacceptable leap of faith, not grounded in a logical connection. The rationale for discounts for lack of marketability for controlling interests is different from the reasons for discounts for lack of marketability for minority interests. Chapter 11 explains this difference.

USING ONLY RESTRICTED STOCK STUDIES (AND NOT PRE–INITIAL PUBLIC OFFERING STUDIES) AS BENCHMARK FOR DISCOUNTS FOR LACK OF MARKETABILITY

Even though pre-IPO studies have been available and well publicized for over a decade, some analysts only reference restricted stock studies as a benchmark for discounts for lack of marketability. Judge Carolyn Chiechi commented on the shortcoming of this limited focus in *Estate of Davis v. Commissioner:*[1]

> We agree [with the estate] and find that [the IRS's expert] should have considered the pre-valuation date price data reflected in those IPO studies because they, together with the restricted

> stock studies, would have provided a more accurate base range and starting point for determining the appropriate lack-of-marketability discount than the base range that he determined.

INADEQUATE ANALYSIS OF RELEVANT FACTORS

For every type of premium or discount addressed in this book, the discussion has included the relevant factors that bear on the validity and the magnitude of the particular discount or premium. When dealing with any premium or discount issue, it is helpful to refer to the applicable chapter to develop a check list of relevant factors to investigate and discuss.

It is amazing how many so-called experts throw out a number with little or no analysis. Courts tend to reject such unsupported conclusions.

INDISCRIMINATE USE OF AVERAGE DISCOUNTS OR PREMIUMS

As seen in the empirical data throughout this book, the dispersion observed in most categories of discounts and premiums is quite wide. Yet many appraisal reports simply apply a discount or premium based on the averages without analysis of why the discount or premium applicable to the subject should be at, above, or below the average.

When adequate data is available, the best methodology to quantify the discount or premium in the particular case is to select a subset from the data with characteristics most directly comparable to the subject and then base the amount of the discount or premium on that group rather than on the broad average of the total data. When this procedure is not feasible, then the broad average may serve as a benchmark, and a discussion of the factors affecting the subject relative to the typical factors in the broad average can support either an adjustment upward or downward from the average or else the conclusion that the average actually is applicable to the subject.

This error is especially acute in applying control premiums. If doing so using the *Control Premium Study,* the analyst should recompute the medians to include negative premiums and eliminate synergistic transactions. Even better, use average market multiples. The *Control Premium Study* gives five market value multiples for each transaction. The analyst can select the most comparable transactions and use the multiples to develop a guideline merged and acquired company method.

APPLYING (OR OMITTING) A PREMIUM OR DISCOUNT INAPPROPRIATELY FOR THE LEGAL CONTEXT

As noted in several places in the book, discounts or premiums that might be appropriate in one legal context might be disallowed in another. For example, a minority interest discount that might be clearly applicable in a valuation for tax purposes under the standard of *fair market value* might be either totally disallowed or questionable in a dissenter's appraisal rights action under some states' interpretation of the standard of *fair value.* It is important to study the legal context, especially the case law, to determine whether

there is clear direction on the applicability of any particular discount or premium being considered.

APPLYING DISCOUNTS OR PREMIUMS TO THE ENTIRE CAPITAL STRUCTURE RATHER THAN ONLY TO EQUITY

Most, if not all, of the discounts and premiums, and the empirical data to quantify them, are based on the company's common equity, not on its entire capital structure. Occasionally, someone applies a percentage discount or premium to the entire capital structure when the basis for the percentage was equity observations. This inflates the dollar amount of the discount or premium and thus incorrectly determines the value of the subject interest.

QUANTIFYING DISCOUNTS OR PREMIUMS BASED ON PAST COURT CASES

Past court cases are *not* the basis on which to quantify any of the discounts or premiums discussed in this book. Courts will not accept expert testimony on magnitudes of discounts or premiums based on other court decisions. Courts take the position that the facts and circumstances of each case are unique. They demand empirical data and/or analysis as directly relevant as possible to the specific facts and circumstances of the subject being valued in that case.

This does not mean that the analyst should not *know* what has been accepted and rejected in other cases and what factors were considered in those decisions. If the proposed discount or premium is at the extreme or outside the range of discounts or premiums previously accepted, the analyst should be on notice that it will require unusually comprehensive and convincing data and analysis to persuade the court.

USING AN ASSET APPRAISER TO QUANTIFY DISCOUNTS OR PREMIUMS FOR STOCK OR PARTNERSHIP INTERESTS

Well-qualified asset appraisers (for instance, real estate, timber) are experts in the appraisal of assets, but that expertise normally does *not* extend to appraisal of stock or partnership interests in the entities that own those assets.

In several U.S. Tax Court decisions, I believe the taxpayer was shortchanged because the lawyer engaged an asset appraiser rather than a business appraiser to analyze and testify on the issue of the discounts applicable to the stock or partnership interest.

SUMMARY

This chapter has pointed out and discussed some of the errors repeatedly encountered in practice in applying discounts and premiums. Application of a premium or discount that may be acceptable for one appraisal purpose may be unacceptable or uncertain in a valuation for some other purpose, with the guidance often found in precedential case law.

Courts like specific empirical evidence. They tend to reject discounts or premiums that are not well supported. In this respect, broad averages of highly divergent empirical data should be used only if it can be concluded that the characteristics of the subject are comparable to the average companies from which the data are drawn. Otherwise, subsets of the broad data group should be selected on the basis of characteristics comparable to the subject, or analysis should be presented to consider a discount above or below the broad average.

It is now well recognized that many ''control premiums'' are actually ''acquisition premiums'' reflecting synergistic values that may not be part of fair market value (for tax purposes) or stand-alone value (for dissent and dissolution purposes). The updated online *Control Premium Study* provides transaction codes to help sort out synergistic from financial control premiums.

Asset appraisers usually are not qualified to deal with discounts or premiums applicable to stock or partnership interests rather than directly to assets. Business appraisers are trained to deal with these issues.

NOTE

1. *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).

Appendix A

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Appendix B

Data Resources

Control Premiums/Minority Discounts
Discounts for Lack of Marketability
Discounts from Net Asset Value for Limited Partnership Interests
Discounts from Net Asset Value for REITs and REOCs
Discounts from Net Asset Value for Closed-End Investment Funds
Discount and Capitalization Rates

CONTROL PREMIUMS/MINORITY DISCOUNTS

Mergerstat/BVR Control Premium Study. Business Valuation Resources, LLC. 1000 SW Broadway, Suite 1200, Portland, OR 97205, (888) BUS-VALU [287-8258], www.bvresources.com. Available online at www.bvmarketdata.com. FactSet Mergerstat, LLC located in Santa Monica, California, publishes this study. This study is a breakthrough new Web-based tool used to quantify minority discounts and control premiums used in the business valuation, business appraisal, venture capital, and merger and acquisition (M&A) professions. Subscribers to the *Mergerstat/BVR Control Premium Study* are granted access to all of the details in the database, including the five control premiums, implied minority discount, five valuation multiples and other relevant financial data. One important benefit to the Web-based version is the instant access to ten years of back data allowing easy manipulation of the control premium and minority discount information needed. Data is organized by industry, SIC code, calendar quarter, and by individual business sale. Approximately 57 percent of the *Mergerstat/BVR Control Premium Study* represents U.S.-based companies, with the remainder being international companies. Subscribers will instantly gain access to *10 plus years* of valuable back data (1998–present). As of March 2008, the *Mergerstat/BVR Control Premium Study* contains 6,090 total transactions, with 49 percent of the deals in the database having net sales less than $100 million, and the remainder having net sales greater than $100 million.

DISCOUNTS FOR LACK OF MARKETABILITY

Emory Pre-IPO Studies. ''The Value of Marketability as Illustrated in Initial Public Offerings of Common Stock.'' John D. Emory, Sr., ASA. Emory & Co., LLC. 611 North Broadway, Suite 210, Milwaukee, WI, 53202, 414-273-9991. This is a series of studies over time and published as 10 separate articles, with most appearing in *Business Valuation Review* and the earliest in *ASA Valuation*. The most recent two article studies

were co-authored with John D. Emory Jr. and F. R. Dengel III, and published in *Shannon Pratt's Business Valuation Update*. The studies analyze prices of transactions in private company stocks that occurred within five months prior to the IPO. The tables show private transaction price, transaction type, public offering price, and discount from IPO price or premium over private transaction price (expressed as a percentage), as well as various other information. Beginning with the earliest, the time periods covered in the studies are as follows: January 1980 through June 1981; January 1985 through June 1986; August 1987 through January 1989; February 1989 through July 1990; August 1990 through January 1992; February 1992 through July 1993; January 1994 through June 1995; November 1995 through April 1997; May 1997 through March 2000; May 1997 through December 2000 (expanded study). The Emory Pre-IPO Studies are available at www.BVLibrary.com.

Valuation Advisors' Lack of Marketability Discount Study. The study was developed by Brian Pearson of Valuation Advisors, LLC (VAL), and compares the initial public offering (IPO) stock price to pre-IPO common stock, common stock option and convertible preferred stock prices. This study is a Web-based tool used to quantify lack of marketability discounts. The study includes pre-IPO transactions from 1995 to present. In addition to using the study to determine and defend your business valuation discounts, it can also be used to develop industry information for the selection of companies for use in the market-based valuation approach, and to analyze venture capital investments. This is updated monthly and available online from *Business Valuation Resources*.

Restricted Stock Studies. National Association of Certified Valuation Analysts. 1111 East Brickyard Road, Suite 200, Salt Lake City, UT 84106, 801-486-0600, www.nacva.com. This is a series of studies undertaken independent of each other, comparing private block sale prices of restricted stocks to same-day public trading prices, with the differences considered proxies for a discount for lack of marketability. Beginning with the earliest, the names of these studies and the time periods they cover are: SEC Institutional Investor Study (1966–1969); Gelman Study (1968–1970); Trout Study (1968–1972); Moroney Study (1968–1972); Maher Study (1969–1973); Standard Research Consultants Study (1978–1982); Silber Study (1981–1988); FMV Opinions Study (1979–1992); Management Planning Study (1980–1996); Johnson Study (1991–1995); and Columbia Financial Advisors Study (1996–1998).

The FMV Restricted Stock Study. The study contains detailed information used to quantify marketability discounts in the business valuation, business appraisal, venture capital, and the merger and acquisition professions. It contains 55 data fields for each of its 475 transactions. Available from Business Valuation Resources, LLC, 1000 SW Broadway, Suite 1200, Portland, OR 97205; (888) BUS-VALU [287-8258], fax: (503) 291-7955. www.BVResources.com.

LiquiStat Database. Pluris Valuation Advisors LLC. 17 Battery Place, Suite 1343, New York, NY 10004. 212-248-4500. The LiquiStat database, a study by Espen Robak at Pluris Valuation Advisors LLC, is a continuously updated database of transactions in the secondary market for illiquid securities. Different from other studies, the LiquiStat database specializes in the analysis of discounts taken when investors not affiliated with the issuing company sell restricted stock in private transactions to other investors. The LiquiStat database is available at www.PlurisValuation.com.

DISCOUNTS FROM NET ASSET VALUE FOR LIMITED PARTNERSHIP INTERESTS

Comprehensive Guide for the Valuation of Family Limited Partnerships, 3rd edition. Partnership Profiles, Inc. P.O. Box 7938, Dallas, TX, 75209, 800-634-4614. This book offers empirical support for valuing minority interests in family limited partnerships. Based on eight years' worth of partnership secondary market data collected by Partnership Profiles, this book's key premise is that discounts from net asset value are the result of the rate of return sought by an investor. The authors develop a methodology of deriving a risk premium to use in building up discount rates for real estate entities using REIT and publicly held real estate partnership return data. The book also includes all of the historical Partnership Profiles discount studies since 1992, the authors' articles on FLP valuation and the most important court decisions regarding FLP valuations reprinted from www.BVLibrary.com. This 200+ page book is a step-by-step guide that illustrates how to use closed-end fund and public limited partnership data to value privately held FLP interests. It is a comprehensive compilation of research that demonstrates the use of the Income and Market Approach for FLP appraisals involving real estate, marketable securities, and oil and gas interests. The third edition includes the results of a new study on how much of a discount for marketability is imbedded in public limited partnership data, as well as two new studies on how to objectively support a discount for lack of marketability.

Partnership Re-Sale Discount Study. Partnership Profiles, Inc. P.O. Box 7938, Dallas, TX 75209, 800-634-4614, www.partnershipprofiles.com. The *Re-Sale Discount Study* has been replaced with a new report called the *Executive Summary Report*. This report is not available for order separately, but it is included with an annual subscription to the database. This complete package includes Executive Summary Report on Partnership Re-Sale Discounts, Detailed Partnership Data, PartnerDisc, and Partnership Profiles Minority Interest Discount Database. The *Partnership Re-Sale Discounts* report provides a detailed analysis of the current state of price-to-value discounts based on the prices at which minority interests in real estate partnerships traded in the secondary market, together with a historical look at discounts. This summary reports price-to-value discounts for each partnership included in the survey as well as average price-to-value discounts for the entire group of partnerships and based upon five categories including: (i) Equity—Distributing (low to no debt); (ii) Equity—Distributing (moderate to high debt); (iii) Equity—Non-Distributing; (iv) Undeveloped Land; and (v) Triple-Net-Lease.

Minority Interest Discount Database. Partnership Profiles, Inc. P.O. Box 7938, Dallas, TX 75209, 800-634-4614, www.partnershipprofiles.com. Available online. This online database can be queried from your desktop to identify detailed limited partnership data on over 325 publicly held limited partnerships. In this latest edition, it has added new partnerships and updated prices and historical financial data on actively traded limited partnership interests. This is a software database for business valuation professionals, real estate appraisers, and CPAs who need empirical data to support minority interest discounts when valuing family limited partnerships and other fractional interests involving real estate. This database includes data compiled since 1994 in connection with Partnership Profiles' annual *Partnership Re-Sale Discount Studies*. The software program includes an interface allowing appraisers to select the attributes that are comparable to

the FLP or other minority interest being valued, and the database will locate and display those partnerships that match the chosen criteria. The partnership information can be downloaded into a spreadsheet for further analysis.

The Direct Investment Spectrum. Partnership Profiles, Inc. P.O. Box 225, Argyle, TX 76226, 800-634-4614. Published bimonthly, available in print. The *Direct Investments Spectrum* covers the investment arena consisting of nonlisted real estate investments trusts (REITs), limited partnerships, limited liability companies (LLCs), and other direct investment programs. While most of these investment programs are publicly held and registered with the Securities and Exchange Commission (SEC), they are not listed for trading on any recognized securities exchange. These investments are offered through NASD-registered securities brokerage firms. The *Spectrum* covers prospective offerings, current offerings, and programs that have completed their offering(s). The *Spectrum* also reports the prices at which interests in these programs have traded in the informal Secondary Market.

DISCOUNTS FROM NET ASSET VALUE FOR REITs AND REOCs

NAREIT Industry Data & Performance. National Association of Real Estate Investment Trusts (NAREIT). 1875 Eye Street, N.W., Suite 600, Washington D.C. 20006, 800-3-NAREIT, www.reit.com. NAREIT provides investors and real estate professionals with a library of current and historical data, including performance returns for the U.S. and global markets, dividend yields, market capitalizations, leverage ratios, and much more. This is a comprehensive resource for insight into the Real Estate Investment Trust (REIT), Real Estate Operating Company (REOC), and publicly traded real estate industry, providing a broad range of relevant data, including an overall industry profile, securities offerings information, and performance statistics.

Realty Stock Review. REIT Zone Publications, LLC. www.reitzone.net. Published semimonthly, available in print and online. Publishes data on REITs and REOCs (Real Estate Operating Companies) including estimated adjusted net asset values from investment analysts, benchmark returns such as from Morgan Stanley REIT Index, NAREIT Index, and the Wilshire Real Estate Securities Index. This publication also presents side-by-side analysis of more than 100 REITs and REOCs compared to one another on more than 12 variables, including price, net asset value (NAV), premium/discount, debt, dividend, market capitalization, total return, and more. Types of property in the study range include apartments, factory outlet centers, office, industrial, self-storage, and more.

DISCOUNTS FROM NET ASSET VALUE FOR CLOSED-END INVESTMENT FUNDS

Barron's Quarterly Closed End Funds. Dow Jones & Company, Inc. 200 Liberty Street, 9th Floor, New York, NY 10281, (212) 416-2000, www.barrons.com. Available online. For the closed-end funds the following data are offered: ticker, objective, reported asset value, NAV, market price, premium/discount, 52-week average premium/discount,

annualized market returns for the quarter, year, 3, 5, and 10-year, 1-year NAV return, dividend yield, expense ratio, phone number, and manager. Barron's online also offers comprehensive weekly mutual fund data, in the format formerly employed in the printed edition. The funds in these listings have at least 1,000 shareholders or $25 million in assets.

Wall Street Journal Market Data Center. Dow Jones & Company, Inc. 200 Liberty Street, New York, NY 10281, 800-JOURNAL, www.wsj.com. Published daily, available in print and online. Offers data on closed-end funds trading on the AMEX, NASDAQ, NYSE, and NASDAQ small cap. The data includes yield change, 52-week low and high, dividend, yield, volume, close, and net change.

The Investor's Guide to Closed-End Funds. Thomas J. Herzfeld Advisors, Inc. P.O. Box 161465, Miami, FL 33116, 305-271-1900, www.herzfeldresearch.com. This is a monthly research report containing trading recommendations on all closed-end funds in every issue. The report also contains commentary by Thomas J. Herzfeld, closed-end fund announcements, dividends, and published managed portfolios showing the actual results of investment programs available to subscribers.

DISCOUNT AND CAPITALIZATION RATES

Morningstar. Product sales and support (312) 384-4000, Global Headquarters 225 West Wacker Drive, Chicago, IL 60606; (312) 696-6000. www.morningstar.com. Morningstar acquired Ibbotson Associates in 2006.

Stocks, Bonds, Bills, and Inflation Classic Edition Yearbook is published annually in March. Available in print. Provides historical data on U.S. asset classes. Gives a comprehensive, historical view of the performance of capital markets dating back to 1926. Contains total returns and index values for large- and small-company stocks, long-term corporate bonds, long- and intermediate-term government bonds, Treasury bills, and inflation. Optional reports supplement the yearbook on a monthly, quarterly, or semiannual basis.

Stocks, Bonds, Bills, and Inflation Valuation Edition Yearbook is published annually in March. Available in print. Complete with real-world examples and useful graphs to illustrate the analyses to help readers make decisions in cost-of-capital estimates. Contains an overview and comparison of the build-up method, Capital Asset Pricing Model, Fama-French 3-factor model, and discounted cash flow approach. Quarterly subscribers receive the yearbook plus three quarterly reports featuring updated industry risk premia for use in the build-up method.

Cost of Capital Yearbook is published annually in June plus three quarterly updates in print. Contains valuable information and data on over 300 different industries, based on Standard Industrial Classification (SIC) code. Four separate company size designations based on equity capitalization are used. Detailed statistics for sales, profitability, capitalization, beta, multiples, ratios, equity returns, capital structure, and five separate measures of cost of equity and weighted average cost of capital.

Beta Book is published semiannually in February and July. Available in print. Includes statistics on more than 5,000 companies that are essential for calculating cost of equity with the Capital Asset Pricing Model and Fama-French 3-factor model. Traditional 60-month levered and unlevered beta calculations using CAPM regressions are presented.

Duff & Phelps, LLC, Risk Premium Report can be a useful tool for estimating the cost of equity capital. One data set allows the user to estimate the cost of equity using a build-up method. Another data set provides corrections to the textbook CAPM estimate of cost of equity capital for the size effect. Available through Morningstar (www.morningstar.com) and Business Valuation Resources (www.BVResources.com). For more information contact Roger Grabowski, Managing Director, Duff & Phelps, LLC, at (312) 697-4720.

Appraiser News Online—Economic Indicators. The Appraisal Institute. 550 W. Van Buren Street, Suite 1000, Chicago, IL 60607, 312-335-4100, www.appraisalinstitute.org. This is a source of equity yield rates for real property investments. The monthly Economic Indicators provide a continuous monitor of the economy and real estate markets by providing economic data from a variety of government websites. The monthly indicators include market rates and bond yields, disposable income data, housing data, unemployment rates, and other benchmarks. These indicators are published in the Appraisal Institute's quarterly magazine, *Valuation*, as well as the twice-monthly e-mail newsletter *Appraiser News Online.*

Korpacz Real Estate Investor Survey. PricewaterhouseCoopers, LLP, (973) 236-4830, www.pwcreval.com. Published quarterly, available in print and online. This report is a source of equity yield rates for real-property investments. These quarterly indicators feature the discount rate, overall cap rate, and residual cap rate for the following building types: Regional Mall, CBD Office, Warehouse, and Apartment. Also available to Appraisal Institute members through login.

RERC Real Estate Report. Real Estate Research Corporation. 980 North Michigan Avenue, Suite 1110, Chicago, IL 60611, 312-587-1800, www.rerc.com. This publication is a source of equity rates for real-property investments. The quarterly RERC Real Estate Report offers various investment criteria including required going-in and terminal capitalization rates, pretax yield rates, and other data for 10 property types on a national and regional level, as well as for 40 major metropolitan markets.

Appendix C

How Much Can Marketability Affect Security Values?

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Abstract

How marketability affects security prices is one of the most important issues in finance. We derive a simple analytical upper bound on the value of marketability using option-pricing theory. We show that discounts for lack of marketability can potentially be large even when the illiquidity period is very short. This analysis also provides a benchmark for assessing the potential costs of exchange rules and regulatory requirements restricting the ability of investors to trade when desired. Furthermore, these results provide new insights into the relation between discounts for lack of marketability and the length of the marketability restriction.

The issue of how marketability affects the value of securities is of fundamental importance in finance. This has been dramatically illustrated by the recent collapse of several well-known financial institutions that were unable to sell investment assets quickly enough to meet unexpected cash flow needs. This issue has also become increasingly important to regulators, rating agencies, security exchanges, auditors, and institutional investors.

There are many situations in which the marketability of a security may be restricted. For example, when an investor lends securities under a reverse repurchase agreement, the investor foregoes the right to sell the securities until they are returned—a lesson painfully learned by Orange County. For many investors, the marketability of initial public offering (IPO) shares can be temporarily restricted. This is because underwriters often pressure investors who are allocated shares in an IPO to refrain from flipping or immediately reselling the shares. This implicit restriction on marketability may explain a portion of the underpricing of IPOs. Another example is letter stock. This is stock issued by firms under SEC Rule 144 that cannot be sold by an investor for a two-year period after it is acquired. As shown by Silber (1992), letter stock is typically placed privately at 30 to 35 percent discounts to the value of otherwise identical unrestricted stock.

*The Anderson Graduate School of Management, UCLA. I am grateful for the comments of Michael Brennan, Julian Franks, Mark Grinblatt, Eduardo Schwartz, Jean-Luc Vila, and Pradeep Yadav and seminar participants at the American Stock Exchange (AMEX) Options Colloquium, Case Western Reserve University, the London School of Business, McGill University, the University of Strathclyde, the University of Toronto, and the University of Vienna. I am particularly grateful for the comments and suggestions of René Stulz and an anonymous referee. All errors are my responsibility.

This article presents a simple analytical upper bound on the value of marketability. The intuition behind these results can best be conveyed by considering a hypothetical investor with perfect market timing ability who is restricted from selling a security for T periods. If the marketability restriction were to be relaxed, the investor could then sell when the price of the security reached its maximum. Thus, if the marketability restriction were relaxed, the incremental cash flow to the investor would essentially be the same as if he swapped the time-T value of the security for the maximum price attained by the security. The present value of this lookback or liquidity swap represents the value of marketability for this hypothetical investor, and provides an upper bound for any actual investor with imperfect market timing ability.

This analysis provides a number of new insights about how marketability restrictions affect security values. First, we show that discounts for lack of marketability can be large even when the length of the marketability restriction is very short. Second, the upper bound provides a benchmark for estimating the valuation effects of marketability restrictions such as circuit breakers, trading halts, and prohibitions on program trading. Finally, these results allow us to assess directly whether empirical estimates of discounts for lack of marketability are consistent with rational market pricing.

I. THE FRAMEWORK

We first describe the framework in which we derive the upper bound on the value of marketability. An important advantage of this framework is that we do not need to make all of the assumptions about informational asymmetries, investor preferences, etc. that would be required in a full general equilibrium model. The cost of this, of course, is that we only obtain bounds, rather than an explicit model of the value of marketability.[1] To make the intuition more clear, we focus on the simplest possible framework in this section. This framework, however, could clearly be extended to provide tighter upper bounds.

Let V denote the current or time-zero value of a security that is continuously traded in a frictionless market. We assume that the equilibrium dynamics of V are given by the stochastic process

$$dV = \mu V dt + \sigma V dZ, \tag{1}$$

where μ and σ are constants and Z is a standard Wiener process. We also assume that the riskless interest rate r is constant.

Consider a hypothetical investor who holds the security in his portfolio, but is restricted from selling the security prior to some fixed time T. The value of this security to this investor equals the present value of a cash flow of V_T to be received at time T.[2] Now assume that this investor has perfect market timing ability that would allow him to sell the security and reinvest the proceeds in the riskless asset at the time τ that maximizes the value of his portfolio. Let M_T denote the time-T payoff to this investor if the sale could be timed optimally, where $M_T = \max_{0 \le \tau \le T}(e^r(T - \tau)V_\tau)$. As long as the investor cannot sell the security prior to time T, however, he cannot benefit from having perfect market timing ability.

This marketability restriction imposes an important opportunity cost on this hypothetical investor since the security position is only worth V_T to the investor at time T if he is restricted from selling, but would be worth M_T if he were allowed to sell earlier.[3] Thus, using a standard dominance or no-arbitrage argument, the value of marketability to an

investor with perfect market timing ability is simply the present value of the incremental cash flow $M_T - V_T$ that the investor would receive if the marketability restriction were relaxed. Clearly, the value of marketability would be less for an actual investor with imperfect market timing ability. Thus, the present value of the incremental cash flow $M_T - V_T$ represents an upper bound on the value of marketability.[4]

This incremental cash flow $M_T - V_T$ can also be viewed as the payoff from an option on the maximum value (including interest from reinvesting the sale proceeds) of the security M_T, where the strike price of the option V_T is stochastic. Since $M_T \leq V_T$, this lookback option will always be in the money at expiration. Hence, $\max(0, M_T - V_T) = M_T - V_T$. Alternatively, the cash flow $M_T - V_T$ can be viewed as the payoff of a liquidity swap in which V_T is swapped for M_T at time T.

II. THE UPPER BOUND

The present value of $M_T - V_T$ can be determined using standard risk-neutral valuation techniques familiar from option-pricing theory. Let $F(V, T)$ denote the present value of $M_T - V_T$. This present value equals

$$F(V,\ T) = e^{-rT}E[M_T] = e^{-rT}E[V_T], \tag{2}$$

where the expectation is taken with respect to the risk-neutral dynamics for V. Using the well-known density function for the maximum of a Brownian motion process in Harrison (1985), the expectations in equation (2) can be evaluated directly to give the following closed-form solution for the upper bound,

$$F(V,\ T) = V\left(2 + \frac{\sigma^2 T}{2}\right)N\left(\frac{\sqrt{\sigma^2 T}}{2}\right) + V\sqrt{\frac{\sigma^2 T}{2\pi}}\exp\left(-\frac{\sigma^2 T}{8}\right) - V, \tag{3}$$

where $N(\cdot)$ is the cumulative normal distribution function.[5]

The upper bound $F(V, T)$ is proportional to the current value of the security V. Thus, bounds on the value of marketability, or equivalently, bounds on the size of the discount for lack of marketability, can easily be expressed as a percentage of the value of V. It is readily shown that the upper bound is an increasing function of length of the marketability restriction T. In addition, the upper bound is an increasing function of the variance of returns σ^2. This is intuitive, since the more volatile the price of the security, the higher is the opportunity cost of not being able to trade. Taking the limit of $F(V, T)$ shows that the upper bound converges smoothly to zero as $T \to 0$.

This upper bound represents the largest discount for lack of marketability that could be sustained in a market with rational investors. If illiquid securities could be acquired at prices less than $F(V,T)$ below those of otherwise identical liquid securities, then arbitrage profits could potentially be achieved by holding nonmarketable securities and synthesizing marketability using derivatives.

This upper bound is illustrated in Table I, which reports the percentage upper bounds for values of σ^2 comparable to those for 6-month, 1-year, and 2-year Treasury securities. The percentage bounds for a 1-day nonmarketability period range from 0.053 to 0.210. The percentage bounds for a 5-day nonmarketability period are only about twice as large. This shows that the per-unit-time-period effect of illiquidity is largest for relatively small values of T. These results have important implications for the overnight and term repo

Table I Upper Bounds for Percentage Discounts for Lack of Marketability

The standard deviations $\sigma = 0.0125,\ 0.0250,$ and 0.0500 correspond to the approximate historic standard deviations of returns for 6 month, 1-year, and 2-year Treasury securities.

Marketability Restriction Period	$\sigma = 0.0125$	$\sigma = 0.0250$	$\sigma = 0.0500$
1 Day	0.053	0.105	0.210
5 Days	0.118	0.235	0.471
10 Days	0.166	0.333	0.667
20 Days	0.235	0.471	0.944
30 Days	0.288	0.577	1.157
60 Days	0.408	0.817	1.639
90 Days	0.500	1.001	2.010

markets, since the difference between the general and special collateral rates should reflect the value of the marketability foregone by lending the security.

Figure 1 graphs the upper bound as a function of the nonmarketability period for values of σ ranging from 0.10 to 0.30. This range of volatility is consistent with typical stock return volatilities. As shown, the upper bound is an increasing concave function of the length of the marketability restriction. In addition, Figure 1 shows that discounts for lack of marketability can be very large even when the duration of restricted marketability is fairly short. This can also be seen in Table II, which reports numerical values for the percentage upper bound using the same range of volatilities. Table II shows that the upper bound ranges from 0.421 to 1.268 percent for a 1-day marketability restriction. The upper bound ranges from 1.337 to 4.052 percent for a 10-day marketability restriction.

Figure 1 Upper Bounds for Percentage Discounts for Lack of Marketability Graphed as a Function of the Length of the Marketability Restriction Period Measured in Days and for Varying Values of the Standard Deviation of Returns Denoted as Sigma

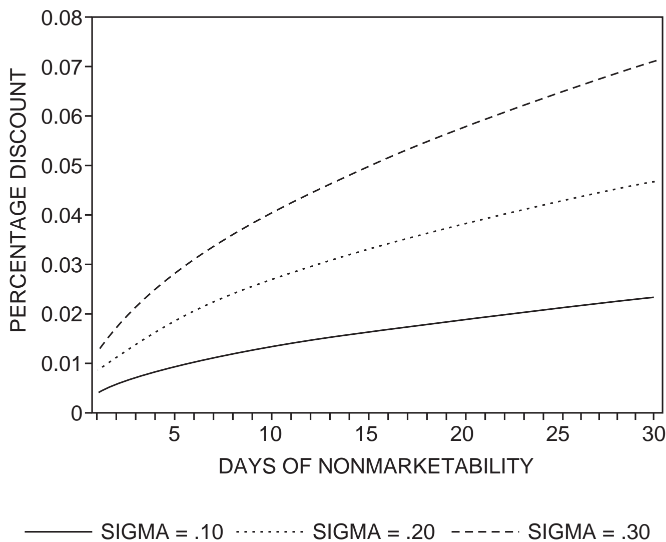


Table II Upper Bounds for Percentage Discounts for Lack of Marketability
(The standard deviations correspond to the range typically observed for equity securities.)

Marketability Restriction Period	$\sigma = 0.10$	$\sigma = 0.20$	$\sigma = 0.30$
1 Day	0.421	0.844	1.268
5 Days	0.944	1.894	2.852
10 Days	1.337	2.688	4.052
20 Days	1.894	3.817	5.768
30 Days	2.324	4.691	7.100
60 Days	3.299	6.683	10.153
90 Days	4.052	8.232	12.542
180 Days	5.768	11.793	18.082
1 Year	8.232	16.984	26.276
1 Years	11.793	24.643	38.605
5 Years	19.128	40.979	65.772

The magnitude of the upper bounds for restriction periods measured in days or weeks has important implications for equity markets, since there are many situations in which the marketability of shares is restricted for a short period of time. For example, IPO underwriters often allocate shares to investors with the implicit understanding that the shares will not be flipped or immediately resold in the aftermarket. Investors who violate this implicit understanding may be less likely to receive allocations in attractive future IPOs. This implicit restriction on marketability may only last for a few days or weeks, during which time the underwriter may engage in market stabilization efforts. Our results suggest that the cost to the investor of the temporary restriction on selling IPO shares could be fairly substantial given the fact that the volatility of returns may be particularly high during this period.

These results also provide some measure of the potential cost to investors of imposing market restrictions such as circuit breakers, trading halts, or prohibitions against program trading. Table II suggests that the potential cost of these restrictions could again be very sizable. An important implication of this is that prices of securities in markets where liquidity may be interrupted could be substantially lower than they otherwise might be because of the expected costs of nonmarketability. Our analysis provides a framework for evaluating the potential costs of different forms of exchange and regulatory requirements.

The upper bound can also be viewed as the maximum amount that any investor would be willing to pay in order to obtain immediacy in liquidating a security position. Thus, this upper bound provides an endogenous measure of the largest possible bid-ask spread or transaction cost for a security. In contrast, previous research on the valuation of illiquid securities by Amihud and Mendelson (1986) and Boudoukh and Whitelaw (1993) and on the valuation of securities in the presence of transaction costs by Constantinides (1986) and Vayanos and Vila (1992) takes the bid-ask spread or transaction costs for the security to be exogenous.

III. A COMPARISON

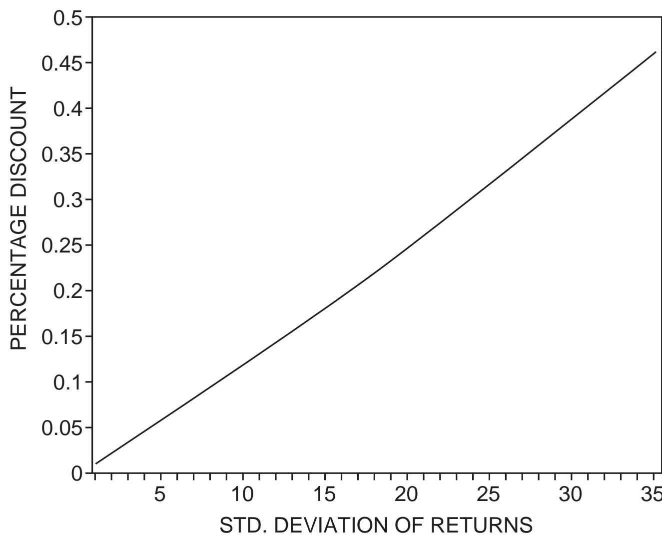
It is also interesting to compare the upper bound to empirical estimates of discounts for lack of marketability. In particular, much of the empirical evidence about discounts for

lack of marketability focuses on the pricing of SEC Rule 144 restricted stock. This is stock issued by a firm that is not registered for public trading, but is otherwise identical to publicly traded stock. The primary limitation of Rule 144 stock is that the recipient cannot sell the shares for a two-year period. After two years, the shares become marketable, subject to several minor trading-volume limitations. Restricted shares are typically issued by firms via private placements instead of the usual public offering mechanism. By comparing the price at which the restricted stock is privately placed to the market price for the firm's registered shares, the discount for lack of marketability can be directly measured.

Pratt (1989) summarizes the evidence from eight separate studies of restricted stock. The median percentage discount found in these studies is approximately 35 to 40 percent. This range is fairly consistent across all of the studies summarized by Pratt. This range is also consistent with the results of a recent study by Silber (1992) who finds that the mean discount for lack of marketability is 34 percent in a sample of private placements of stock during the 1981 to 1988 period.

In order to make comparisons, Figure 2 graphs the percentage upper bound on the discount for lack of marketability for a wide range of volatilities. Assuming that the average standard deviation of returns for the firms studied by Pratt (1989) and Silber (1992) is in the range of 0.25 to 0.35, Figure 2 suggests that empirical estimates of the discount for lack of marketability closely approximate the upper bound. In one sense, this is a surprising finding since the upper bound was derived from the perspective of a theoretical investor with perfect market timing ability. These results, however, suggest that the upper bound may actually be a tight bound. Thus, the analytical results in this article may

Figure 2 Upper Bounds for Percentage Discounts for Lack of Marketability Graphed as a Function of the Standard Deviations of Returns. The Length of the Marketability Restriction Period Is Two Years, Corresponding to the Length of the Marketability Restriction for Letter Stock.



actually provide useful approximations of the value of marketability, rather than just serving as an upper bound.

IV. CONCLUSION

This article provides a first step toward developing a practical model for valuing liquidity in financial markets. The results of this analysis can be used to provide rough order-of-magnitude estimates of the valuation effects of different types of marketability restrictions. In fact, the empirical evidence suggests that the upper bound may actually be a close approximation to observed discounts for lack of marketability. More importantly, however, these results illustrate that option-pricing techniques can be useful in understanding liquidity in financial markets and that liquidity derivatives have potential as tools for managing and controlling the risk of illiquidity.

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NOTES

1. Mayers (1972, 1973, 1976), Brito (1977), Stapleton and Subrahmanyam (1979), and Boudoukh and Whitelaw (1993) present general equilibrium models of the returns on nonmarketable assets.

Their results suggest that the size of the equilibrium discount for lack of marketability depends critically on how closely the optimal strategy approximates the buy-and-hold strategy.

2. Observe that nonmarketability is investor-specific rather than security-specific in this framework. This differs from the equilibrium models presented in Amihud and Mendelson (1986) and Boudoukh and Whitelaw (1993). Since the other investors in this market are unrestricted, derivative claims on V can be priced using standard no-arbitrage arguments.
3. Note that M_T will generally be higher than the maximum value reached by the underlying asset price since it includes interest from reinvesting the proceeds of the sale.
4. We are implicitly making the standard no-arbitrage assumption that the price V of the underlying asset is exogenous and is not affected by whether this hypothetical investor is restricted or not.
5. The first term in equation (2) equals e^{-rT} times e^{rT} times the expected maximum of the discounted process $e^{-rt}V_t$. This discounted process is a martingale with respect to the risk-neutral dynamics for V.

Appendix D

Internal Revenue Service Revenue Ruling 77-287

1977-2 C.B. 319; 1977 IRB LEXIS 258; REV. RUL. 77-287
July, 1977
Valuation of securities restricted from immediate resale. Guidelines are set forth for the valuation, for Federal tax purposes, of securities that cannot be immediately resold because they are restricted from resale pursuant to Federal securities laws; Rev. Rul. 59-60 amplified.

SECTION 1. PURPOSE

The purpose of this Revenue Ruling is to amplify *Rev. Rul. 59-60, 1959-1 C.B. 237,* as modified by *Rev. Rul. 65-193, 1965-2 C.B. 370,* and to provide information and guidance to taxpayers, Internal Revenue Service personnel, and others concerned with the valuation, for Federal tax purposes, of securities that cannot be immediately resold because they are restricted from resale pursuant to Federal securities laws. This guidance is applicable only in cases where it is not inconsistent with valuation requirements of the Internal Revenue Code of 1954 or the regulations thereunder. Further, this ruling does not establish the time at which property shall be valued.

SEC. 2. NATURE OF THE PROBLEM

It frequently becomes necessary to establish the fair market value of stock that has not been registered for public trading when the issuing company has stock of the same class that is actively traded in one or more securities markets. The problem is to determine the difference in fair market value between the registered shares that are actively traded and the unregistered shares. This problem is often encountered in estate and gift tax cases. However, it is sometimes encountered when unregistered shares are issued in exchange for assets or the stock of an acquired company.

SEC. 3. BACKGROUND AND DEFINITIONS

.01 The Service outlined and reviewed in general the approach, methods, and factors to be considered in valuing shares of closely held corporate stock for estate and gift tax purposes in *Rev. Rul. 59-60,* as modified by *Rev. Rul. 65-193.* The provisions of *Rev. Rul. 59-60,* as modified, were extended to the valuation of corporate securities for income and other tax purposes by *Rev. Rul. 68-609, 1968-2 C.B. 327.*

.02 There are several terms currently in use in the securities industry that denote restrictions imposed on the resale and transfer of certain securities. The term frequently used to describe these securities is "restricted securities," but they are sometimes referred to as "unregistered securities," "investment letter stock," "control stock," or

''private placement stock.'' Frequently these terms are used interchangeably. They all indicate that these particular securities cannot lawfully be distributed to the general public until a registration statement relating to the corporation underlying the securities has been filed, and has also become effective under the rules promulgated and enforced by the United States Securities & Exchange Commission (SEC) pursuant to the Federal securities laws. The following represents a more refined definition of each of the following terms along with two other terms—''exempted securities'' and ''exempted transactions.''

(a) The term ''restricted securities'' is defined in Rule 144 adopted by the SEC as ''securities acquired directly or indirectly from the issuer thereof, or from an affiliate of such issuer, in a transaction or chain of transactions not involving any public offering.''

(b) The term ''unregistered securities'' refers to those securities with respect to which a registration statement, providing full disclosure by the issuing corporation, has not been filed with the SEC pursuant to the Securities Act of 1933. The registration statement is a condition precedent to a public distribution of securities in interstate commerce and is aimed at providing the prospective investor with a factual basis for sound judgment in making investment decisions.

(c) The terms ''investment letter stock'' and ''letter stock'' denote shares of stock that have been issued by a corporation without the benefit of filing a registration statement with the SEC. Such stock is subject to resale and transfer restrictions set forth in a letter agreement requested by the issuer and signed by the buyer of the stock when the stock is delivered. Such stock may be found in the hands of either individual investors or institutional investors.

(d) The term ''control stock'' indicates that the shares of stock have been held or are being held by an officer, director, or other person close to the management of the corporation. These persons are subject to certain requirements pursuant to SEC rules upon resale of shares they own in such corporations.

(e) The term ''private placement stock'' indicates that the stock has been placed with an institution or other investor who will presumably hold it for a long period and ultimately arrange to have the stock registered if it is to be offered to the general public. Such stock may or may not be subject to a letter agreement. Private placements of stock are exempted from the registration and prospectus provisions of the Securities Act of 1933.

(f) The term ''exempted securities'' refers to those classes of securities that are expressly excluded from the registration provisions of the Securities Act of 1933 and the distribution provisions of the Securities Exchange Act of 1934.

(g) The term ''exempted transactions'' refers to certain sales or distributions of securities that do not involve a public offering and are excluded from the registration and prospectus provisions of the Securities Act of 1933 and distribution provisions of the Securities Exchange Act of 1934. The exempted status makes it unnecessary for issuers of securities to go through the registration process.

SEC. 4. SECURITIES INDUSTRY PRACTICE IN VALUING RESTRICTED SECURITIES

.01 Investment Company Valuation Practices. The Investment Company Act of 1940 requires open-end investment companies to publish the valuation of their portfolio securities daily. Some of these companies have portfolios containing restricted securities, but also

have unrestricted securities of the same class traded on a securities exchange. In recent years the number of restricted securities in such portfolios has increased. The following methods have been used by investment companies in the valuation of such restricted securities:

(a) Current market price of the unrestricted stock less a constant percentage discount based on purchase discount;

(b) Current market price of unrestricted stock less a constant percentage discount different from purchase discount;

(c) Current market price of the unrestricted stock less a discount amortized over a fixed period;

(d) Current market price of the unrestricted stock; and

(e) Cost of the restricted stock until it is registered.

The SEC ruled in its Investment Company Act Release No. 5847, dated October 21, 1969, that there can be no automatic formula by which an investment company can value the restricted securities in its portfolios. Rather, the SEC has determined that it is the responsibility of the board of directors of the particular investment company to determine the "fair value" of each issue of restricted securities in good faith.

.02 Institutional Investors Study. Pursuant to Congressional direction, the SEC undertook an analysis of the purchases, sales, and holding of securities by financial institutions, in order to determine the effect of institutional activity upon the securities market. The study report was published in eight volumes in March 1971. The fifth volume provides an analysis of restricted securities and deals with such items as the characteristics of the restricted securities purchasers and issuers, the size of transactions (dollars and shares), the marketability discounts on different trading markets, and the resale provisions. This research project provides some guidance for measuring the discount in that it contains information, based on the actual experience of the marketplace, showing that, during the period surveyed (January 1, 1966, through June 30, 1969), the amount of discount allowed for restricted securities from the trading price of the unrestricted securities was generally related to the following four factors.

(a) Earnings. Earnings and sales consistently have a significant influence on the size of restricted securities discounts according to the study. Earnings played the major part in establishing the ultimate discounts at which these stocks were sold from the current market price. Apparently earnings patterns, rather than sales patterns, determine the degree of risk of an investment.

(b) Sales. The dollar amount of sales of issuers' securities also has a major influence on the amount of discount at which restricted securities sell from the current market price. The results of the study generally indicate that the companies with the lowest dollar amount of sales during the test period accounted for most of the transactions involving the highest discount rates, while they accounted for only a small portion of all transactions involving the lowest discount rates.

(c) Trading Market. The market in which publicly held securities are traded also reflects variances in the amount of discount that is applied to restricted securities purchases. According to the study, discount rates were greatest on restricted stocks with unrestricted counterparts traded over-the-counter, followed by those with unrestricted counterparts listed on the American Stock Exchange, while the discount rates for those stocks with unrestricted counterparts listed on the New York Stock Exchange were the smallest.

(d) Resale Agreement Provisions. Resale agreement provisions often affect the size of the discount. The discount from the market price provides the main incentive for a potential buyer to acquire restricted securities. In judging the opportunity cost of freezing funds, the purchaser is analyzing two separate factors. The first factor is the risk that underlying value of the stock will change in a way that, absent the restrictive provisions, would have prompted a decision to sell. The second factor is the risk that the contemplated means of legally disposing of the stock may not materialize. From the seller's point of view, a discount is justified where the seller is relieved of the expenses of registration and public distribution, as well as of the risk that the market will adversely change before the offering is completed. The ultimate agreement between buyer and seller is a reflection of these and other considerations. Relative bargaining strengths of the parties to the agreement are major considerations that influence the resale terms and consequently the size of discounts in restricted securities transactions. Certain provisions are often found in agreements between buyers and sellers that affect the size of discounts at which restricted stocks are sold. Several such provisions follow, all of which, other than number (3), would tend to reduce the size of the discount:

(1) A provision giving the buyer an option to ''piggyback,'' that is, to register restricted stock with the next registration statement, if any, filed by the issuer with the SEC;

(2) A provision giving the buyer an option to require registration at the seller's expense;

(3) A provision giving the buyer an option to require registration, but only at the buyer's own expense;

(4) A provision giving the buyer a right to receive continuous disclosure of information about the issuer from the seller;

(5) A provision giving the buyer a right to select one or more directors of the issuer;

(6) A provision giving the buyer an option to purchase additional shares of the issuer's stock; and

(7) A provision giving the buyer the right to have a greater voice in operations of the issuer if the issuer does not meet previously agreed upon operating standards.

Institutional buyers can and often do obtain many of these rights and options from the sellers of restricted securities, and naturally, the more rights the buyer can acquire, the lower the buyer's risk is going to be, thereby reducing the buyer's discount as well. Smaller buyers may not be able to negotiate the large discounts or the rights and options that volume buyers are able to negotiate.

.03 Summary. A variety of methods have been used by the securities industry to value restricted securities. The SEC rejects all automatic or mechanical solutions to the valuation of restricted securities, and prefers, in the case of the valuation of investment company portfolio stocks, to rely upon good faith valuations by the board of directors of each company. The study made by the SEC found that restricted securities generally are issued at a discount from the market value of freely tradable securities.

SEC. 5. FACTS AND CIRCUMSTANCES MATERIAL TO VALUATION OF RESTRICTED SECURITIES

.01 Frequently, a company has a class of stock that cannot be traded publicly. The reason such stock cannot be traded may arise from the securities statutes, as in the case of an ''investment letter'' restriction; it may arise from a corporate charter restriction, or

perhaps from a trust agreement restriction. In such cases, certain documents and facts should be obtained for analysis.

.02 The following documents and facts, when used in conjunction with those discussed in Section 4 of *Rev. Rul. 59-60,* will be useful in the valuation of restricted securities:

(a) A copy of any declaration of trust, trust agreement, and any other agreements relating to the shares of restricted stock;

(b) A copy of any document showing any offers to buy or sell or indications of interest in buying or selling the restricted shares;

(c) The latest prospectus of the company;

(d) Annual reports of the company for 3 to 5 years preceding the valuation date;

(e) The trading prices and trading volume of the related class of traded securities 1 month preceding the valuation date, if they are traded on a stock exchange (if traded over-the-counter, prices may be obtained from the National Quotations Bureau, the National Association of Securities Dealers Automated Quotations (NASDAQ), or sometimes from broker-dealers making markets in the shares);

(f) The relationship of the parties to the agreements concerning the restricted stock, such as whether they are members of the immediate family or perhaps whether they are officers or directors of the company; and

(g) Whether the interest being valued represents a majority or minority ownership.

SEC. 6. WEIGHING FACTS AND CIRCUMSTANCES MATERIAL TO RESTRICTED STOCK VALUATION

All relevant facts and circumstances that bear upon the worth of restricted stock, including those set forth above in the preceding Sections 4 and 5, and those set forth in Section 4 of *Rev. Rul. 59-60,* must be taken into account in arriving at the fair market value of such securities. Depending on the circumstances of each case, certain factors may carry more weight than others. To illustrate:

.01 Earnings, net assets, and net sales must be given primary consideration in arriving at an appropriate discount for restricted securities from the freely traded shares. These are the elements of value that are always used by investors in making investment decisions. In some cases, one element may be more important than in other cases. In the case of manufacturing, producing, or distributing companies, primary weight must be accorded earnings and net sales; but in the case of investment or holding companies, primary weight must be given to the net assets of the company underlying the stock. In the former type of companies, value is more closely linked to past, present, and future earnings while in the latter type of companies, value is more closely linked to the existing net assets of the company. See the discussion in Section 5 of *Rev. Rul. 59-60.*

.02 Resale provisions found in the restriction agreements must be scrutinized and weighed to determine the amount of discount to apply to the preliminary fair market value of the company. The two elements of time and expense bear upon this discount; the longer the buyer of the shares must wait to liquidate the shares, the greater the discount. Moreover, if the provisions make it necessary for the buyer to bear the expense of registration, the greater the discount. However, if the provisions of the restricted stock

agreement make it possible for the buyer to "piggyback" shares at the next offering, the discount would be smaller.

.03 The relative negotiation strengths of the buyer and seller of restricted stock may have a profound effect on the amount of discount. For example, a tight money situation may cause the buyer to have the greater balance of negotiation strength in a transaction. However, in some cases the relative strengths may tend to cancel each other out.

.04 The market experience of freely tradable securities of the same class as the restricted securities is also significant in determining the amount of discount. Whether the shares are privately held or publicly traded affects the worth of the shares to the holder. Securities traded on a public market generally are worth more to investors than those that are not traded on a public market. Moreover, the type of public market in which the unrestricted securities are traded is to be given consideration.

SEC. 7. EFFECT ON OTHER DOCUMENTS

Rev. Rul. 59-60, as modified by *Rev. Rul. 65-193,* is amplified.

Appendix E

Securities and Exchange Commission Rules 144 and 144A

Rule 144

THIS SECTION IS CURRENT THROUGH THE OCTOBER 16, 2008
ISSUE OF THE FEDERAL REGISTER
TITLE 17—COMMODITY AND SECURITIES EXCHANGES
CHAPTER II—SECURITIES AND EXCHANGE COMMISSION
PART 230—GENERAL RULES AND REGULATIONS, SECURITIES
ACT OF 1933
GENERAL
17 CFR 230.144

§ 230.144 Persons deemed not to be engaged in a distribution and therefore not underwriters.

Preliminary Note: Certain basic principles are essential to an understanding of the registration requirements in the Securities Act of 1933 (the Act or the Securities Act) and the purposes underlying Rule 144:

1. If any person sells a non-exempt security to any other person, the sale must be registered unless an exemption can be found for the transaction.
2. Section 4(1) of the Securities Act provides one such exemption for a transaction ''by a person other than an issuer, underwriter, or dealer.'' Therefore, an understanding of the term ''underwriter'' is important in determining whether or not the Section 4(1) exemption from registration is available for the sale of the securities.

The term ''underwriter'' is broadly defined in Section 2(a)(11) of the Securities Act to mean any person who has purchased from an issuer with a view to, or offers or sells for an issuer in connection with, the distribution of any security, or participates, or has a direct or indirect participation in any such undertaking, or participates or has a participation in the direct or indirect underwriting of any such undertaking. The interpretation of this definition traditionally has focused on the words ''with a view to'' in the phrase ''purchased from an issuer with a view to * * * distribution.'' An investment banking firm which arranges with an issuer for the public sale of its securities is clearly an ''underwriter'' under that section. However, individual investors who are not professionals in the securities business also may be ''underwriters'' if they act as links in a chain of transactions through which securities move from an issuer to the public.

Since it is difficult to ascertain the mental state of the purchaser at the time of an acquisition of securities, prior to and since the adoption of Rule 144, subsequent acts and circumstances have been considered to determine whether the purchaser took the

securities "with a view to distribution" at the time of the acquisition. Emphasis has been placed on factors such as the length of time the person held the securities and whether there has been an unforeseeable change in circumstances of the holder. Experience has shown, however, that reliance upon such factors alone has led to uncertainty in the application of the registration provisions of the Act.

The Commission adopted Rule 144 to establish specific criteria for determining whether a person is not engaged in a distribution. Rule 144 creates a safe harbor from the Section 2(a)(11) definition of "underwriter." A person satisfying the applicable conditions of the Rule 144 safe harbor is deemed not to be engaged in a distribution of the securities and therefore not an underwriter of the securities for purposes of Section 2(a)(11). Therefore, such a person is deemed not to be an underwriter when determining whether a sale is eligible for the Section 4(1) exemption for "transactions by any person other than an issuer, underwriter, or dealer." If a sale of securities complies with all of the applicable conditions of Rule 144:

1. Any affiliate or other person who sells restricted securities will be deemed not to be engaged in a distribution and therefore not an underwriter for that transaction;
2. Any person who sells restricted or other securities on behalf of an affiliate of the issuer will be deemed not to be engaged in a distribution and therefore not an underwriter for that transaction; and
3. The purchaser in such transaction will receive securities that are not restricted securities.

   Rule 144 is not an exclusive safe harbor. A person who does not meet all of the applicable conditions of Rule 144 still may claim any other available exemption under the Act for the sale of the securities. The Rule 144 safe harbor is not available to any person with respect to any transaction or series of transactions that, although in technical compliance with Rule 144, is part of a plan or scheme to evade the registration requirements of the Act.

   a. Definitions. The following definitions shall apply for the purposes of this section.

      1. An affiliate of an issuer is a person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, such issuer.
      2. The term person when used with reference to a person for whose account securities are to be sold in reliance upon this section includes, in addition to such person, all of the following persons:

         i. Any relative or spouse of such person, or any relative of such spouse, any one of whom has the same home as such person;

         ii. Any trust or estate in which such person or any of the persons specified in paragraph (a)(2)(i) of this section collectively own 10 percent or more of the total beneficial interest or of which any of such persons serve as trustee, executor or in any similar capacity; and

         iii. Any corporation or other organization (other than the issuer) in which such person or any of the persons specified in paragraph (a)(2)(i) of this section are the beneficial owners collectively of 10 percent or more of any class of equity securities or 10 percent or more of the equity interest.

3. The term restricted securities means:

- **i.** Securities acquired directly or indirectly from the issuer, or from an affiliate of the issuer, in a transaction or chain of transactions not involving any public offering;
- **ii.** Securities acquired from the issuer that are subject to the resale limitations of § 230.502(d) under Regulation D or § 230.701(c);
- **iii.** Securities acquired in a transaction or chain of transactions meeting the requirements of § 230.144A;
- **iv.** Securities acquired from the issuer in a transaction subject to the conditions of Regulation CE (§ 230.1001);
- **v.** Equity securities of domestic issuers acquired in a transaction or chain of transactions subject to the conditions of § 230.901 or § 230.903 under Regulation S (§ 230.901 through § 230.905, and Preliminary Notes);
- **vi.** Securities acquired in a transaction made under § 230.801 to the same extent and proportion that the securities held by the security holder of the class with respect to which the rights offering was made were, as of the record date for the rights offering, "restricted securities" within the meaning of this paragraph (a)(3);
- **vii.** Securities acquired in a transaction made under § 230.802 to the same extent and proportion that the securities that were tendered or exchanged in the exchange offer or business combination were "restricted securities" within the meaning of this paragraph (a)(3); and
- **viii.** Securities acquired from the issuer in a transaction subject to an exemption under section 4(6) (15 U.S.C. 77d(6)) of the Act.

4. The term debt securities means:

- **i.** Any security other than an equity security as defined in § 230.405;
- **ii.** Non-participatory preferred stock, which is defined as non-convertible capital stock, the holders of which are entitled to a preference in payment of dividends and in distribution of assets on liquidation, dissolution, or winding up of the issuer, but are not entitled to participate in residual earnings or assets of the issuer; and
- **iii.** Asset-backed securities, as defined in § 229.1101 of this chapter.

b. Conditions to be met. Subject to paragraph (i) of this section, the following conditions must be met:

1. Non-Affiliates.

- **i.** If the issuer of the securities is, and has been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Securities Exchange Act of 1934 (the Exchange Act), any person who is not an affiliate of the issuer at the time of the sale, and has not been an affiliate during the preceding three months, who sells restricted securities of the issuer for his or her own account shall be deemed not to be an underwriter of those securities within the meaning of section 2 (a)(11) of the Act if all of the conditions of paragraphs (c)(1) and (d) of this

section are met. The requirements of paragraph (c)(1) of this section shall not apply to restricted securities sold for the account of a person who is not an affiliate of the issuer at the time of the sale and has not been an affiliate during the preceding three months, provided a period of one year has elapsed since the later of the date the securities were acquired from the issuer or from an affiliate of the issuer.

ii. If the issuer of the securities is not, or has not been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act, any person who is not an affiliate of the issuer at the time of the sale, and has not been an affiliate during the preceding three months, who sells restricted securities of the issuer for his or her own account shall be deemed not to be an underwriter of those securities within the meaning of section 2(a)(11) of the Act if the condition of paragraph (d) of this section is met.

2. Affiliates or persons selling on behalf of affiliates. Any affiliate of the issuer, or any person who was an affiliate at any time during the 90 days immediately before the sale, who sells restricted securities, or any person who sells restricted or any other securities for the account of an affiliate of the issuer of such securities, or any person who sells restricted or any other securities for the account of a person who was an affiliate at any time during the 90 days immediately before the sale, shall be deemed not to be an underwriter of those securities within the meaning of section 2(a)(11) of the Act if all of the conditions of this section are met.

c. Current public information. Adequate current public information with respect to the issuer of the securities must be available. Such information will be deemed to be available only if the applicable condition set forth in this paragraph is met:

1. Reporting Issuers. The issuer is, and has been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act and has filed all required reports under section 13 or 15(d) of the Exchange Act, as applicable, during the 12 months preceding such sale (or for such shorter period that the issuer was required to file such reports), other than Form 8-K reports (§ 249.308 of this chapter); or

2. Non-reporting Issuers. If the issuer is not subject to the reporting requirements of section 13 or 15(d) of the Exchange Act, there is publicly available the information concerning the issuer specified in paragraphs (a)(5)(i) to (xiv), inclusive, and paragraph (a)(5)(xvi) of § 240.15c2-11 of this chapter, or, if the issuer is an insurance company, the information specified in section 12(g)(2)(G)(i) of the Exchange Act (15 U.S.C. 78l (g)(2)(G)(i)).

Note to § 230.144(c). With respect to paragraph (c)(1), the person can rely upon:

1. A statement in whichever is the most recent report, quarterly or annual, required to be filed and filed by the issuer that such issuer has filed all reports required under section 13 or 15(d) of the Exchange Act, as applicable, during the preceding 12 months (or for such shorter period that the issuer was required to file such reports), other than Form 8-K reports (§ 249.308 of this chapter), and has been subject to such filing requirements for the past 90 days; or

2. A written statement from the issuer that it has complied with such reporting requirements.
3. Neither type of statement may be relied upon, however, if the person knows or has reason to believe that the issuer has not complied with such requirements.

d. Holding period for restricted securities. If the securities sold are restricted securities, the following provisions apply:

1. General rule.
   - **i.** If the issuer of the securities is, and has been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act, a minimum of six months must elapse between the later of the date of the acquisition of the securities from the issuer, or from an affiliate of the issuer, and any resale of such securities in reliance on this section for the account of either the acquiror or any subsequent holder of those securities.
   - **ii.** If the issuer of the securities is not, or has not been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act, a minimum of one year must elapse between the later of the date of the acquisition of the securities from the issuer, or from an affiliate of the issuer, and any resale of such securities in reliance on this section for the account of either the acquiror or any subsequent holder of those securities.
   - **iii.** If the acquiror takes the securities by purchase, the holding period shall not begin until the full purchase price or other consideration is paid or given by the person acquiring the securities from the issuer or from an affiliate of the issuer.
2. Promissory notes, other obligations or installment contracts. Giving the issuer or affiliate of the issuer from whom the securities were purchased a promissory note or other obligation to pay the purchase price, or entering into an installment purchase contract with such seller, shall not be deemed full payment of the purchase price unless the promissory note, obligation or contract:
   - **i.** Provides for full recourse against the purchaser of the securities;
   - **ii.** Is secured by collateral, other than the securities purchased, having a fair market value at least equal to the purchase price of the securities purchased; and
   - **iii.** Shall have been discharged by payment in full prior to the sale of the securities.
3. Determination of holding period. The following provisions shall apply for the purpose of determining the period securities have been held:
   - **i.** Stock dividends, splits and recapitalizations. Securities acquired from the issuer as a dividend or pursuant to a stock split, reverse split or recapitalization shall be deemed to have been acquired at the same time as the securities on which the dividend or, if more than one, the initial dividend was paid, the securities involved in the split or reverse split, or the securities surrendered in connection with the recapitalization.

ii. Conversions and exchanges. If the securities sold were acquired from the issuer solely in exchange for other securities of the same issuer, the newly acquired securities shall be deemed to have been acquired at the same time as the securities surrendered for conversion or exchange, even if the securities surrendered were not convertible or exchangeable by their terms.

Note to § 230.144(d)(3)(ii). If the surrendered securities originally did not provide for cashless conversion or exchange by their terms and the holder provided consideration, other than solely securities of the same issuer, in connection with the amendment of the surrendered securities to permit cashless conversion or exchange, then the newly acquired securities shall be deemed to have been acquired at the same time as such amendment to the surrendered securities, so long as, in the conversion or exchange, the securities sold were acquired from the issuer solely in exchange for other securities of the same issuer.

iii. Contingent issuance of securities. Securities acquired as a contingent payment of the purchase price of an equity interest in a business, or the assets of a business, sold to the issuer or an affiliate of the issuer shall be deemed to have been acquired at the time of such sale if the issuer or affiliate was then committed to issue the securities subject only to conditions other than the payment of further consideration for such securities. An agreement entered into in connection with any such purchase to remain in the employment of, or not to compete with, the issuer or affiliate or the rendering of services pursuant to such agreement shall not be deemed to be the payment of further consideration for such securities.

iv. Pledged securities. Securities which are bona-fide pledged by an affiliate of the issuer when sold by the pledgee, or by a purchaser, after a default in the obligation secured by the pledge, shall be deemed to have been acquired when they were acquired by the pledgor, except that if the securities were pledged without recourse they shall be deemed to have been acquired by the pledgee at the time of the pledge or by the purchaser at the time of purchase.

v. Gifts of securities. Securities acquired from an affiliate of the issuer by gift shall be deemed to have been acquired by the donee when they were acquired by the donor.

vi. Trusts. Where a trust settlor is an affiliate of the issuer, securities acquired from the settlor by the trust, or acquired from the trust by the beneficiaries thereof, shall be deemed to have been acquired when such securities were acquired by the settlor.

vii. Estates. Where a deceased person was an affiliate of the issuer, securities held by the estate of such person or acquired from such estate by the estate beneficiaries shall be deemed to have been acquired when they were acquired by the deceased person, except that no holding period is required if the estate is not an affiliate of the issuer or if the securities are sold by a beneficiary of the estate who is not such an affiliate.

Note to § 230.144(d)(3)(vii). While there is no holding period or amount limitation for estates and estate beneficiaries which are not affiliates of the

issuer, paragraphs (c) and (h) of this section apply to securities sold by such persons in reliance upon this section.

viii. Rule 145(a) Transactions. The holding period for securities acquired in a transaction specified in § 230.145(a) shall be deemed to commence on the date the securities were acquired by the purchaser in such transaction, except as otherwise provided in paragraphs (d)(3)(ii) and (ix) of this section.

ix. Holding company formations. Securities acquired from the issuer in a transaction effected solely for the purpose of forming a holding company shall be deemed to have been acquired at the same time as the securities of the predecessor issuer exchanged in the holding company formation where:

A. The newly formed holding company's securities were issued solely in exchange for the securities of the predecessor company as part of a reorganization of the predecessor company into a holding company structure;

B. Holders received securities of the same class evidencing the same proportional interest in the holding company as they held in the predecessor, and the rights and interests of the holders of such securities are substantially the same as those they possessed as holders of the predecessor company's securities; and

C. Immediately following the transaction, the holding company has no significant assets other than securities of the predecessor company and its existing subsidiaries and has substantially the same assets and liabilities on a consolidated basis as the predecessor company had before the transaction.

x. Cashless exercise of options and warrants. If the securities sold were acquired from the issuer solely upon cashless exercise of options or warrants issued by the issuer, the newly acquired securities shall be deemed to have been acquired at the same time as the exercised options or warrants, even if the options or warrants exercised originally did not provide for cashless exercise by their terms.

Note 1 to § 230.144(d)(3)(x). If the options or warrants originally did not provide for cashless exercise by their terms and the holder provided consideration, other than solely securities of the same issuer, in connection with the amendment of the options or warrants to permit cashless exercise, then the newly acquired securities shall be deemed to have been acquired at the same time as such amendment to the options or warrants so long as the exercise itself was cashless.

Note 2 to § 230.144(d)(3)(x). If the options or warrants are not purchased for cash or property and do not create any investment risk to the holder, as in the case of employee stock options, the newly acquired securities shall be deemed to have been acquired at the time the options or warrants are exercised, so long as the full purchase price or other consideration for the newly acquired securities has been paid or given by the person acquiring the securities from the issuer or from an affiliate of the issuer at the time of exercise.

e. Limitation on amount of securities sold. Except as hereinafter provided, the amount of securities sold for the account of an affiliate of the issuer in reliance upon this section shall be determined as follows:

1. If any securities are sold for the account of an affiliate of the issuer, regardless of whether those securities are restricted, the amount of securities sold, together with all sales of securities of the same class sold for the account of such person within the preceding three months, shall not exceed the greatest of:
   - **i.** One percent of the shares or other units of the class outstanding as shown by the most recent report or statement published by the issuer, or
   - **ii.** The average weekly reported volume of trading in such securities on all national securities exchanges and/or reported through the automated quotation system of a registered securities association during the four calendar weeks preceding the filing of notice required by paragraph (h), or if no such notice is required the date of receipt of the order to execute the transaction by the broker or the date of execution of the transaction directly with a market maker, or
   - **iii.** The average weekly volume of trading in such securities reported pursuant to an effective transaction reporting plan or an effective national market system plan as those terms are defined in § 242.600 of this chapter during the four-week period specified in paragraph (e)(1)(ii) of this section.
2. If the securities sold are debt securities, then the amount of debt securities sold for the account of an affiliate of the issuer, regardless of whether those securities are restricted, shall not exceed the greater of the limitation set forth in paragraph (e)(1) of this section or, together with all sales of securities of the same tranche (or class when the securities are non-participatory preferred stock) sold for the account of such person within the preceding three months, ten percent of the principal amount of the tranche (or class when the securities are non-participatory preferred stock) attributable to the securities sold.
3. Determination of amount. For the purpose of determining the amount of securities specified in paragraph (e)(1) of this section and, as applicable, paragraph (e)(2) of this section, the following provisions shall apply:
   - **i.** Where both convertible securities and securities of the class into which they are convertible are sold, the amount of convertible securities sold shall be deemed to be the amount of securities of the class into which they are convertible for the purpose of determining the aggregate amount of securities of both classes sold;
   - **ii.** The amount of securities sold for the account of a pledgee of those securities, or for the account of a purchaser of the pledged securities, during any period of three months within six months (or within one year if the issuer of the securities is not, or has not been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act) after a default in the obligation secured by the pledge, and the amount of securities sold during the same three-month period for the account of the pledgor shall not exceed, in the aggregate, the amount specified in paragraph (e)(1) or (2) of this section, whichever is applicable;

     Note to § 230.144(e)(3)(ii). Sales by a pledgee of securities pledged by a borrower will not be aggregated under paragraph (e)(3)(ii) with sales of the securities of the same issuer by other pledgees of such borrower in the absence of concerted action by such pledgees.

iii. The amount of securities sold for the account of a donee of those securities during any three-month period within six months (or within one year if the issuer of the securities is not, or has not been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act) after the donation, and the amount of securities sold during the same three-month period for the account of the donor, shall not exceed, in the aggregate, the amount specified in paragraph (e)(1) or (2) of this section, whichever is applicable;

iv. Where securities were acquired by a trust from the settlor of the trust, the amount of such securities sold for the account of the trust during any three-month period within six months (or within one year if the issuer of the securities is not, or has not been for a period of at least 90 days immediately before the sale, subject to the reporting requirements of section 13 or 15(d) of the Exchange Act) after the acquisition of the securities by the trust, and the amount of securities sold during the same three-month period for the account of the settlor, shall not exceed, in the aggregate, the amount specified in paragraph (e)(1) or (2) of this section, whichever is applicable;

v. The amount of securities sold for the account of the estate of a deceased person, or for the account of a beneficiary of such estate, during any three-month period and the amount of securities sold during the same three-month period for the account of the deceased person prior to his death shall not exceed, in the aggregate, the amount specified in paragraph (e)(1) or (2) of this section, whichever is applicable: Provided, that no limitation on amount shall apply if the estate or beneficiary of the estate is not an affiliate of the issuer;

vi. When two or more affiliates or other persons agree to act in concert for the purpose of selling securities of an issuer, all securities of the same class sold for the account of all such persons during any three-month period shall be aggregated for the purpose of determining the limitation on the amount of securities sold;

vii. The following sales of securities need not be included in determining the amount of securities to be sold in reliance upon this section:

A. Securities sold pursuant to an effective registration statement under the Act;

B. Securities sold pursuant to an exemption provided by Regulation A (§ 230.251 through § 230.263) under the Act;

C. Securities sold in a transaction exempt pursuant to section 4 of the Act *(15 U.S.C. 77d)* and not involving any public offering; and

D. Securities sold offshore pursuant to Regulation S (§ 230.901 through § 230.905, and Preliminary Notes) under the Act.

f. Manner of sale.

1. The securities shall be sold in one of the following manners:

i. Brokers' transactions within the meaning of section 4(4) of the Act;

ii. Transactions directly with a market maker, as that term is defined in section 3(a)(38) of the Exchange Act; or

iii. Riskless principal transactions where:

A. The offsetting trades must be executed at the same price (exclusive of an explicitly disclosed markup or markdown, commission equivalent, or other fee);

B. The transaction is permitted to be reported as riskless under the rules of a self-regulatory organization; and

C. The requirements of paragraphs (g)(2) (applicable to any markup or markdown, commission equivalent, or other fee), (g)(3), and (g)(4) of this section are met.

Note to § 230.144(f)(1): For purposes of this paragraph, a riskless principal transaction means a principal transaction where, after having received from a customer an order to buy, a broker or dealer purchases the security as principal in the market to satisfy the order to buy or, after having received from a customer an order to sell, sells the security as principal to the market to satisfy the order to sell.

2. The person selling the securities shall not:

i. Solicit or arrange for the solicitation of orders to buy the securities in anticipation of or in connection with such transaction, or

ii. Make any payment in connection with the offer or sale of the securities to any person other than the broker or dealer who executes the order to sell the securities.

3. Paragraph (f) of this section shall not apply to:

i. Securities sold for the account of the estate of a deceased person or for the account of a beneficiary of such estate provided the estate or estate beneficiary is not an affiliate of the issuer; or

ii. Debt securities.

g. Brokers' transactions. The term brokers' transactions in section 4(4) of the Act shall for the purposes of this rule be deemed to include transactions by a broker in which such broker:

1. Does no more than execute the order or orders to sell the securities as agent for the person for whose account the securities are sold;

2. Receives no more than the usual and customary broker's commission;

3. Neither solicits nor arranges for the solicitation of customers' orders to buy the securities in anticipation of or in connection with the transaction; Provided, that the foregoing shall not preclude:

i. Inquiries by the broker of other brokers or dealers who have indicated an interest in the securities within the preceding 60 days;

ii. Inquiries by the broker of his customers who have indicated an unsolicited bona fide interest in the securities within the preceding 10 business days;

iii. The publication by the broker of bid and ask quotations for the security in an inter-dealer quotation system provided that such quotations are incident to the maintenance of a bona fide inter-dealer market for the security for the broker's own account and that the broker has published bona fide bid and

ask quotations for the security in an inter-dealer quotation system on each of at least twelve days within the preceding thirty calendar days with no more than four business days in succession without such two-way quotations; or

iv. The publication by the broker of bid and ask quotations for the security in an alternative trading system, as defined in § 242.300 of this chapter, provided that the broker has published bona fide bid and ask quotations for the security in the alternative trading system on each of the last twelve business days; and

Note to § 230.144(g)(3)(ii). The broker should obtain and retain in his files written evidence of indications of bona fide unsolicited interest by his customers in the securities at the time such indications are received.

4. After reasonable inquiry is not aware of circumstances indicating that the person for whose account the securities are sold is an underwriter with respect to the securities or that the transaction is a part of a distribution of securities of the issuer. Without limiting the foregoing, the broker shall be deemed to be aware of any facts or statements contained in the notice required by paragraph (h) of this section.

NOTES:

i. The broker, for his own protection, should obtain and retain in his files a copy of the notice required by paragraph (h) of this section.

ii. The reasonable inquiry required by paragraph (g)(3) of this section should include, but not necessarily be limited to, inquiry as to the following matters:

a. The length of time the securities have been held by the person for whose account they are to be sold. If practicable, the inquiry should include physical inspection of the securities;

b. The nature of the transaction in which the securities were acquired by such person;

c. The amount of securities of the same class sold during the past 3 months by all persons whose sales are required to be taken into consideration pursuant to paragraph (e) of this section;

d. Whether such person intends to sell additional securities of the same class through any other means;

e. Whether such person has solicited or made any arrangement for the solicitation of buy orders in connection with the proposed sale of securities;

f. Whether such person has made any payment to any other person in connection with the proposed sale of the securities; and

g. The number of shares or other units of the class outstanding, or the relevant trading volume.

h. Notice of proposed sale. (1) If the amount of securities to be sold in reliance upon this rule during any period of three months exceeds 5,000 shares or other units or has an aggregate sale price in excess of $50,000, three

copies of a notice on Form 144 (§ 239.144 of this chapter) shall be filed with the Commission. If such securities are admitted to trading on any national securities exchange, one copy of such notice also shall be transmitted to the principal exchange on which such securities are admitted.

(2) The Form 144 shall be signed by the person for whose account the securities are to be sold and shall be transmitted for filing concurrently with either the placing with a broker of an order to execute a sale of securities in reliance upon this rule or the execution directly with a market maker of such a sale. Neither the filing of such notice nor the failure of the Commission to comment on such notice shall be deemed to preclude the Commission from taking any action that it deems necessary or appropriate with respect to the sale of the securities referred to in such notice. The person filing the notice required by this paragraph shall have a bona fide intention to sell the securities referred to in the notice within a reasonable time after the filing of such notice.

i. Unavailability to securities of issuers with no or nominal operations and no or nominal non-cash assets. (1) This section is not available for the resale of securities initially issued by an issuer defined below:

i. An issuer, other than a business combination related shell company, as defined in § 230.405, or an asset-backed issuer, as defined in Item 1101(b) of Regulation AB (§ 229.1101(b) of this chapter), that has:

A. No or nominal operations; and

B. Either:

1. No or nominal assets;

2. Assets consisting solely of cash and cash equivalents; or

3. Assets consisting of any amount of cash and cash equivalents and nominal other assets; or

ii. An issuer that has been at any time previously an issuer described in paragraph (i)(1)(i).

(2) Notwithstanding paragraph (i)(1), if the issuer of the securities previously had been an issuer described in paragraph (i)(1)(i) but has ceased to be an issuer described in paragraph (i)(1)(i); is subject to the reporting requirements of section 13 or 15(d) of the Exchange Act; has filed all reports and other materials required to be filed by section 13 or 15(d) of the Exchange Act, as applicable, during the preceding 12 months (or for such shorter period that the issuer was required to file such reports and materials), other than Form 8-K reports (§ 249.308 of this chapter); and has filed current "Form 10 information" with the Commission reflecting its status as an entity that is no longer an issuer described in paragraph (i)(1)(i), then those securities may be sold subject to the requirements of this section after one year has elapsed from the date that the issuer filed "Form 10 information" with the Commission.

(3) The term "Form 10 information" means the information that is required by Form 10 or Form 20-F (§ 249.210 or § 249.220f of this chapter), as applicable to the issuer of the securities, to register under the Exchange Act each class of securities being sold under this rule. The issuer may provide the Form 10 information in any filing of the issuer with the Commission. The

Form 10 information is deemed filed when the initial filing is made with the Commission.

HISTORY

[37 FR 596, Jan. 14, 1972, as amended at 39 FR 6071, Feb. 19, 1974; 39 FR 8914, Mar. 7, 1974; 43 FR 43711, Sept. 27, 1978; 43 FR 54230, Nov. 21, 1978; 44 FR 15612, Mar. 14, 1979; 45 FR 12391, Feb. 28, 1980; 46 FR 12197, Feb. 12, 1981; 47 FR 11261, Mar. 16, 1982; 53 FR 12921, Apr. 20, 1988; 55 FR 17944, Apr. 30, 1990; 58 FR 67312, Dec. 21, 1993; 61 FR 21356, 21359, May 9, 1996; 62 FR 9242, 9244, Feb. 28, 1997; 63 FR 9632, 9642, Feb. 25, 1998; 64 FR 61382, 61400, Nov. 10, 1999; 69 FR 15594, 15617, Mar. 25, 2004; 70 FR 37496, 37617, June 29, 2005; 70 FR 45529, Aug. 8, 2005; 72 FR 71546, 71566, Dec. 17, 2007]

Rule 144A

THIS SECTION IS CURRENT THROUGH THE OCTOBER 16, 2008
ISSUE OF THE FEDERAL REGISTER
TITLE 17—COMMODITY AND SECURITIES EXCHANGES
CHAPTER II—SECURITIES AND EXCHANGE COMMISSION
PART 230—GENERAL RULES AND REGULATIONS, SECURITIES
ACT OF 1933
GENERAL
17 CFR 230.144A

§ 230.144A Private resales of securities to institutions.
PRELIMINARY NOTES:

1. This section relates solely to the application of section 5 of the Act and not to antifraud or other provisions of the federal securities laws.
2. Attempted compliance with this section does not act as an exclusive election; any seller hereunder may also claim the availability of any other applicable exemption from the registration requirements of the Act.
3. In view of the objective of this section and the policies underlying the Act, this section is not available with respect to any transaction or series of transactions that, although in technical compliance with this section, is part of a plan or scheme to evade the registration provisions of the Act. In such cases, registration under the Act is required.
4. Nothing in this section obviates the need for any issuer or any other person to comply with the securities registration or broker-dealer registration requirements of the Securities Exchange Act of 1934 (the Exchange Act), whenever such requirements are applicable.
5. Nothing in this section obviates the need for any person to comply with any applicable state law relating to the offer or sale of securities.
6. Securities acquired in a transaction made pursuant to the provisions of this section are deemed to be restricted securities within the meaning of § 230.144(a)(3) of this chapter.
7. The fact that purchasers of securities from the issuer thereof may purchase such securities with a view to reselling such securities pursuant to this section will not affect the

availability to such issuer of an exemption under section 4(2) of the Act, or Regulation D under the Act, from the registration requirements of the Act.

a. Definitions.

1. For purposes of this section, qualified institutional buyer shall mean:

i. Any of the following entities, acting for its own account or the accounts of other qualified institutional buyers, that in the aggregate owns and invests on a discretionary basis at least $ 100 million in securities of issuers that are not affiliated with the entity:

A. Any insurance company as defined in section 2(13) of the Act;

NOTE: A purchase by an insurance company for one or more of its separate accounts, as defined by section 2(a)(37) of the Investment Company Act of 1940 (the ''Investment Company Act''), which are neither registered under section 8 of the Investment Company Act nor required to be so registered, shall be deemed to be a purchase for the account of such insurance company.

B. Any investment company registered under the Investment Company Act or any business development company as defined in section 2(a)(48) of that Act;

C. Any Small Business Investment Company licensed by the U.S. Small Business Administration under section 301(c) or (d) of the Small Business Investment Act of 1958;

D. Any plan established and maintained by a state, its political subdivisions, or any agency or instrumentality of a state or its political subdivisions, for the benefit of its employees;

E. Any employee benefit plan within the meaning of title I of the Employee Retirement Income Security Act of 1974;

F. Any trust fund whose trustee is a bank or trust company and whose participants are exclusively plans of the types identified in paragraph (a)(1)(i) (D) or (E) of this section, except trust funds that include as participants individual retirement accounts or H.R. 10 plans.

G. Any business development company as defined in section 202(a)(22) of the Investment Advisers Act of 1940;

H. Any organization described in *section 501(c)(3) of the Internal Revenue Code*, corporation (other than a bank as defined in section 3(a)(2) of the Act or a savings and loan association or other institution referenced in section 3(a)(5)(A) of the Act or a foreign bank or savings and loan association or equivalent institution), partnership, or Massachusetts or similar business trust; and

I. Any investment adviser registered under the Investment Advisers Act.

ii. Any dealer registered pursuant to section 15 of the Exchange Act, acting for its own account or the accounts of other qualified institutional buyers, that in the aggregate owns and invests on a discretionary basis at least $ 10 million of securities of issuers that are not affiliated with the dealer, Provided, That securities constituting the whole or a part of an unsold

allotment to or subscription by a dealer as a participant in a public offering shall not be deemed to be owned by such dealer;

iii. Any dealer registered pursuant to section 15 of the Exchange Act acting in a riskless principal transaction on behalf of a qualified institutional buyer;

NOTE: A registered dealer may act as agent, on a non-discretionary basis, in a transaction with a qualified institutional buyer without itself having to be a qualified institutional buyer.

iv. Any investment company registered under the Investment Company Act, acting for its own account or for the accounts of other qualified institutional buyers, that is part of a family of investment companies which own in the aggregate at least $ 100 million in securities of issuers, other than issuers that are affiliated with the investment company or are part of such family of investment companies. Family of investment companies means any two or more investment companies registered under the Investment Company Act, except for a unit investment trust whose assets consist solely of shares of one or more registered investment companies, that have the same investment adviser (or, in the case of unit investment trusts, the same depositor), Provided That, for purposes of this section:

A. Each series of a series company (as defined in Rule 18f-2 under the Investment Company Act [17 CFR 270.18f-2]) shall be deemed to be a separate investment company; and

B. Investment companies shall be deemed to have the same adviser (or depositor) if their advisers (or depositors) are majority-owned subsidiaries of the same parent, or if one investment company's adviser (or depositor) is a majority-owned subsidiary of the other investment company's adviser (or depositor);

v. Any entity, all of the equity owners of which are qualified institutional buyers, acting for its own account or the accounts of other qualified institutional buyers; and

vi. Any bank as defined in section 3(a)(2) of the Act, any savings and loan association or other institution as referenced in section 3(a)(5)(A) of the Act, or any foreign bank or savings and loan association or equivalent institution, acting for its own account or the accounts of other qualified institutional buyers, that in the aggregate owns and invests on a discretionary basis at least $ 100 million in securities of issuers that are not affiliated with it and that has an audited net worth of at least $ 25 million as demonstrated in its latest annual financial statements, as of a date not more than 16 months preceding the date of sale under the Rule in the case of a U.S. bank or savings and loan association, and not more than 18 months preceding such date of sale for a foreign bank or savings and loan association or equivalent institution.

2. In determining the aggregate amount of securities owned and invested on a discretionary basis by an entity, the following instruments and interests shall be excluded: bank deposit notes and certificates of deposit; loan participations; repurchase agreements; securities owned but subject to a repurchase agreement; and currency, interest rate and commodity swaps.

3. The aggregate value of securities owned and invested on a discretionary basis by an entity shall be the cost of such securities, except where the entity reports its securities holdings in its financial statements on the basis of their market value, and no current information with respect to the cost of those securities has been published. In the latter event, the securities may be valued at market for purposes of this section.
4. In determining the aggregate amount of securities owned by an entity and invested on a discretionary basis, securities owned by subsidiaries of the entity that are consolidated with the entity in its financial statements prepared in accordance with generally accepted accounting principles may be included if the investments of such subsidiaries are managed under the direction of the entity, except that, unless the entity is a reporting company under section 13 or 15(d) of the Exchange Act, securities owned by such subsidiaries may not be included if the entity itself is a majority-owned subsidiary that would be included in the consolidated financial statements of another enterprise.
5. For purposes of this section, riskless principal transaction means a transaction in which a dealer buys a security from any person and makes a simultaneous offsetting sale of such security to a qualified institutional buyer, including another dealer acting as riskless principal for a qualified institutional buyer.
6. For purposes of this section, effective conversion premium means the amount, expressed as a percentage of the security's conversion value, by which the price at issuance of a convertible security exceeds its conversion value.
7. For purposes of this section, effective exercise premium means the amount, expressed as a percentage of the warrant's exercise value, by which the sum of the price at issuance and the exercise price of a warrant exceeds its exercise value.

b. Sales by persons other than issuers or dealers. Any person, other than the issuer or a dealer, who offers or sells securities in compliance with the conditions set forth in paragraph (d) of this section shall be deemed not to be engaged in a distribution of such securities and therefore not to be an underwriter of such securities within the meaning of sections 2(11) and 4(1) of the Act.

c. Sales by Dealers. Any dealer who offers or sells securities in compliance with the conditions set forth in paragraph (d) of this section shall be deemed not to be a participant in a distribution of such securities within the meaning of section 4(3)(C) of the Act and not to be an underwriter of such securities within the meaning of section 2(11) of the Act, and such securities shall be deemed not to have been offered to the public within the meaning of section 4(3)(A) of the Act.

d. Conditions to be met. To qualify for exemption under this section, an offer or sale must meet the following conditions:

1. The securities are offered or sold only to a qualified institutional buyer or to an offeree or purchaser that the seller and any person acting on behalf of the seller reasonably believe is a qualified institutional buyer. In determining whether a prospective purchaser is a qualified institutional buyer, the seller and any person acting on its behalf shall be entitled to rely upon the following non-exclusive methods of establishing the prospective purchaser's ownership and discretionary investments of securities:

   i. The prospective purchaser's most recent publicly available financial statements, Provided That such statements present the information as of a date within 16 months preceding the date of sale of securities under this section in the case of a U.S. purchaser and within 18 months preceding such date of sale for a foreign purchaser;
   ii. The most recent publicly available information appearing in documents filed by the prospective purchaser with the Commission or another United States federal, state, or local governmental agency or self-regulatory organization, or with a foreign governmental agency or self-regulatory organization, Provided That any such information is as of a date within 16 months preceding the date of sale of securities under this section in the case of a U.S. purchaser and within 18 months preceding such date of sale for a foreign purchaser;
   iii. The most recent publicly available information appearing in a recognized securities manual, Provided That such information is as of a date within 16 months preceding the date of sale of securities under this section in the case of a U.S. purchaser and within 18 months preceding such date of sale for a foreign purchaser; or
   iv. A certification by the chief financial officer, a person fulfilling an equivalent function, or other executive officer of the purchaser, specifying the amount of securities owned and invested on a discretionary basis by the purchaser as of a specific date on or since the close of the purchaser's most recent fiscal year, or, in the case of a purchaser that is a member of a family of investment companies, a certification by an executive officer of the investment adviser specifying the amount of securities owned by the family of investment companies as of a specific date on or since the close of the purchaser's most recent fiscal year;

2. The seller and any person acting on its behalf takes reasonable steps to ensure that the purchaser is aware that the seller may rely on the exemption from the provisions of section 5 of the Act provided by this section;
3. The securities offered or sold:
   i. Were not, when issued, of the same class as securities listed on a national securities exchange registered under section 6 of the Exchange Act or quoted in a U.S. automated inter-dealer quotation system; Provided, That securities that are convertible or exchangeable into securities so listed or quoted at the time of issuance and that had an effective conversion premium of less than 10 percent, shall be treated as securities of the class into which they are convertible or exchangeable; and that warrants that may be exercised for securities so listed or quoted at the time of issuance, for a period of less than 3 years from the date of issuance, or that had an effective exercise premium of less than 10 percent, shall be treated as securities of the class to be issued upon exercise; and Provided further, That the Commission may from time to time, taking into account then-existing market practices, designate additional securities and classes of securities that will not be deemed of the same class as securities listed on a national securities exchange or quoted in a U.S. automated inter-dealer quotation system; and

ii. Are not securities of an open-end investment company, unit investment trust or face-amount certificate company that is or is required to be registered under section 8 of the Investment Company Act; and

4. (i) In the case of securities of an issuer that is neither subject to section 13 or 15 (d) of the Exchange Act, nor exempt from reporting pursuant to Rule 12g3-2(b) (§ 240.12g3-2(b) of this chapter) under the Exchange Act, nor a foreign government as defined in Rule 405 (§ 230.405 of this chapter) eligible to register securities under Schedule B of the Act, the holder and a prospective purchaser designated by the holder have the right to obtain from the issuer, upon request of the holder, and the prospective purchaser has received from the issuer, the seller, or a person acting on either of their behalf, at or prior to the time of sale, upon such prospective purchaser's request to the holder or the issuer, the following information (which shall be reasonably current in relation to the date of resale under this section): a very brief statement of the nature of the business of the issuer and the products and services it offers; and the issuer's most recent balance sheet and profit and loss and retained earnings statements, and similar financial statements for such part of the two preceding fiscal years as the issuer has been in operation (the financial statements should be audited to the extent reasonably available).

   (i) The requirement that the information be reasonably current will be presumed to be satisfied if:

   (A) The balance sheet is as of a date less than 16 months before the date of resale, the statements of profit and loss and retained earnings are for the 12 months preceding the date of such balance sheet, and if such balance sheet is not as of a date less than 6 months before the date of resale, it shall be accompanied by additional statements of profit and loss and retained earnings for the period from the date of such balance sheet to a date less than 6 months before the date of resale; and

   (B) The statement of the nature of the issuer's business and its products and services offered is as of a date within 12 months prior to the date of resale; or

   (C) With regard to foreign private issuers, the required information meets the timing requirements of the issuer's home country or principal trading markets.

e. Offers and sales of securities pursuant to this section shall be deemed not to affect the availability of any exemption or safe harbor relating to any previous or subsequent offer or sale of such securities by the issuer or any prior or subsequent holder thereof.

HISTORY

[55 FR 17945, Apr. 30, 1990, as amended at 57 FR 48722, Oct. 28, 1992]

Appendix F

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