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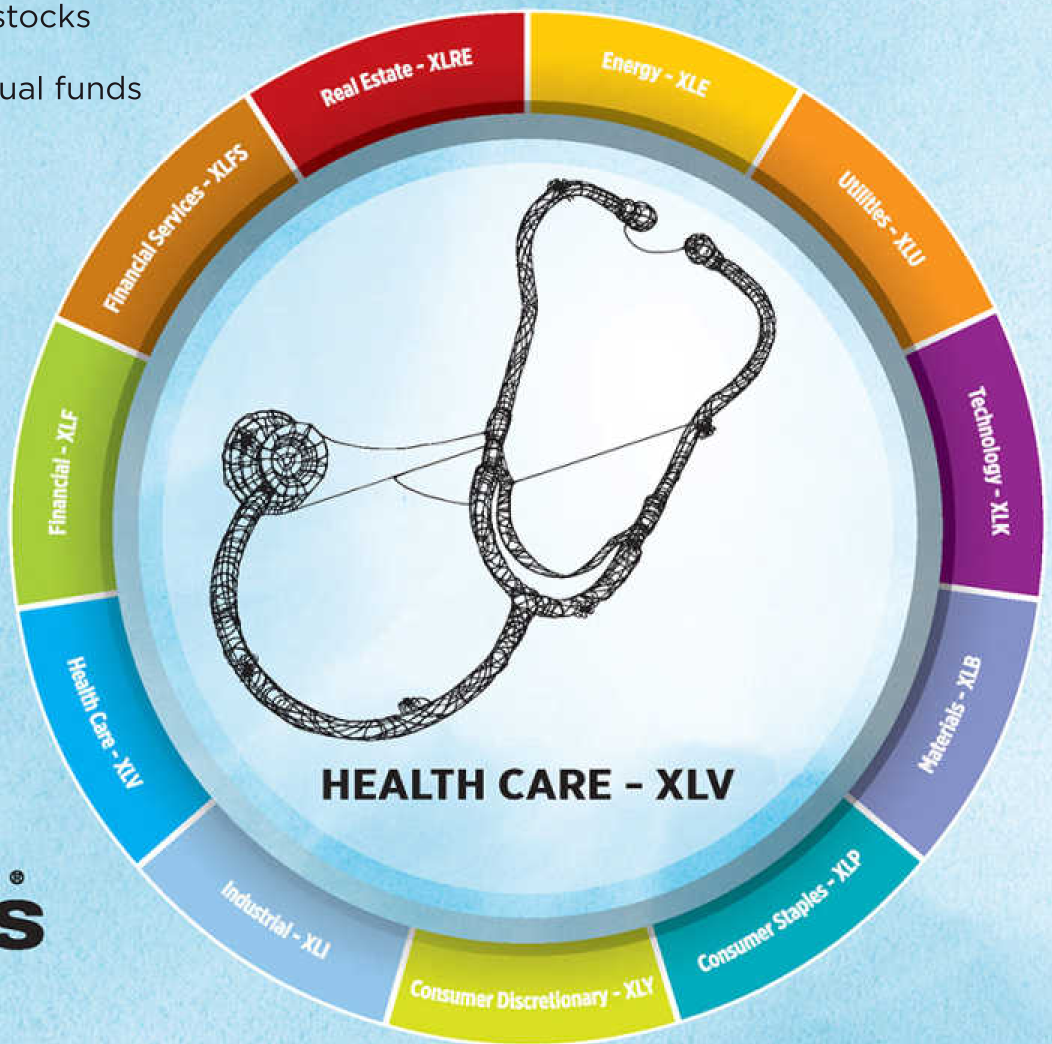

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4	Unitedhealth	UNH	4.77%
5	Bristol-Myers Squibb	BMY	4.58%
6	Gilead Sciences	GILD	4.56%
7	Amgen	AMGN	4.50%
8	Medtronic	MDT	4.23%
9	AbbVie	ABBV	3.71%
10	Allergan	AGN	3.41%

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Getting Inside the Minds of Investors

Cass Sunstein is a really smart guy—but not always when it comes to managing his own investments.

Sunstein certainly knows a thing or two about money. During President Obama's first term, the Harvard Law School professor ran the White House Office of Information and Regulatory Affairs, which reviews draft federal regulations to ensure that the benefits outweigh the costs. He also co-authored the book *Nudge: Improving Decisions About Health, Wealth, and Happiness.*

But in 2011, Sunstein got nervous that the stock market might tank again, as it had in 2008. He felt he couldn't afford another big loss. So he moved a significant amount of his money into certificates of deposit with a guaranteed, albeit much lower, rate of return.

In the following three years, the investments rebounded. "A little voice in my head told me, even at the time, that I was acting rashly," Sunstein later wrote. But he didn't listen.

He's not the only one for whom the psychology of money is damaging their financial future. Financial advisors and investors need to confront the reality that how we think about money is costing us trillions of dollars.

A National Bureau of Economic Research study published found that many people have a hard time understanding that compounding can lead to significant growth of small amounts of money over the course of decades. That lack of understanding—what economists call "exponential-growth bias"—leads to "present bias," which is spending money on ordinary purchases today that would be better invested for future needs.

How much are those two biases costing Americans? If they could be eliminated, savings for retirement would jump by $1.7 trillion, or 12 percent, the study found.

Financial advisors are increasingly realizing that emotions play at least as large a role in investing choices as rational decision-making, according to John Diehl, Senior Vice President of Strategic Markets at Hartford Funds. When he speaks to financial advisors, "I say 50 percent of their job is constructing portfolios and the other 50 percent is clinical psychology. They'll laugh and say it's really 70 percent psychology," he says.

The federal government is proving that point when it comes to military service members' retirement planning.

Since 2014, the White House Social and Behavioral Sciences Team has used behavioral science insights to improve a wide variety of federal programs. It ran a test where almost 140,000 active duty members of the Armed Forces had to re-enroll in the federal government's version of a 401(k) plan.

Half received the standard re-enrollment email, full of bureaucratic jargon. The other half received an email written in plain language that was based on behavioral insights. It personalized the message; included three numbered action steps; and highlighted how re-enrolling would avoid interrupting retirement contributions.

About 23 percent more service members re-enrolled as a result of being sent the redesigned email instead of the standard email.

How can financial advisors have a similarly positive effect on civilian clients' investments? They need to start by "sharpening their skills of observation," says Hartford Funds' Diehl.

They also need to have conversations that go beyond "rates of return, time horizons and risk tolerances, to explore what's going on in the client's family structure, their workplace, and where they spend their time when they're away from work," he says. "Financial advisors are emotional coaches." ●

Financial advisors and investors need to confront the reality that how we think about money is costing us trillions of dollars.

All investments are subject to risk, including the possible loss of principle. Past performance is not a guarantee of future results.

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Dr. Barbara Nusbaum

Clinical Psychologist, Ph.D., expert and speaker, specializing in the intersection of money, psychology and life

Dr. Nusbaum works with individuals, families and organizations on the impact of the emotional/psychological side of money. She has appeared as an expert for *The New York Times*, *CBS News*, *Forbes*, *The Wall Street Journal*, *Bloomberg*, *Money Magazine* and *Daily Worth*.

Dr. Kristy Archuleta

Program Director of Personal Financial Planning at Kansas State University

Dr. Archuleta's research relates to the area of financial therapy and includes dyadic processes influencing financial and marital satisfaction.

Dr. Vicki Bogan

Professor and Director of the Institute for Behavioral and Household Finance (IBHF) at Cornell University

The mission of the IBHF is research and education in the areas of behavioral finance and household finance with the goal of better understanding and modeling financial behavior.

Tim Sanders

Author and expert on motivation, emotional talent and sales innovation

Tim is the author of five books including the New York Times bestseller, *Love Is the Killer App: How to Win Business & Influence Friends.* He was the Chief Solutions Officer for Yahoo, as well as their Leadership Coach.

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Economics 101

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Contributors

Hong Kong-based **Dorothy Chan** ("How Much Would It Cost to Sell Out of a Bond Position?" page 50) is a fixed-income market specialist for Greater China and global co-chair of Bloomberg Women's Community. Chan specializes in sales and trading workflow, credit analytics, and cross-border China solutions. She joined Bloomberg in 2010, having worked at Sumitomo Mitsui Banking on its loan syndication and offshore debt capital markets desks. Chan says {LQA <GO>} can remove some of the guesswork from assessing bond liquidity.

Francesco Tonin ("A Better Way to Hedge a Basket of Currency Exposures," page 36) is a foreign exchange market specialist in New York. After earning a Ph.D. in math, he held a tenured position at the Università degli Studi di Padova in Italy. Tonin started his finance career at Morgan Stanley and then worked at Deutsche Bank, Credit Suisse, and Citigroup, where he was head of FX structuring for the Americas. "Failing to hedge FX risk is not an alternative anymore," he says. "As a consequence, employing hedging optimization is a duty."

Bloomberg New York Bureau Chief **Jason Kelly** calls himself a private equity nerd. He chronicled the industry's relentless rise in his 2012 book, *The New Tycoons*. "I've come to appreciate, through learning their origin stories, how much these firms are ultimately entrepreneurial ventures," says Kelly, who interviewed Henry Kravis for our cover story ("Always Worry About What You Might Lose on the Downside," page 70). Kelly's new book, *Sweat Equity*, explores the transformation of fitness into a sprawling lifestyle economy.

Javier Blas, who co-authored "Vitology" (page 78) with Geneva-based commodities reporter Andy Hoffman, is the chief energy correspondent for Bloomberg News in London. Formerly with *Expansión*, Spain's leading business daily, and the *Financial Times*, where he was commodities editor, Blas has been writing about the global oil industry since 1999. Until this account, little was known about the inner workings of Vitol, the world's largest independent oil trader. "It's probably the biggest company you've never heard of," Blas says.

Editor
Joel Weber

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Features Editor
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<GO> Editor
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Production Associate
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Head of Bloomberg Markets
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EMEA Sales
Rob Huckin / 44 20 3525-9217

APAC Sales
Patrick Brownlow / 65 6231-3486

Global Revenue and Client Partnerships Officer
Paul Caine / 212 617-3115

Head of Sales, Americas
Keith Grossman / 212 617-3192

Head of EMEA Sales
Viktoria Degtar / 44 20 3525-4026

Head of APAC Sales
Mark Froude / 65 6499-2818

Production/Operations
Melvin Arriaza, James Delahanty, Debra Foley, Steven J. McCarthy, Mariya Rosier, Bernie Schraml

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WHAT MATTERS MOST
TO PEOPLE IN MARKETS AS THEY
LOOK AHEAD

Surveillance

“Alpha goes to the Hamptons and becomes beta.”

Brendan MacMillan

CHIEF INVESTMENT OFFICER AT
OCEAN ROAD ADVISORS

"In our view, U.S. auto sales were too high last fall. That needed to correct, which seems to be happening. Much of the slowdown in consumption through Q1 related to autos. Aside from auto, consumption looks fine. So that may be a good way to gauge the strength of consumption and, in turn, the domestic economy."

Michael Gapen

CHIEF U.S. ECONOMIST, BARCLAYS

"Most of us focus primarily on one equity benchmark, but the SPX does not tell the whole story of the market. Global markets are intertwined more than ever, and as a gauge of market breadth, the SPX arguably falls short of small-cap and equal-weighted indices."

Katie Stockton

CHIEF TECHNICAL STRATEGIST, BTIG

"Old tech is supercheap and priced for obsolescence, but it's throwing off a lot of capital and returning cash to shareholders."

Savita Subramanian

HEAD OF U.S. EQUITY AND QUANTITATIVE STRATEGY, BANK OF AMERICA MERRILL LYNCH

"There are reasons to like emerging markets right now. You've got valuations that are exceptionally cheap—historically so, when you compare them to 1999 and 2008 levels. Sometimes you have to close your eyes, hold your nose, buy them, and hope the catalyst comes around."

Anastasia Amoroso

GLOBAL MARKET STRATEGIST, JPMORGAN ASSET MANAGEMENT

"Quarterly estimates of U.S. corporate profits have been exceeded every single quarter since mid-2009. Weakness is largely confined to energy and materials. We'll start to see marginally positive aggregate profit growth again in Q2 despite what estimates now say."

Steven Wieting

GLOBAL CHIEF STRATEGIST, CITI PRIVATE BANK

“We’ve begun to see value stocks starting to outperform. We think it is the beginning of a new trend—it just needs some time to play itself out.”

Ernesto Ramos
HEAD OF EQUITIES,
BMO GLOBAL ASSET MANAGEMENT

“The global economy inflected, which creates economic recovery. In our view, that isn’t being discounted enough by investors. You’re having a groundswell of potential, and as that develops over the next year, one of the first sectors to do well should be financials—also the leading sector after the 2011 low.”

Tony Dwyer
CHIEF MARKET STRATEGIST/SENIOR MANAGING DIRECTOR, CANACCORD GENUITY

“Investors see the market as too expensive given an above-average p-e ratio and below-average earnings growth expectations. However, they underestimate the potential upside for stocks in a stable, nonrecessionary economic environment where interest rates and inflation remain extremely low.”

Jonathan Golub
CHIEF U.S. MARKET STRATEGIST,
RBC CAPITAL MARKETS

“There’s an incredible statistic in the United Kingdom: You are more likely to get divorced than change your bank account.”

Ben Lofthouse
PORTFOLIO MANAGER,
HENDERSON GLOBAL INVESTORS

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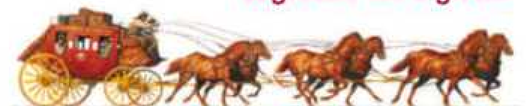

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An Algorithm Wants Your Job. Now What?

By HUGH SON

ILLUSTRATION BY MATT CHASE

ARE THE HUMANS of finance an endangered species?

People are still the lubricant that oils the wheels of finance, toiling at innumerable tasks—executing and settling trades, writing analysis, monitoring risk. That's about to change.

Squeezed by low interest rates, shrinking trading revenue, and nimbler technology-based competitors, banks are racing to remake themselves as digital companies to cut costs and better serve clients. In other words, they're preparing for the day that machines made by men and women take over more of what used to be the sole province of humans: knowledge work. Call it self-disruption.

Consider venerable State Street, a 224-year-old custody bank that predates the steam locomotive and caters to institutional investors such as pensions and mutual funds. In February, State Street executives told analysts that after spending five years upgrading technology systems, they realized how much more could be done. "We have 20,000 manual interventions on trades every day," said Michael Rogers, president of the Boston bank. "There's a huge opportunity to digitize that and move it forward electronically." ►

But one person's opportunity is another person's exit package. State Street had 32,356 people on the payroll last year. About one of every five will be automated out of a job by 2020, according to Rogers. What the bank is doing presages broader changes about to sweep across the industry. A report in March by Citigroup, the fourth-biggest U.S. bank, said that more than 1.8 million U.S. and European bank workers could lose their jobs within 10 years.

Advances in cloud-based computing and algorithms capable of combing vast amounts of data for decision-aiding patterns make this possible. The human brain is a wondrous machine, but it isn't changing. The pace of technological advancement is accelerating, and artificial intelligence (AI) may one day make many forms of work extinct. It's a topic that's dominated forums such as the Milken Institute Global Conference in May and has spurred talk of government-funded universal basic income programs that would pay citizens a regular stipend.

ALL OF THAT'S a ways off. What concerns bankers today—the ones who've survived round after round of post-financial crisis job cuts—is how humans will coexist with machines over the next few decades. Maligned in recent popular culture via movies like *The Big Short*, the still-essential business of banking isn't getting a breather after new regulations reined in profits and risk-taking. It's under assault from all sides by fintech startups devising new ways of doing old kinds of banking. From Hong Kong to Dublin, Brooklyn to Dubai, these upstarts attracted $22.3 billion in funding last year, up 75 percent from 2014, according to an Accenture analysis of data from research firm CB Insights.

Bank executives know what's coming. So they're setting up coder labs and investing in startups, teaming up with digital competitors or buying them outright. JPMorgan Chase, the biggest U.S. lender by assets, is using AI to identify potential equity clients. And it's marshaling OnDeck Capital's client-vetting algorithm to speed lending to small businesses. Both Bank of America and Morgan Stanley, which together employ more than 32,000 human financial advisers, are developing automated robo-advisers. More than 40 global banks have joined forces with startup R3 to develop standards to use blockchain, software that allows assets to be managed and recorded through a distributed ledger, to overhaul how assets are tracked and transferred.

The universal theme of banking's tech strategy is to make sure that, internally and in dealing with clients, ones and zeros flow seamlessly without messy human interference. At State Street, for example, incompatible systems and a variety of inputs mean people need to manually work an order—some 50,000 of them arrive each month in the form of a telephonically transmitted document that many assume had gone the way of the cassette tape: the fax. Instructions received that way require a human to manually shuttle trade and settlement information between screens. In other instances, missing or mismatched information in complicated trades needs to be reconciled by a person.

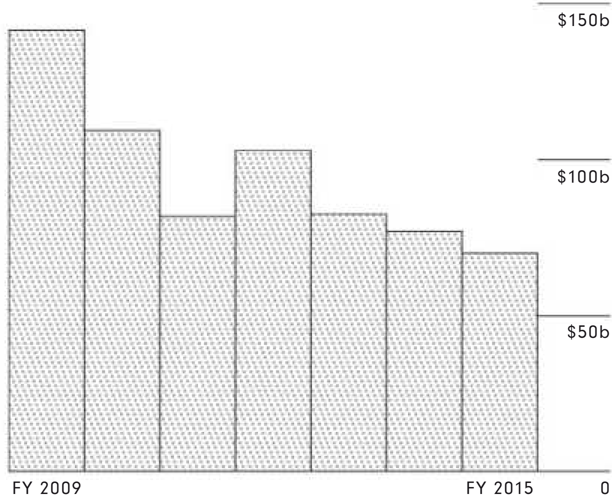
Machine learning, where the decision-making power of algorithms improves as more data are raked in, can replace people in some instances, say finance executives including Daniel Pinto, head of JPMorgan's investment and corporate bank. Algorithms already tackle tasks such as vetting banking clients, pricing assets, and hedging some orders without human intervention. "As we make those processes more and more efficient, you will need less people to do what we do today," Pinto says.

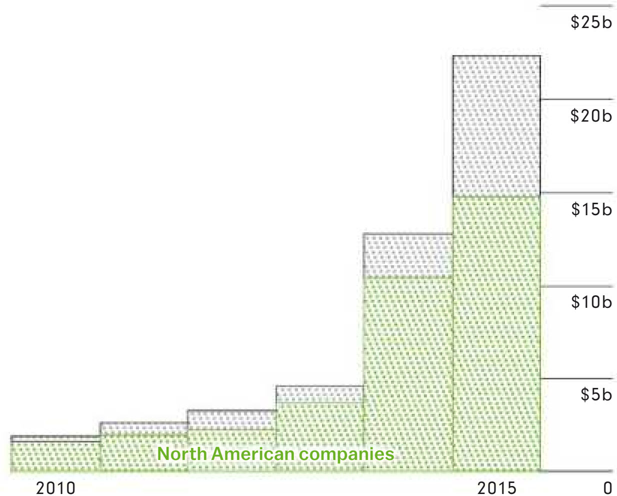
Beyond that, bots armed with AI and the ability to understand and respond in natural language can be used to answer clients' queries and eventually execute transactions, says Suresh Kumar, chief information officer of Bank of New York Mellon. "You start with something simple, maybe just offering information, then you start doing transactions," Kumar says. "We obviously want to automate everything, but you have to prioritize."

Even those at the top of the industry's hierarchy aren't immune. Bond trading is the single biggest source of Wall Street profit. It's also something of a broken market. Post-crisis regulations have crimped banks' ability to stockpile bonds, changing their traditional role in markets and creating an opening for dozens of electronic-trading startups looking to connect buyers and sellers. Fixed-income trading at the world's biggest investment banks brought in $70 billion last year, half the 2009 level, according to data compiled by financial research firm Coalition.

When investors embrace electronic trading, margins collapse while volumes, for a few winners, surge. In equities, electronic trading has decimated the number of salespeople, traders, and floor brokers; it's also ushered in high-speed trading firms and alternative exchanges like dark pools. These changes are well under way in government bond trading, where technology-powered firms such as Citadel Securities have made inroads, and in foreign exchange, where year-old XTX Markets now ranks as one of the world's biggest FX firms.

In the $8.16 trillion corporate debt market—the last big refuge for people who trade over the phone—electronic trading of investment-





*Prior to fiscal year 2010, the 10 largest banks. Sources: Coalition, Accenture, CB Insights

grade bonds grew 25 percent last year, according to Greenwich Associates. MarketAxess, which is one of the biggest electronic venues in credit, clocked a 27 percent surge in trading volume in the first quarter. (Bloomberg LP, the parent company of Bloomberg News, competes with MarketAxess in providing a venue for electronic trading of corporate debt.) Other upstarts, typically founded by Wall Street refugees, have jumped in.

AS WITH OTHER threats, such as e-payments and automated investing, established players aren't sitting still. They're opening up electronic venues so institutional clients—who use investment banks for a bundled array of services—have less reason to wander. Goldman Sachs is offering clients access to its proprietary research and analytical tools through web platforms to entice them to do more business with the firm. As banks automate fixed-income trading operations, "they will start making drastic decisions about their trading personnel," says George Kuznetsov, Coalition's head of research and analytics.

Even in investment banking, where the human element is central to dealmaking, technology will have an impact. Many parts of the initial public offering process are "ripe for workflow automation," Goldman Sachs CIO Martin Chavez said in September.

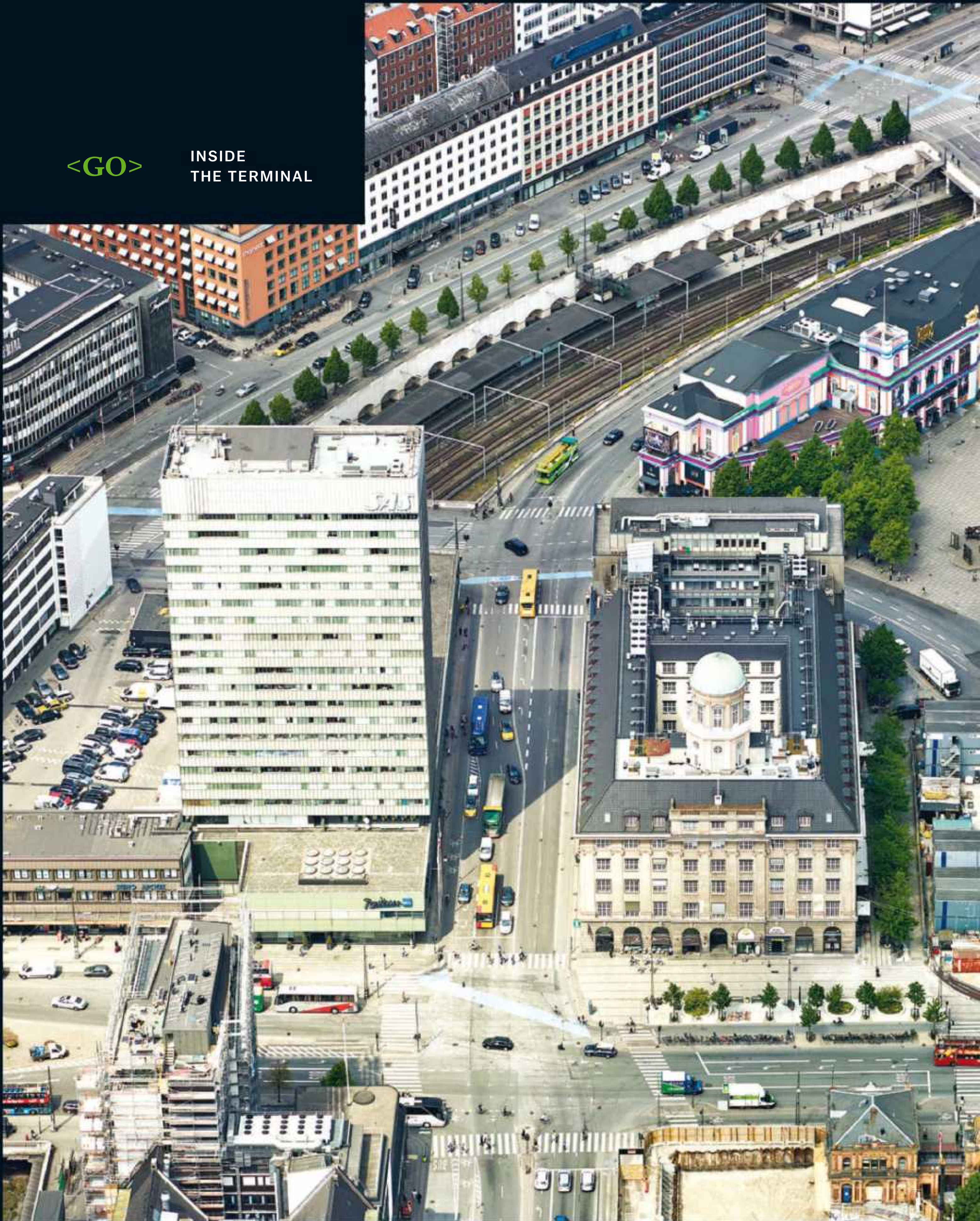
What all of this means is that the number of front-office trading and dealmaking jobs has been in decline since 2007, just before the financial crisis, when it peaked at 64,521. It was 14 percent lower last year at the world's largest investment banks, according to Coalition. Even if revenues recover because of higher interest rates, improving economies, and a rebound in debt trading, new platforms will simply scale up to the higher volumes without needing many more flesh-and-blood operators. Wall Street has reached peak human.

Saying that an industry is contracting doesn't mean people won't be earning a living in finance down the road. Banks will need computer engineers and data scientists—and old-fashioned voice traders to make markets in more bespoke assets such as structured credit. People will be needed to conceive of, create, and maintain new products. Matthew Dixon, an assistant professor of finance at the Illinois Institute of Technology who has studied machine learning, tells aspiring traders to learn computer programming. "The days you could just learn Excel and do some fundamental analysis are over," Dixon says. "You're going to be working with larger and larger amounts of data, and you'll need to know how to use algorithms."

Wall Street will go on—but maybe without as many suits.

Son covers banks in New York.

<GO> INSIDE THE TERMINAL



Negative Space

DENMARK pushed through what economists once quaintly called the “zero bound” four years ago. In July 2012 the country’s central bank, seeking to stem a flood of money that was driving up the krone, lowered the rate it pays on certificates of deposit to -0.2 percent. If you bought a CD to park money in, you’d pay for the privilege. Four years later, the CD rate is still less than zero: After a 10 basis point hike in January, it stood at -0.65 percent. The topsy-turviness of charging savers and paying borrowers may also contribute to the construction boom in Denmark’s capital. This view, from above Copenhagen’s famed Tivoli amusement park, shows cranes finishing a mixed-use complex designed by Lundgaard & Tranberg Architects. (Among its features: underground parking for 150 bicycles, because, well, it’s Copenhagen.) For a look at the state of things in Denmark, turn to page 58. And go to **{MIPR<GO>}** for access to market expectations for policy rates in the Scandinavian country and others around the world. *—Jon Asmundsson*

PHOTOGRAPH BY GILES PRICE

Asset Management

A Pioneering ETF Investor Says Gold Flashed A Buy on Emerging Markets

By JON ASMUNDSSON

To track flows into and out of ETFs around the world, go to **{FFLO <GO>}**.

99) Settings — ETF Flows

View: Highest/Lowest | Chart: Flow% | Market: All | Period: YTD | History | In Millions of USD

Country	Netflow	Flow%	Assets	#Funds	Inflow	Outflow
Highest						
10) Argentina	+49	+62.3	79	1	49	
11) Chile	+125	+32.2	387	2	158	-34
12) [illegible]	+256	+25.5	1,003	4	274	-19
[illegible]	+55	+25.1	219	1	59	-4
[illegible]	+174	+17.5	999	16	327	-153
[illegible]	+99	+16.9	584	77	160	-61
[illegible]	+134	+15.1	890	13	155	-21
[illegible]	+73	+13.9	527	19	147	-74
[illegible]	+4	+13.5	29	1	4	
19) Egypt	+756	+13.3	5,682	35	1,423	667
Lowest						
20) North America*	-3,304	-7.5	43,704	145	4,756	-8,060
21) Germany	-383	-8.1	4,740	28	1,638	-2,021
22) Philippines	-29	-8.9	326	4	73	-102
23) Bangladesh	-2	-9.1	20	1	0	-2
24) Mexico	-3	-10.8	27	2	1	-4
25) Italy	-739	-12.2	6,061	40	1,123	-1,862
26) Middle East Region*	-12	-18.3	65	5	2	-14
27) Spain	-850	-22.8	3,725	18	279	-1,129
28) Kuwait	-2	-31.5	6	1	1	-3
29) Austria	-127	-36.1	351	5	79	-206

*Regionally Focused Funds

WHEN STEPHEN CUCCHIARO looks at gold, he sees a stable frame of reference instead of a volatile asset whose price zigzags up and down.

"Gold is just a lump of metal sitting on a shelf," says the president of 3Edge Asset Management, a Boston-based registered investment adviser that started in January and now oversees more than $162 million. Most of the gold on the planet has already been dug up, he says, so the supply is relatively fixed. Gold doesn't tarnish, wither, or produce interest income—it just sits there. "So think of gold as being the only stable asset, with everything else revolving around it, and all of a sudden you get an interesting perspective," he says.

One thing that perspective revealed earlier this year was a bullish signal for emerging markets, Cucchiaro, 63, says.

To connect gold and emerging markets takes a bit of back story. It starts in the early 1970s, when Cucchiaro was a math major at MIT studying a field called complex systems. He became fascinated with how to analyze and model systems that have a lot of interconnected variables whose interactions often can't be described by simple linear relationships. "Only when you understand those interconnections—and only when you understand at a detailed ►

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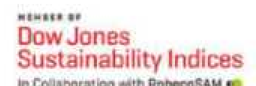

Cucchiaro says certain metrics can collect information about other variables, including investor behavior.

mathematical level the time delays between a change in one variable and another—do you get the benefit of understanding the whole dynamic system," he says.

After graduating from MIT, Cucchiaro studied finance at the Wharton School at the University of Pennsylvania. There, he says, he began to realize that global capital markets are a perfect example of a complex system. John Sterman, director of MIT's System Dynamics Group, says he shares Cucchiaro's view. "Everything interacts: there are important feedback interactions—these are nonlinear," he says.

That has implications when applied to finance. "All complex systems, whether they're in science or nature or physics or evolution, tend not to be at some restful state of equilibrium but tend to bounce across different states of disequilibrium," Cucchiaro says. In such a framework, assets such as U.S. stocks, oil, and the Japanese yen would almost always be under- or overvalued to some degree. Economic and fundamental forces push those valuations up or down, and investor psychology—particularly herd behavior—can sometimes stretch them to extreme levels. "I realized that was an opportunity to add something new—to take what I had learned in other fields and apply it in finance," he says.

Cucchiaro set out to develop an investment approach based on complex systems. After finishing Wharton in 1977, he worked as a management consultant, an economist, and an entrepreneur, starting one company that he sold to Lotus Development and leading another that Oracle bought. In his spare time, he did research, compiling information on which variables were most important in driving various markets.

He developed models based on that research and in 1994 founded Windward Investment Management. At the one-man firm, he implemented his approach using a recent innovation, exchange-traded funds.

Luis Viceira, a professor at Harvard Business School, says Cucchiaro was one of the first to see how ETFs could be used to diversify across asset classes. "This is really important because people were not realizing the disruptive power that ETFs had," he says. "His firm grew very quickly—basically from his money and some friends' money into the largest RIA in the market."

In 2002, Windward, with $70 million in assets, started hiring people to build its business. The firm's diversified aggressive strategy gained 3.3 percent that year, while the S&P 500 plunged 22 percent. "From an early stage, I was able to prove the validity of the approach," Cucchiaro says. "In 2003, when the market was up 28 percent, we made 31 percent."

Windward's assets grew to $3.9 billion by 2010, when Charles Schwab bought the firm in a ▶

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$150 million deal. "The original intent was never to sell the company, but we received a very attractive offer that was hard for my partners and I to turn down," Cucchiaro says. "We became part of Schwab Corp."

After a "very sharp trademark attorney" noticed that the Windward name wasn't properly registered, Cucchiaro says, Schwab changed the name to Windhaven. (Cucchiaro, whose hobby is sailing, was a member of the U.S. team that would have competed in the U.S.-boycotted 1980 Olympics.)

Windhaven's assets rose to $19.7 billion in June 2014, when Cucchiaro left the firm. "It allowed me to step back for the first time in many years and reconnect with my children and my hobby," he says. "It also gave me time to develop brand-new intellectual property, which is the basis of 3Edge."

CUCCHIARO SAYS THAT one of the things he thought about during his time off was the unprecedented way that central banks have intervened in global markets since 2008. "You can't go back in history and find a time when we had 30 percent of the world's government bond markets yielding negative interest rates," he says. Central banks in effect pushed up asset prices in the hope that doing so would spur economic growth. "That second part didn't happen," he says. "So we have market prices that got elevated beyond the fundamentals." That, in effect, reduces future returns by pulling them into the present. One implication, Cucchiaro says, is that a buy-and-hold strategy of stocks and bonds probably won't do as well as it may have in the past. "So part of our approach is to identify asset classes that are not only undervalued but where there's a catalyst that we can identify."

That's where gold and emerging markets come in. Emerging markets tend to outperform developed economies at times and then lag at other times, says DeFred "Fritz" Folts III, chief investment strategist at 3Edge. For the past several years emerging markets have underperformed a lot. As a result, they started to appear undervalued, and some investors jumped in. "People got into that trade in 2014," Folts says. "It was a very disappointing place to be."

Meanwhile, continued dollar strength was one of the most widely held expectations in the market. "Everyone came to a consensus view," Cucchiaro says. The U.S. Federal Reserve was the only major central bank trying to raise rates; all the others were trying to ease more. Dollar appreciation was in effect putting the brakes on emerging markets. "The strong dollar will siphon capital out of the emerging markets," Folts says. Emerging markets may be undervalued, but it didn't mean that they were going to turn around anytime soon.

ALL OF THAT started to change after the Fed raised rates in December. Markets became very unstable, and the Fed signaled that it wouldn't boost rates four times this year as originally projected. "All of a sudden, the dollar started to stabilize and then weaken," Cucchiaro says.

To assess the value of the dollar, you can measure it against the euro, the yen, or a basket of currencies. But what if all of the currencies are depreciating in some way? "It's like the worst-kept secret in the world that people want their currencies to depreciate," Folts says. With all central banks essentially trying to weaken their currencies to help their economies grow, it might look like not much is happening as currencies oscillate in a range against one another.

That's where you can bring in gold as a frame of reference for paper currencies, Cucchiaro says. "We've seen gold since it peaked in 2011 steadily go down, down, down—and all of a sudden, at the turn of the year, it started to come up," he says.

The rise in gold, Cucchiaro says, suggested weakness for the dollar and hence that developing economies might start to turn upward. "This was a big signal that it was now time to start nibbling away at emerging markets," he says. ●

Asmundsson is <GO> editor of *Bloomberg Markets*.

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Investing

ESG Analysis Helped Domini Steer Clear Of Valeant's Drop

By LAURA COLBY

Acquisitions fueled Valeant's growth and, for Domini, signaled that the company had shifted its focus.

VALEANT PHARMACEUTICALS has taken investors on a wild ride. The drugmaker's stock price climbed tenfold, to a high of $262 a share last August, before cratering to about $26 on May 19, bringing billions of dollars of losses to investors including hedge funder Bill Ackman.

Watching the crash serenely from the sidelines was Tessie Petion, vice president for responsible investment research at Domini Social Investments.

Petion was once a fan of Valeant, because its sales of generic drugs and contraceptives in emerging markets had a positive impact on the health of people in the developing world. Then Valeant went on a buying spree. After acquiring more than 100 companies in five years, it slashed research and development of lifesaving drugs. In October 2014, even as Valeant's price soared, Petion decided the stock no longer met Domini's criteria and put it on the no-buy list. "We saw their focus switch from developing drugs to financial engineering," Petion, 35, says. While Domini's Social Equity Fund missed some of the biggest gains among S&P 500 stocks last year, it also missed some of the biggest losses. That points to the value of social investing, says Carole Laible, chief executive officer of 26-year-old Domini, which manages about $1.6 billion for individuals and institutions.

Once considered a backwater for a few foundations and wealthy clients willing to accept lower profits in exchange for doing good, socially responsible investing is booming. According to an industry group, 925 funds with net assets of $4.3 trillion used environmental, social, and governance (ESG) criteria to choose investments in 2014, more than four times the $1 trillion held by about 700 funds in 2012.

"Millennials are demanding this as an option," ►

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Bloomberg's new gender-equality index, **{BFGEI Index <GO>}**, tracks the performance of financial-services firms that score highest on disclosure and practices.

Petion says. "It's a necessity for the younger generation, in a way it wasn't for the older generations."

Petion and her researchers sift through publicly traded companies for Domini's two stock funds, developing a list of "eligible" businesses that meet their ESG criteria. One key criterion is whether the increasing diversity of the U.S. population is reflected in a company's workforce, its management, and throughout its supply chain. "Diversity can be a really great selling point or a big detractor," Petion says.

Having a diverse management board or a female or minority CEO isn't enough by itself to qualify a company as socially responsible. Both General Dynamics and Lockheed Martin have female CEOs, but Domini doesn't invest in defense companies, Petion says. General Motors, led since 2014 by Mary Barra, doesn't make Domini's list, either, because of its heavy reliance on gas-guzzling trucks.

Diversity can also be a leading indicator. Drugmaker Merck was excluded from Domini's portfolio for many years amid litigation over the safety of painkiller Vioxx. As the number of cases declined, Merck hired a new CEO, Kenneth Frazier, one of the rare African Americans leading a Fortune 500 company. It also developed programs to provide access to vaccines and other medicines to people in developing markets. Merck was cleared for investment and is now the U.S. fund's third-largest holding. "We think there's not a cost to imposing these standards," says CEO Laible. "They help us select better companies over the long term."

Domini has beaten its benchmarks more often than not. After outperforming the S&P 500 in 2013 and 2014, the Domini fund trailed the benchmark last year. In the first quarter of 2016 it was up 1.39 percent, four basis points ahead of the benchmark. Its International Social Equity Fund has outperformed the MSCI EAFE Index the past three years and was up 3.03 percent in the first quarter, vs. 0.04 percent for the benchmark.

"Every industry has a rationale," Petion says. The question is, what does it provide to society? When it comes to the financial-services sector, which makes up 17 percent of the U.S. fund, that means "boring banking," she says. Petion looks at whether a bank provides access to capital and affordable housing, and at the projects it finances—renewable energy, say, or oil sands? She also looks at how a company interacts with its stakeholders: employees, investors, and customers.

Few of Wall Street's powerhouses make the cut. "For the largest companies in the world, it's very hard to put it down to a single factor," she says. Many are still working through elements of the financial crisis, while scandals such as Libor have excluded others.

If a bank has a large number of women among its staff, that's positive, but more important is whether the proportion remains constant as you go up the management chain to the senior executive level. That's rarely the case, despite strong diversity programs at many institutions. "It's all well and good to have a diversity program," she says. "But you also want to see it in action." ●

Colby is a senior reporter at Bloomberg News in New York.

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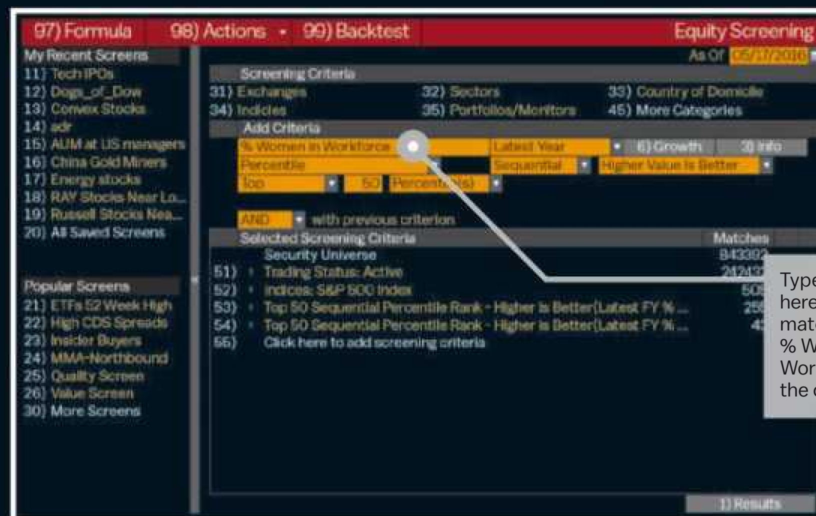
ESG

A Gender-Focused Strategy Beat the S&P 500 By 141 Percent

By VIGNESH R S and CONSTANTIN COSEREANU

To screen for the S&P 500 companies with the best gender diversity, run **{EQS <GO>}**.



WOMEN OCCUPY ONLY 20 percent of board seats at companies in the S&P 500. Some studies suggest that having more women in leadership roles at corporations can have a positive impact on performance metrics and share price. So can you profit from a strategy that focuses on gender diversity? A simple backtest suggests the answer is a resounding yes.

The strategy is based on screening for the companies that are in the top half of the S&P 500 in terms of women's representation on their boards, management, and workforce.

To set up the screen, go to **{EQS <GO>}**. Enter "SPX" in the field and click on the top match. Type "women" in the field and click on the % Women on Board item in the list of matches that appears. Select Percentile, then enter "50" and press <GO>. Repeat the steps, selecting % Women in Management this time. Finally, repeat again, this time selecting % Women in Workforce. As of early May, those criteria trimmed the list to 20 stocks. Click on Results for a list.

On the Results page, click on Backtest to see how a strategy of investing in such companies would have performed. Over the past 10 years, an equal-weighted portfolio of such gender-diverse companies, rebalanced quarterly, would have generated a total return of 238 percent, outperforming the S&P 500 by 141 percent.

The portfolio topped the benchmark in 65 percent of the periods under consideration—and the highest outperformance came at the end of the third quarter of 2008, after the collapse of Lehman Brothers.

What's more, the weighted average return on equity for the portfolio was 15 percent higher than that of the S&P 500 last year. Return on invested capital was 1.3 percent higher than that of the benchmark.

R S is an equity market specialist at Bloomberg in Singapore. Cosereanu is a portfolio and risk specialist in London.

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Corporations

A Better Way to Hedge a Basket of Currency Exposures

By FRANCESCO TONIN

FROM 1999 TO 2014, many U.S.-based corporations had it easy. The dollar, which weakened for most of those 15 years, made their products more competitive overseas. In addition, revenue earned in other currencies became more valuable over time in dollar terms, making foreign exchange hedging less imperative. Exports account for 33 percent of revenue at large U.S.-listed companies. The total annual value of American exports peaked at $1.6 trillion in 2014.

Then the currency trend reversed, and the dollar began to strengthen. From mid-2014 through January 2016, the Bloomberg Dollar Spot Index rose 25 percent. To chart the index, which tracks a basket of currencies that's rebalanced each year to reflect trade and FX liquidity, go to **{BDXY <GO>}**.

THE STRONGER DOLLAR IS forcing many market participants to brush up on their knowledge of basket risk, Value at Risk (VaR), and optimization of hedges. While mathematically rigorous, the portfolio theory underlying such analysis doesn't have to be completely esoteric. In fact, some of the fundamental ideas about combining and hedging currency exposures can be shown in some simple diagrams.

To consider the main concepts of portfolio hedging, let's look at a hypothetical company based in the U.S. whose functional and reporting currency is the dollar. A year from now, it will need to pay a supplier in Mexico in pesos an amount currently equal to $200 million. The company will then receive revenue in Chinese yuan and Brazilian reais from selling goods in China and Brazil. Each of those receivables is currently equal to $100 million. In other words, a simple portfolio of the expense and revenue streams consists of three FX exposures: 1) short $200 million in Mexican pesos; 2) long $100 million in yuan; and 3) long $100 million in reais.

If you set up that simple portfolio in the Multi-Asset Risk System (MARS) function, you can then analyze its VaR, an estimate of the loss over a set period at a specified confidence level. VaR, of course, is a key tool for analyzing the potential losses your exposures could generate. Select the VaR tab in MARS and then click the Run Report button to examine the risk of the portfolio.

How are these VaR numbers put together? First, in effect, you go back over each day of the past year and look at the change in the exchange rates for that day. Then you apply the same changes to your portfolio, so that you have a "simulated" profit and loss for every day of the year. To view a chart and a list of the daily P&Ls from those calculations, click on the VaR Simulations subtab.

Next, click on the Distribution subtab. Here, you've taken all of the simulated P&L numbers for each day and plotted them in a histogram.

Last, let's say we want to have a 99 percent confidence interval in the estimate. So out of 255 business days in the year, you need to find the worst 1 percent of days. That corresponds to 2.55 days, so you count to the second- and ►

To track the Value at Risk of your FX exposures, go to **{MARS <GO>}**, select your portfolio, and click on the VaR tab.

1) Actions • 2) Positions • 3) Views • 4) Settings • 5) Reports • Multi Asset Risk System

Understanding VaR (Shared) | USD | <Add Security> | 05/19/16 | 21) Group By

31) Positions | 32) Scenarios | 33) Risk Analysis | 34) Hedging | 35) Counterparty Risk | 36) VaR | 37) Cashflow

41) Overview | 42) VaR Comparison | 43) Distribution | 44) VaR Simulations

Full/Split Screen | 92) Browse Report | Run Report

VaR Report: Portfolio Report (05/18/16 02:13:47 PM) | Currency: USD | Group By: Asset Class

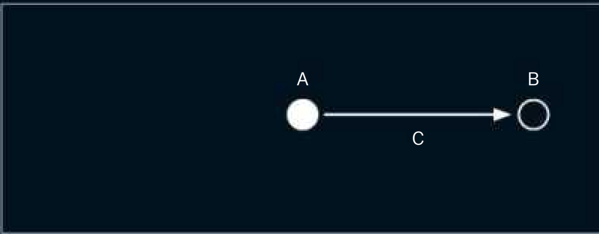
Methodology: Historical 1 Year | Horizon: 1 day | Unit: P&L | Confidence Level: 95%

	Position	Notional	MktVal Port Ccy	VaR	CVaR	MVaR	IVaR
[+] Portfolio Totals			-1,143,206.14	2,038,181	2,749,590	2,038,181	2,038,181
- FX			-1,143,206.14	2,038,180	[illegible]	2,038,180	2,038,180
USDMXN - Forward	1	200,000,000	278,356.57	2,376,055	[illegible]	-492,170	2,376,055
USDCNH - Forward	1	-100,000,000	-530,925.13	686,173	[illegible]	-327,191	328,055
USDBRL - Forward	1	-100,000,000	-890,637.58	2,218,046	[illegible]	-149,561	-655,929

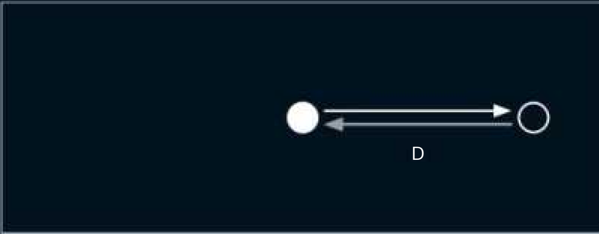
91) Expectations | Zoom | 100%

Click here to run a VaR report on your portfolio.

1
A simple diagram shows the risk of FX exposures.
A is the origin, where you'd be with no currency exposure.
B is where your Mexican peso exposure moves you to.
The length of C is your Value at Risk.

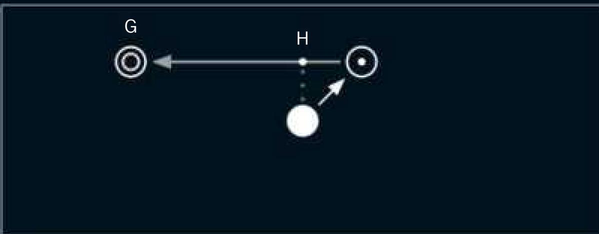


2
The orientation of an arrow represents its correlation with other exposures. If you hedge your peso exposure—D—that moves VaR in the opposite direction.



3
Chaining together individual exposures, you get the portfolio exposure, E.
In this case, the portfolio VaR—F—is less than the standalone peso VaR.

4
Now, if you hedge a small amount of your peso exposure from your portfolio position, that brings you closer to the origin—reducing overall VaR.
If you hedge it all—G—however, that moves you farther away, increasing VaR. Point H is the optimal peso hedge.



{MARS <GO>} lets you view VaR simulations.

third-worst days—which are displayed in the lower right corner of the screen—and interpolate to arrive at the VaR number. In this case, that's $3.3 million. Based on a year of historical data, the one-day loss on our simple portfolio of $400 million of FX exposures won't exceed that figure—99 percent of the time. Annualized, that VaR number corresponds to a total risk of $53 million over one year.

NOW LET'S SAY YOU want to hedge. To hedge everything might be too expensive—because of the foreign currency interest rate—or impractical. An alternative approach might be to hedge part of your exposure.

Click on the Overview subtab in MARS. Incremental VaR, shown in the IVaR column, tells you that hedging a small amount of the Mexican peso exposure would correspond, prorated to the full basket, to a decrease of $2,376,055 in VaR. That seems like a really good idea.

Yet if you proceed to hedge all of the peso exposure, you get an unpleasant surprise: VaR has actually increased! How can that be?

The answer can be found in Marginal VaR, shown in the MVaR column. The negative sign on that figure tells us that if we hedge all of the Mexican peso exposure, our overall VaR actually increases by $492,170.

What to do? There is an optimal amount of peso exposure that, when hedged, will reduce the VaR the most. In fact, the optimal amount to hedge is about $55 million, a level at which the overall VaR decreases by about 23 percent.

That's not all. In this example we've just applied an approach that tackles one exposure only. If we generalize the technique, we can run a more sophisticated optimization.

The cost of hedging the full portfolio for one year is $5.85 million, but let's say we want to spend only $2 million. If we use that $2 million budget to proportionally hedge each of the three exposures, the annualized VaR figure will drop to $37 million (from $53 million when completely unhedged).

That's pretty good, but you can do even better. To control the cost of hedging, we need to give each portfolio component the ability to have its own hedging ratio.

In fact, for each level of hedging budget we can calculate the optimal strategy that minimizes VaR. Doing that, you find you'd use the $2 million budget to hedge 61 percent of the Brazilian real exposure, 100 percent of the yuan exposure, and 96 percent of the peso exposure. That would reduce the annualized VaR to $16.7 million—trimming your potential loss by $20 million.

So how do you calculate the optimal hedging strategy for a given hedging budget? For more information on the Bloomberg FX Hedge Analysis tool, press <Help><Help>.

Tonin is an FX derivatives market specialist at Bloomberg in New York.

A New Crown on the River of Kings

Bangkok's ambitious ICONSIAM is the most spectacular retail and entertainment development Thailand has ever seen, setting a new benchmark for luxury in the kingdom and propelling the city's historic Chao Phraya river onto the global stage.

The regal Chao Phraya river has always been central to the story of Thailand, and now a new chapter in the country's glorious history is being written on the banks of this great waterway with ICONSIAM, Bangkok's city of the future.

With two of the world's most glamorous retail complexes, arts and entertainments that combine modern technological sophistication with unique Thai culture, and two condominiums of breathtaking luxury, ICONSIAM showcases the best of Thailand on the domestic and international stage.

As a symbol of national confidence, it's fitting that three of Thailand's most successful companies – Siam Piwat, MQDC Magnolia Quality Development Corporation and Charoen Pokphand Group – have joined forces to create this ฿ 54 billion, 750,000 square-metre landmark, the most spectacular property development the country has ever seen.

The ICONSIAM and ICONLUXE complexes showcase Thai prosperity and culture with a global flavour. Just as the architecture blends traditional Thai designs with modern concepts, so the retail galleries combine the best of Thai and international brands, state-of-the-art international entertainment with the splendour of Thai heritage, 3-star Michelin dining alongside the iconic foods of Thailand's 77 provinces, and even the world's first indoor floating market.

The Magnolias Waterfront Residences at ICONSIAM and The Residences at Mandarin Oriental Bangkok condominiums have already become a paragon of prestige to rival the prime real estate of London, Singapore, Hong Kong or Tokyo, setting a new benchmark for excellence in every detail.

ICONSIAM is the glittering heart of the city, but it also has the city at its heart. To fulfill its holistic goal to propel Bangkok to the front of the international stage, ICONSIAM has joined forces with more than 30 private and public-sector projects to transform an entire 10-kilometre stretch of the magnificent Chao Phraya river into a new global tourism icon.

ICONSIAM is more than a single destination, it is the vision of a forward-looking Thailand.

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Trading

How to Create A Bid Sheet (Without Tipping Your Hand)

By VLAD RASHKOVICH and OLGA VILENSKAIA

A BUY-SIDE FIRM WANTS to change a portfolio—selling eight stock holdings, let's say, and buying positions in six new names with a total gross value of $136 million.

One way to make that trade is to send out a so-called bid sheet, which describes characteristics of your basket such as its size, beta, and liquidity without identifying the stocks—possibly not even specifying whether you're buying or selling. After all, you probably don't want to signal the market about what you're planning to do.

Today, to generate a bid sheet, a buy-side firm will typically upload its basket to one broker's website and then send the resulting document to other sell-side firms to see which one returns with the best quote to do the deal. There are a number of problems with that arrangement. For one, you're showing your basket to the first broker. For another, how do you—or the other brokers—know what models and assumptions went into generating the bid sheet?

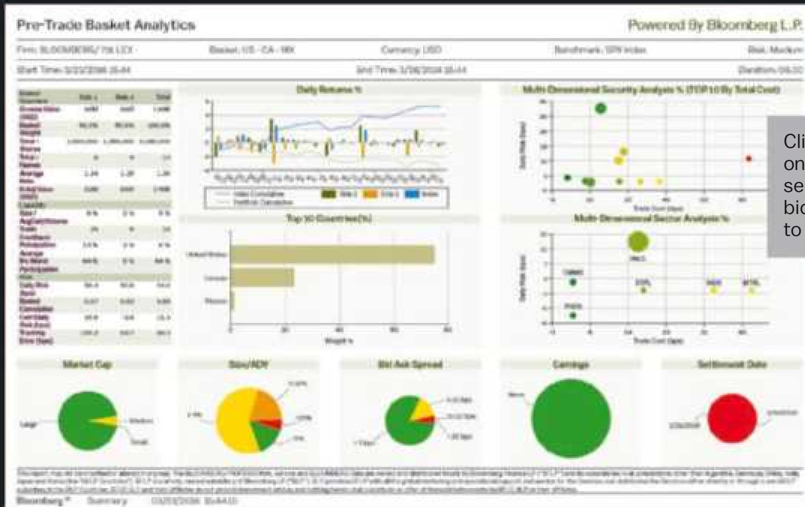
To share the minimum amount of information about your basket and ensure you're getting the tightest possible quotes, you can now use Bloomberg—a neutral party—to generate your bid sheet. In addition, the same tool lets you create detailed pretrade analysis for your internal use.

TO GENERATE A BID SHEET, go to **{TCA <GO>}** for the Trade Cost Analysis function. Select a source such as your order management system, then choose a basket and click on the Reports button. The drop-down menu that appears lets you select the type of report you'd like to generate. Basket Report provides all underlying stock information and can be used for your internal purposes. Bid Sheet With Side hides the securities but shows analytics by side. If you also want to hide the underlying sides, select Bid Sheet Without Side.

Once you select your type of report, a TCA Reports window appears. In it, you can customize the timeline, select a risk level, and specify a benchmark. You can also choose which pages to include in the report.

Hit the Run button. When the report is ready, you'll receive it in your Bloomberg in-box.

To generate a bid sheet, run **{TCA <GO>}** and select the basket of stocks.



Click on Reports on the red toolbar and select the type of bid sheet you want to create.

What's in the Report?

The first page of the report is a summary that seeks to answer all the key questions about the basket in one shot. At the upper left is a table summarizing the basket, its liquidity, and its risk characteristics. The Daily Returns chart graphs performance during the past month for both sides of the portfolio as well as the benchmark index you've chosen. Cumulative portfolio and benchmark returns are overlaid on the chart.

Two multidimensional charts are shown on the right side of the page. Both display four dimensions of data: trade cost (x-axis), marginal risk (y-axis), participation percentage (color), and weight in the portfolio (bubble size). The upper chart shows the top 10 securities (without names for a bid sheet). The bottom chart presents the same analysis by sector. The top 10 countries chart shows their weight in your portfolio.

At the bottom of the page are pie charts that graph distributions by market cap, size/average daily volume, bid-ask spread, and coming earnings announcement and settlement dates.

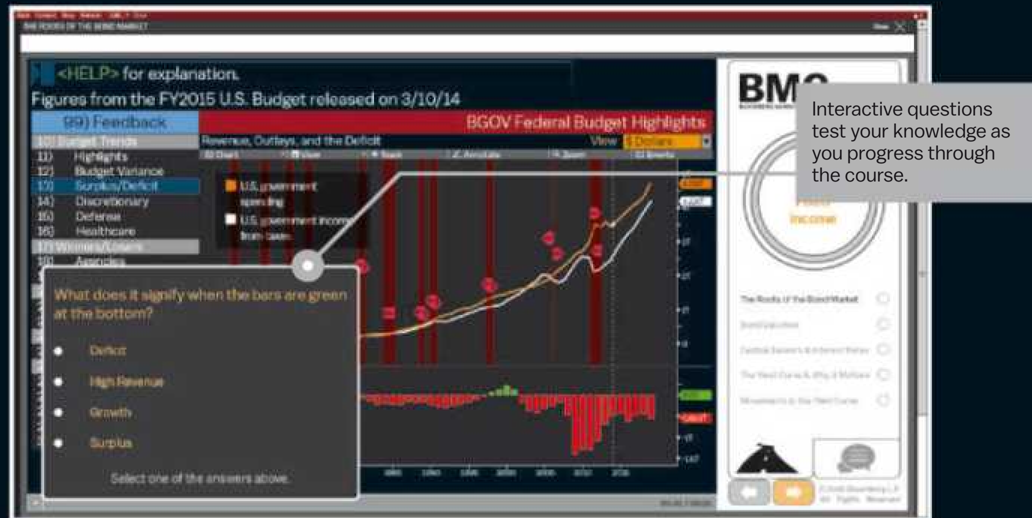
Rashkovich is head of quantitative trading strategies at Bloomberg in New York.
Vilenskaia is a quantitative researcher in New York.

Training

This Pop Quiz Will Test Your Finance Smarts

By BLAIR WILKIE

Bloomberg Market Concepts is a self-paced course that provides a practical introduction to financial markets. For access, run **{BMC <GO>}**.



1. What single statistic would former Fed Chairman Alan Greenspan have used to conduct U.S. monetary policy if stranded on a desert island?
2. What is Spain's debt as a percentage of gross domestic product?
3. How is the Danish kroner pegged?
4. How can you graph the U.S. budget deficit?
5. How many U.S. Treasury issues are outstanding?
6. What is the market capitalization of all publicly traded stocks in the world?
7. Are economic data beating or trailing expectations?
8. How does the price of a Big Mac in Turkey compare with the price in Argentina?
9. What is the forecast range of the eurodollar in six months with a 95 percent probability?

YOU CAN FIND the answers to these questions by taking Bloomberg Market Concepts, an introductory finance course. (You can also get them via the functions below.)

Run **{BMC <GO>}** for access to the course, which is designed for students, people who are early in their careers, and professionals who need to learn more about markets to be more effective in their roles—staff involved in settlement, compliance, or risk, for example. BMC consists of four modules—Economic Indicators, Currencies, Fixed Income, and Equities—woven together from Bloomberg analytics, data, news, and television. Unlike any other intro course, BMC covers more than 70 Bloomberg functions. Each participant who finishes is awarded a certificate of completion.

For companies that incorporate BMC into their development programs, Bloomberg Institute provides a BMC report, aggregating all employee performance from a group of new hires or a department. Current employees can also take BMC on their own to brush up on a topic or learn more about using the terminal.

Wilkie is on the staff of Bloomberg Institute in New York.

Answers: **1.** The Institute for Supply Management's manufacturing PMI, which you can track via {WECO <GO>}; **2.** {WCDM <GO>}; **3.** {PEG <GO>}; **4.** {BUDG <GO>}; **5.** {SRCH <GO>}; **6.** {WCAP <GO>}; **7.** {ECSU <GO>}; **8.** {WBG <GO>}; **9.** {EURUSD Curncy FXFM <GO>}

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Economics

Decoding the Mystery of Weak First-Quarter U.S. Growth

By YELENA SHULYATYEVA and CARL RICCADONNA

THE U.S. ECONOMY GREW an anemic 0.5 percent in the first quarter, according to advance data released in April by the U.S. Department of Commerce's Bureau of Economic Analysis. In May the government revised the gross domestic product number up to a still-lackluster 0.8 percent.

Like last year and the year before, economists had been steadily trimming their GDP projections for months, dropping the consensus forecast for the first quarter to less than 1 percent from as high as 2.5 percent in mid-January. The first quarters of 2014 and 2015 were the weakest by far in those years, supporting economists' pessimism.

Fed policymakers are well aware of this pattern, even if there's little agreement about its causes, and are looking past feeble growth at the data pointing to a rebound in the second quarter and for signs of stronger growth over the rest of the year.

BLOOMBERG INTELLIGENCE has taken a deeper look at this recurring seasonal aberration, which economists call "residual seasonality." Many economic data series are adjusted for recurring seasonal patterns, such as layoffs of retail workers after the holiday shopping season or the increase of construction activity in the spring. Government agencies apply an algorithm called X-12-Arima to data series to detect such patterns. While the GDP data are intended to already adjust for seasonal fluctuations, some residual seasonality may persist.

As economists puzzled over last year's first-quarter growth lull, the Board of Governors of the Federal Reserve System, the New York Fed, and the San Francisco Fed each released studies on residual seasonality. While the San Francisco Fed research found problems with seasonal adjustment suggesting growth that quarter could have been stronger if a second round of seasonal adjustment were applied, the New York Fed's research didn't support such a conclusion. Still, the New York Fed found statistically significant seasonality in the most recent 10 years. Its analysis attributed this pattern in GDP growth to "unusually adverse winter weather."

The Federal Reserve Board research looked at the post-recession period of 2010-15. While its analysis rejected the residual-seasonality hypothesis, it nonetheless revealed seasonal-adjustment issues in certain components of GDP, such as exports and government, while cautioning that a five-year period may be too short to draw definitive conclusions.

Seasonal issues in GDP are likely to persist in the first half of 2016, an analysis by BI Economics found. For the analysis, the seasonality tests that are part of the X-12 adjustment process were applied to the government's already adjusted GDP data over the past 20 years and separately over the first half of the period (1996-2005) and the second (2006-16). BI Economics then analyzed the Atlanta Fed's GDPNow reading as a proxy for second-quarter GDP. GDPNow estimates growth based on more frequently released data.

The tests reveal a statistically significant presence of residual seasonality during the past two decades. When tested separately, the first

Seasonally adjusting GDP data a second time smooths out some of the lackluster first quarters in the official numbers.

10 years of the period don't show such a pattern. The more recent 10 years do, however. That suggests residual seasonality has become an issue in the recent past. Indeed, if you apply a second round of seasonal adjustment to the 0.8 percent GDP growth estimate in the first quarter and the GDPNow estimate of 2.5 percent growth in the second quarter, it implies a stronger estimate of 2.2 percent in the first quarter and a weaker estimate of 1.4 percent in the second. Similarly, in each of the past two years, the lackluster first-quarter pace was followed by a strong rebound in the subsequent periods.

During the Great Recession, certain sectors of the economy suffered more than others. Investment in houses and nonresidential structures, such as commercial buildings and power plants, collapsed. International trade shrank. State and local governments suffered from lower tax revenue. When tested separately for residual seasonality, official data for these GDP components show statistically significant seasonality problems during the past 10 years. Some of these issues—such as those in structures and imports—have diminished recently. Some of them persist, however—most noticeably in the government and exports data.

Analysts are watching for signs of strengthening activity in the second quarter. The significant declines in economic activity during the Great Recession could have altered the normal seasonal patterns in such a way that it could take a few more years to get back to normal.

Whatever the reason for this anomaly, analysts and the Fed should be cautious not to take weak first-quarter growth and a strong second-quarter rebound at face value. ●

Shulyatyeva is a senior U.S. economist at Bloomberg. Riccadonna is Bloomberg Intelligence's chief U.S. economist.

Investing

Optimize Your Portfolio to Make A Factor Bet

By SEAN MARKOWICZ

A custom chart shows the returns of 10 style factors in the Bloomberg global risk model.

"IT SEEMS THAT now everyone wants to time factors," Cliff Asness, founder of AQR Capital Markets, wrote on his website in April.

Factors are common characteristics that can explain risk and return in assets. Stocks in the same industry, for example, tend to move together. Likewise, stocks of companies that pay a high dividend usually rise and fall as a group. Hence, dividend yield—like momentum and value—is considered a style factor.

Strategies that aim to buy factor exposure low and sell high likely owe their popularity to several developments. Smart-beta exchange-traded funds and other funds have made it easy to bet on a specific factor, such as low volatility or momentum. In addition, certain factors clearly outperform in given periods. The $1.3 billion iShares Edge MSCI USA Momentum Index Fund—an ETF that tracks stocks whose prices have been rising—returned 9 percent last year. By comparison, the S&P 500 gained only 1.4 percent. In other words, momentum beat the U.S. market by almost 8 percentage points in 2015.

Certain factors have patterns that reflect risk preferences during different stages of a business cycle. When the economy turns down, quality and low volatility are usually the best-performing style factors. When growth picks up, momentum and value strategies typically perform well. You can potentially tap such patterns to tilt your portfolio toward the factors that you expect will perform best.

TO DIG INTO the factor exposures of your holdings, you can use the factor models in the Bloomberg Portfolio & Risk Analytics system. The PORT optimizer then lets you analyze potential trades that you could make to adjust your exposures.

The Factor Transparency window in **{PORT <GO>}** lets you track the cumulative returns of a particular factor.

Click here to chart the returns of a factor in the lower graph.

Let's walk through an example using an ETF that tracks the MSCI World Index as a sample portfolio. Run **{URTH US Index PORT /P <GO>}** to load the iShares MSCI World ETF into PORT. (A bit of evidence of smart beta's popularity: The global market fund, with $276 million in assets, is about one-fifth the size of its sister ETF that tracks momentum.)

To use factor-based attribution in PORT, click on the Settings button and select Calculation Defaults. Select Factor Based as the Attribution Model. Click on Save. Click on the Attribution tab and then on the Summary subtab. The table at the bottom of the screen lets you see the six factors that contribute the most to the performance of your portfolio. In the case of the MSCI World ETF, the biggest contributor was its U.S. market exposure in late May.

Click on a particular factor for more detail. In the Factor Transparency screen that appears, you can view cumulative factor returns for a period you choose. Select Cumulative for the chart, and then click on a number in the Return (x100) column to track returns for that factor.

The returns of factors in the Bloomberg model track theoretical long-short market-neutral portfolios with unit exposure to a given factor and zero to all others. Through late May, momentum was the worst performer of the 10 style factors in Bloomberg's global risk model this year, with a return of -2.2 percent. The best performer was dividend yield, which gained 1.6 percent.

To find out which industries are most exposed to various style factors, click on the Tracking Error/ Volatility tab in PORT and then on the Main View subtab. In the By field, select GICS Sectors. You can then add columns of data to the view that show weighted exposure to style factors. (To add ►

The optimizer lets you model trades that would shift your factor exposures in ways you specify.

columns, right-click on an existing column heading and then on Add/Remove Fields. In the window that appears, you can select the data you want to show.) In the case of the ETF, the industry with highest profitability factor weighting as of the end of last year was information technology.

LET'S SAY YOU want to make a bet on profitability.

First, create a portfolio with $10 million in cash. On another Bloomberg screen, run **{PRTU <GO>}**. Click on Create. Enter a name, and click on the Create button. Enter a start date. In the field to the right of Cash, enter "10M." Next, click on the Analyze button to open the portfolio in PORT. As your benchmark, select the iShares MSCI World ETF.

Click on the Trade Simulation button, and select Launch Optimizer. The Optimizer screen is divided into four sections. The first lets you set goals for your optimization.

Suppose you expect profitable stocks to outperform and momentum names to continue to underperform. Your optimization goals then would be to maximize exposure to the first factor and minimize exposure to the second. You'd set the first goal to maximize GL Profit—the global profit factor. The second you'd set to minimize GL Momentum.

In the Trade Universes section of the screen, set the constituent stocks of the ETF benchmark as your universe. In the Constraints section you can specify constraints for your optimization. The fourth section, Security Properties, lets you set conditions such as a maximum weight for any given stock. Once you're done, click on Run.

The Trades tab screen will then show proposed trades and what they achieved in terms of your goals. You can backtest the optimized portfolio by clicking on the Backtest button.

In a backtest run in May, the optimized portfolio would have generated a year-to-date return of 3.08 percent, vs. -0.07 percent for the benchmark. That equates to an outperformance of 3.14 percent when global markets were volatile. Most important, we can see that exposure to all style factors contributed 2.61 percent to that active return. Specifically, the profit factor weighting contributed 2.17 percent, while underweighting momentum generated 1.08 percent.

This backtest highlights the value that multifactor investing can add to a portfolio's return. Factor strategies can improve traditional active portfolio management by helping you to isolate themes that persist across various market environments. Just as investors make tactical decisions to invest in certain countries or sectors, factor strategies can be used to express a market view. Such strategies can also offer a way to improve the consistency of returns, lower risk, and increase diversification.

The challenge, of course, is to correctly predict which factors will perform well. ●

Markowicz is a PORT advanced specialist in the analytics department at Bloomberg in London.

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Liquidity

How Much Would It Cost to Sell Out of A Bond Position?

By DOROTHY CHAN

BOND MARKETS AROUND THE world are going through profound structural and technological changes. As a result, liquidity is more expensive and trading is more complex.

A decade ago, finding the fixed-income securities you wanted to buy or sell was relatively straightforward. Nowadays, gauging the level of liquidity for Treasuries and corporate bonds can be a challenge.

Buy-side and sell-side firms actually face the same challenge: a drought of liquidity. With smaller inventories of bonds, dealers are pulling back from making markets. Buyers thus bear more liquidity risk. Both sides need to assess the cost of capital for assets they may hold in their portfolios or on their balance sheets. So a portfolio manager at a hedge fund may ask the same question as a trader on a bond desk at a big bank: "How much would it cost me to liquidate X million bonds from this issuer?"

Meanwhile, regulators such as the Bank for International Settlements, identifying liquidity as a potential risk to financial markets, have moved the topic up on the regulatory agenda. While the importance of liquidity is clear, regulators still grapple with how to measure it. Most of their guidelines have been aimed toward the sell side, but now they're directing more attention to the buy side.

Proposed regulations, such as the U.S. Securities and Exchange Commission's Rule 22e-4 and the Markets in Financial Instruments Directive (MiFID) II in Europe cover companies' ability to assess, monitor, manage, and adjust trading methods based on the liquidity of their portfolios. Given these forthcoming rules, it's time for the buy side to learn how the sell side assesses asset quality. At the very least, doing so can help buy-side traders and portfolio managers better understand what their sell-side counterparts consider when asked to bid on a bond.

To evaluate the liquidity risk of a selected bond, run **{LQA <GO>}**, Bloomberg's new Liquidity Assessment function. LQA can answer three important questions: How much of a particular bond can I liquidate? At what price? How long will it take?

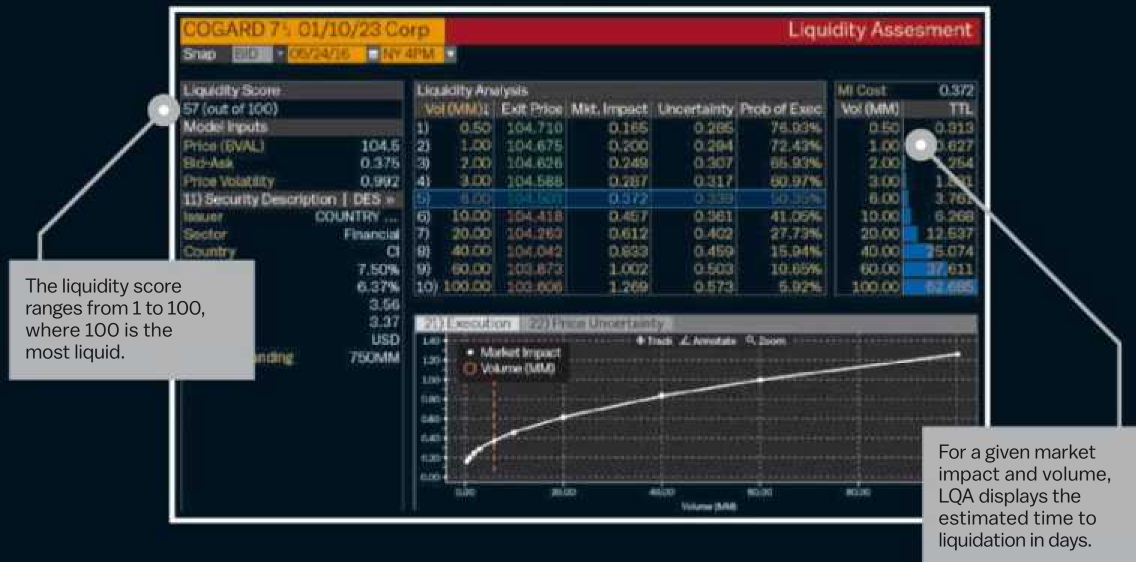
LQA is built on a market-impact model that uses machine-learning techniques, including so-called cluster analytics, to identify transaction data for comparable bonds and generate a quantitative assessment of liquidity risk.

When a bond comes in for a bid, regulators require a trader to factor in the cost of capital and compare the asset's quality with the firm's internal policy. That's difficult to do, of course, because the needed inputs can be hard to come by. Many fixed-income securities trade only infrequently, and trade data—especially for non-U.S. instruments—may simply not be available. Quantitative methods for measuring liquidity can help fill in the gaps.

Let's take a look at two key outputs of LQA: liquidity score and time to liquidation. Run **{EJ5019116 Corp LQA <GO>}**, for example, to analyze a bond issued by Country Garden Holdings, a real estate developer in Foshan, China.

LQA shows that the notes' liquidity score was

To assess the liquidity of a selected bond, run **{LQA <GO>}**.



57 one day in late May. To get to that score, the model first calculates a raw score based on a function of the average of market impacts across volumes adjusted by duration. Given the raw scores of the universe of bonds, each is assigned a percentile ranking of 1 to 100, with 100 the most liquid.

The Liquidity Analysis section of LQA adds detail. The Vol column shows a range of volumes you might want to liquidate. The Exit Price column displays the model's estimate of the likely price to liquidate the corresponding volume. Green shows an estimated sell above the current bid, while red shows a price below it. The Mkt. Impact column shows market impact, which is the difference between the reference Bloomberg Valuation ask price and the estimated exit price.

That brings us to the second quantitative output in LQA. For a given market impact, the table on the right side of the screen shows the time to liquidation, or TTL, for a range of position sizes.

LQA lets you assume a maximum acceptable market impact and then estimate the time to liquidation for different volumes. In the case of the Country Garden bond, clicking on the figure of 0.372 in the Mkt. Impact column will let you see the time to liquidation at that level. In this case, liquidating 1 million bonds at that market impact cost would take an estimated 0.627 days.

How can you use such quantitative data in your internal policies? Here's the way a dealer might use liquidity scores in a set of rules to guide trading:

Scores of 1 to 20 may imply the firm has neither the capacity nor the network of clients interested in the bond. Trying to find an interested counterparty might not be an effective use of resources.

Scores of 21 to 50 suggest that though the trader can't position the asset into inventory, a dealer has clients that may be interested in the asset—so sales traders could "shop" the bond.

Scores of 51 to 65: A trader may facilitate an order by buying half and working the other half.

Scores of 66 to 80: It's a less liquid bond, but the trader is allowed to provide a bid to facilitate a trade with a "good" customer.

Scores of 81 to 100: The bond is highly liquid. The size of the inventory has a low anticipated holding period, giving the dealer confidence to allocate balance sheet and make a price.

A dealer can also segment inventory into buckets based on time to liquidation. A bond with a TTL of zero to three days goes in the highly liquid bucket. One with a TTL of three to 12 days goes in the semi-liquid bucket, and so forth. The firm could also set a rule that bars traders from taking on positions with greater than, say, 20 days TTL.

Liquidity scores and TTL are examples of quantitative data you can use to inform your firm's internal procedures. For traders and portfolio managers, such data points can also provide insights into asset quality.

Chan is a fixed-income market specialist at Bloomberg in Hong Kong.

The Numbers Behind Gold Miners' Valuations

By TODD SIBILLA

To see how analysts' forecasts for metrics such as gold production have evolved, run **{EE HIST <GO>}** for a selected mining stock.

Estimates of Barrick's gold production for its 2016 fiscal year dropped 18 percent in the past year and a half.

GEORGE SOROS MADE a big bet on gold in the first quarter. Soros Fund Management bought 19.4 million shares of Barrick Gold, valued at $264 million, according to Soros's 13F filing. That made the Toronto-based gold miner the biggest position in Soros's portfolio.

If, like Soros, you're interested in digging into gold miners, you can use Bloomberg's earnings consensus functionality to find forecast data for assets as well as earnings. Run **{ABX US Equity EEB <GO>}** for the Estimate Consensus Detail function.

One method of valuing mining companies is based on net asset value—essentially the present value of future cash flows from the metal in the company's mines. To view NAV estimates, use the drop-down menu for Measure to select Net Asset Value. In the Period drop-down, select Yearly. On EEB, fiscal year estimates for mining production and forecasts for the gold price determine a future value.

To track production, sales, costs, and realized prices for a selected miner, run **{EEO <GO>}** for the Consensus Overview function and click on the Metals & Mining tab. Select Annuals as the Periodicity. For Barrick, EEO displays consensus estimates for production by metal. For details of the individual analyst estimates that go into the consensus forecast for the company's 2016 gold production, click on the number in the FY Year Est column.

Finally, to track how consensus estimates have evolved, click on the Consensus History link at the bottom of the Estimate Transparency window.

As of late May, the consensus estimate of Barrick's gold production in its 2016 fiscal year was 5.3 million ounces. That's 18 percent below what analysts had expected a year and a half ago. In addition, analysts expect production to drop in the next three years. The consensus for 2019 was 4.5 million ounces.

Sibilla is a commodities market specialist at Bloomberg in New York.

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DeMARK

Energy Market Turmoil Is Creating Opportunities For Debt Funds

By ANITA KHALILI

To tap into private equity fundraising data, run **{PEFR <GO>}**.

Click here to see the list of debt vehicles currently raising money.

WILD SWINGS IN crude and other commodities, rising corporate defaults, and widening credit default swap spreads have buffeted markets.

The average CDS spread on U.S. companies rose more than 40 percent in the 12 months through May 20. In effect, the market price of betting on a default has increased dramatically from a year ago—even though spreads have tightened since reaching highs in February. Energy sector high-yield issuers, not surprisingly, had some of the largest CDS spreads.

Such stress in the public markets is opening doors for private equity professionals to provide liquidity and financing. A number of heavy hitters are involved in new ventures to take advantage of market conditions. Hedge fund manager John Paulson is raising a $1.5 billion private equity debt fund that will invest in longer-term distressed debt in the metals-and-mining and energy sectors. For a description, run **{PE12624 US Equity DES <GO>}**. KKR energy dealmaker Marc Lipschultz left the firm in February and joined former Blackstone Group executive Doug Ostrover at Owl Rock Capital Partners, a new firm planning to originate, underwrite, and invest in loans to middle-market companies, it said in a regulatory filing.

To track debt-fund launches, you can use the Private Equity Fundraising Environment (PEFR) ►

AT THIS MOMENT

THE SKY CAUGHT FIRE

GUANACASTE, COSTA RICA 19:00 HOURS

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Guanacaste, Costa Rica Property ID: 5HW2RZ **sothebysrealty.com**

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Minor Cay the essence of the Lyford Cay lifestyle. Meticulously designed 5 BR and 6.5 baths by designer Amanda Lindroth. Spacious entertaining with views of sea and golf course. WEB: LXM7VQ. **$7,600,000** US. George.Damianos@SIR.com

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St. Barth villa with space, luxury, privacy and dramatic sunset views. Contemporary bi-level design with 3 spacious BR. Large terrace with pool and swim-up bar. Fantastic location near town! **€6,000,000.** Tom Smyth. tom@stbarth.com

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MESA, ARIZONA

Spectacular 8,500+ sf mountainside estate with soft contemporary styling and panoramic views, on 1.27 acres in exclusive Diamond Point Enclave. Vanishing walls of glass and pocket doors surround this home for indoor / outdoor living. **$3,195,000**. Frank Aazami.

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Mountain views and sweeping panoramic city light views await you at this beautiful European-inspired estate nestled on an 1.65 acre hillside lot. Separate entertaining level with en-suite secondary BRs, private theater and elevator. **$5,390,000**. Frank Aazami.

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SONOMA, CALIFORNIA

Approximately 140 acre ranch, 11,800 sf home with 6 BR, lake, beach, softball diamond, tennis court, gardens, pool, manager's building. Approximately 15 minutes to Plaza, 60 minutes to SF. Price upon request. WEB: 0243305. Donald Van de Mark.

Sotheby's International Realty Wine Country Brokerage
+1 707.337.2227 | SonomaRanchEstate.com

ST. HELENA, CALIFORNIA

This 7 BR, 9 full and 3 half bath estate occupies a 21+ acre hilltop with unsurpassed views of the wine-producing region of the Napa Valley. Pool, spa and quintessential resort living. **$25,000,000.** Bill Bullock and Lydia Sarkissian. b.bullock@deckerbullocksir.com

Decker Bullock Sotheby's International Realty
+1 415.517.7720 | 101RutherfordHill.com

NEW YORK, NEW YORK

The Soori High Line residences have redefined stylish, contemporary living in Chelsea with its striking architecture and exquisite interiors. WEB: 00110438. **$3,500,000-$19,750,000**. Leslie Modell & Mae Bagai.

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East Side Manhattan Brokerage
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NEW YORK, NEW YORK

1120 Fifth Avenue. Dream, imagine, expand your view. WEB: 00110700. Price upon request. Lisa Maysonet and Gary Kabol.

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NEW YORK, NEW YORK

Through a gated entrance, on a beautiful tree lined townhouse block, sits 174 East 70th, a pristine, elegant yet warm and inviting townhome. WEB: 00110732. **$10,950,000**. Vannessa A. Kaufman.

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Madroneagle Estate. 42+ acre land portfolio with half mile of waterfront. Ultimately private. Reclaimed timbers, matchless craftsmanship and artisan features. Main estate of 7,303 sf, workshop + 2,948 sf guest house. Madroneagle.com. **$11,988,000**. Michael X. Ford.

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+1 206.448.5752 | RSIR.com

SAN JUAN ISLAND, WASHINGTON

Friday Harbor Estate. Unparalleled land portfolio of 38.72 fenced acres in a sheltered bay with 360' deep water dock. 11,686 sf main residence. Contemporary architecture with interior / exterior living spaces. FridayHarborEstate.com. **$16,800,000**. Michael X. Ford.

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Riverfront Ranch. One of the area's most pristine and wildlife-rich properties with Snake River frontage and 2 streams. Just 10 minutes from both Jackson's town square and world-class recreation. Price upon request. Brandon and Dave Spackman.

Jackson Hole Sotheby's International Realty
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function. Run **{PEFR <GO>}** and click on the debt bar in the graph to drill down to debt funds. More than 30 have been launched this year, through late May. Among firms raising money for energy-focused debt vehicles are Riverstone and Kayne Anderson Capital Advisors. Lime Rock Partners recently closed a fund that will invest in real assets in the energy space.

For private equity debt funds in the market, energy was the second-most-targeted sector, following financials. (Financials has historically been an area that's had more private equity debt investment than buyouts.) Together financials and energy accounted for almost half of the targeted debt fundraising, with energy making up 20 percent. By contrast, energy accounts for only 7 percent of buyout fundraising. Debt funds typically provide liquidity to companies, whereas buyout funds aim to provide operational expertise to realize better efficiencies.

One reason for the focus on raising debt funds may simply be more opportunities. Many banks have pulled back lending. In addition, the Volcker Rule has reined in proprietary trading groups, which had previously also been a source of financing. Energy companies, meanwhile, are looking for liquidity to tide themselves over until oil prices recover. So private equity firms cater to that.

Market uncertainty is also fueling the debt-fund trend. Some private equity investors may prefer to buy debt that pays a regular coupon rather than take an equity stake with a longer horizon to a potential payoff. For that matter, high-yield bonds issued by energy companies have performed better than stocks over the past two years. Run **{BUHYEN Index COMP <GO>}** to analyze returns of the Bloomberg USD High Yield Corporate Bond Index that tracks energy issuers. To compare its performance with that of the Philadelphia Stock Exchange SIG Oil Exploration & Production Index, enter "EPX Index" in the 2 field. The bond index fell 19.6 percent during the two years through May 20. By contrast, the stock benchmark plunged 55 percent.

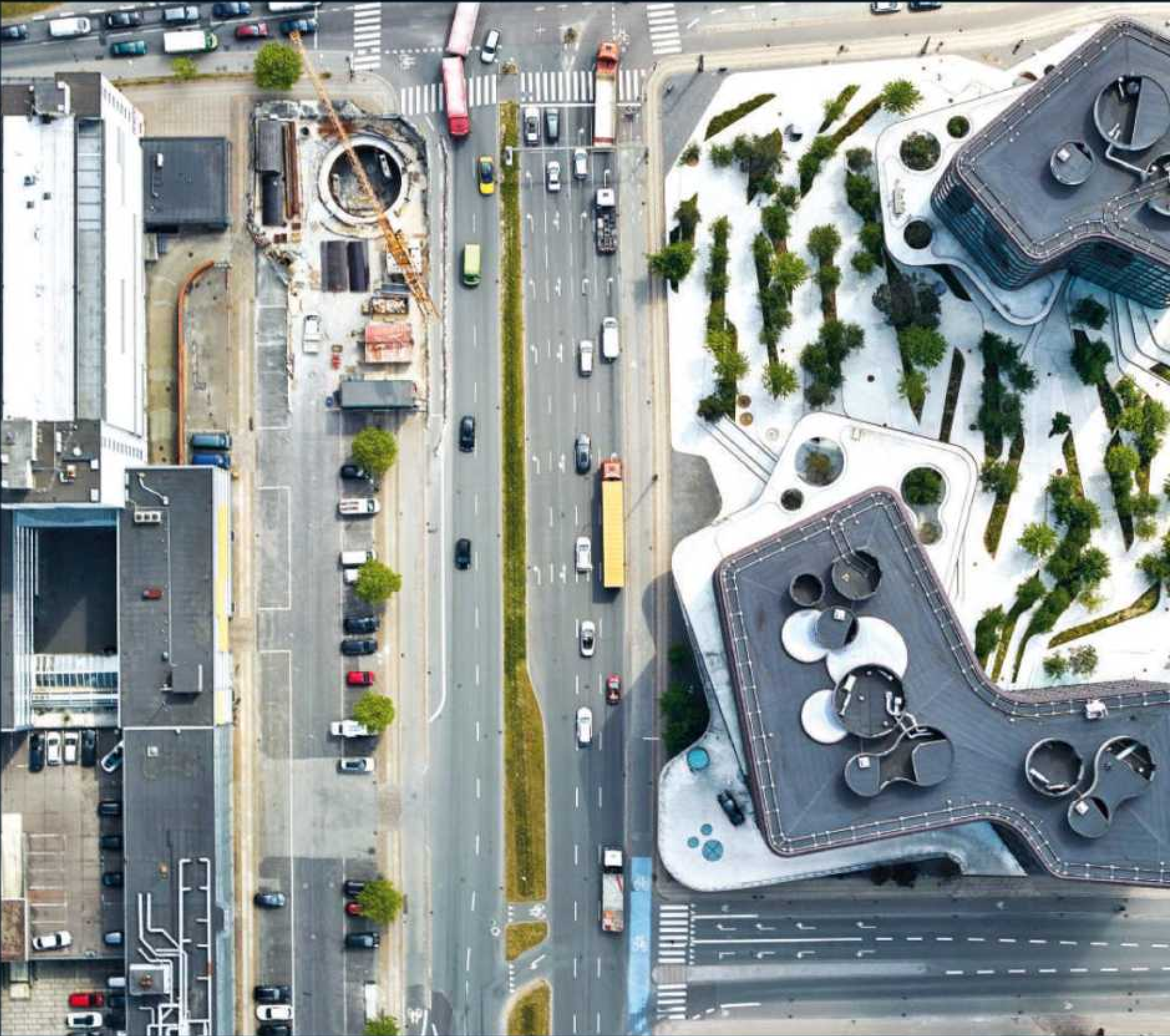
One additional reason for private equity investors' preference for debt may be a scarcity of attractive energy assets to buy. Among the criteria that private equity professionals look for in buyout candidates are strong market position, sustainable competitive advantages, low capital expenditures, favorable industry trends, and stable cash flows. Few U.S. energy companies fit that bill these days.

TO FIND BONDS AND LOANS issued by U.S. oil and gas exploration and production companies, you can use the Fixed Income Search function at **{SRCH <GO>}**. Enter "exploration" in the field and click on the Sector/Industry Group match. Then enter "United States" and click on the Country of Incorporation match. Of 474 bonds issued by U.S. exploration and production companies, the average bid price was 75¢ on the dollar as of May 20. The median of 94¢ suggests that some big companies may be skewing the average down.

To look for potentially attractive energy companies to invest in, you can also use the Equity Screening function at **{EQS <GO>}**. Enter "exploration" in the field and click on the Sector (GICS) item in the list of matches. Enter "United States" and select the Country of Domicile item. Those two criteria trimmed the universe of stocks to 310 companies as of May 20. Next, enter "net debt/Ebitda" and click on the match for the ratio of debt to earnings before interest, taxes, depreciation, and amortization. Next, click on the arrow to the right of No condition and select Rank. Select Sequential and then Lower Value Is Better. To see the top 30 companies, enter a "30" in the field to the right of Top. Press <GO> and click on the Results button for a list of the 30 U.S. exploration and production companies with the best debt-coverage ratios.

Khalili is a private equity advocate in the sales department at Bloomberg in New York.

Monetary Policy



The Copenhagen office of SEB, which, like other Nordic banks, must grapple with negative rates.

The Land Below Zero

By MATTHEW CAMPBELL and PETER LEVRING

PHOTOGRAPHS BY GILES PRICE

IN COPENHAGEN, bicycles take undisputed priority over cars and even pedestrians. A sizzling restaurant scene has made foodie fetishes of moss, live ants, and sea cucumbers. Despite a minimum wage not far below $20 an hour and some of the world's steepest taxes, unemployment is almost the lowest in Europe. Parents happily leave infants unattended in strollers on the sidewalk while they stop in to cafes.

Clearly the usual rules tend not to apply in Denmark. So it's no surprise that the country in recent years has added a major new entry to its sprawling repertoire of eccentricities: Since 2012 it's been a place where you can get paid to borrow money and charged to save it.

Scandinavia's third-largest economy (the population is 5 million, and there are about as many bikes) is deep into an unprecedented experiment with negative interest rates, a monetary policy tool once viewed by mainstream economists as approaching apostasy, if not a virtual impossibility. Companies—though not yet individuals—are paying lenders for the privilege of keeping funds on deposit; homeowners, in some cases, are actually making money on mortgages.

Most private-sector forecasters don't expect Denmark's central bank to go positive again until 2018 at the earliest, making the country a long-term petri dish for what happens when the laws of financial gravity are inverted. Although some dovish economists have advocated negative rates as a salve for deflation and anemic growth, if Econ 101 is to be believed they should have stomach-churning consequences: asset bubbles, capital flight, and the frenetic manufacture of very heavy vaults to hold money pulled from banks.

Central bankers looking to Denmark for evidence of such trauma aren't likely to see much. If anything, they might find the Danes' approach tempting. A certain amount of financial weirdness aside, their country is mostly free of the distortions economic theory tells us to expect, suggesting negative rates may deserve to move from taboo to the standard monetary policy toolbox.

That might be the wrong lesson to draw. Instead, the takeaway may be that negative rates can work—but only for some purposes and perhaps only if you're Denmark. "It's not the catastrophe that some people would have thought," says Erik Nielsen, a Dane and the global chief economist at UniCredit. "But you're playing with fire."

TO UNDERSTAND HOW Denmark came to be the land below zero, some context is necessary. The country's sole border is with Germany, its biggest trading partner. Yet Danes have historically been ambivalent toward the European Union and in a 2000 referendum rejected joining the euro.

Denmark's currency, the krone, was pegged to the deutsche mark from 1982 to 1999, and to the euro thereafter. Maintaining the peg is the sole mandate of the Danish central bank, so crucial is it to the economy. As the European debt crisis reached one of its periodic crescendos in 2012, investors seeking a safe haven piled cash into Denmark, threatening to push the krone out of its trading band. The benchmark deposit rate was already at 0.05 percent, leaving nowhere to go but down to reduce the country's appeal to hot money. Denmark thus resorted to negative rates not to spur inflation—as Japan is trying to do, unsuccessfully—but to drive away speculators.

The battle to safeguard the peg is led from an orthogonal hulk of stone and glass in downtown Copenhagen designed by Arne Jacobsen, father of the modernist egg chair. Danmarks Nationalbank Governor Lars Rohde, who took office in 2013, has known negative rates for almost his entire tenure. On his first day, the deposit rate was -0.1 percent; it now stands at -0.65 percent. In his telling, Denmark's choice is simple: The peg must be protected, and negative rates are doing that without great disruption. The central bank "will do whatever it takes to defend the peg," he says in an office decorated in Nordic tones of blond wood. "There's no sharp, disruptive movement when you pass below zero. It's just working like very low interest rates."

In the broad sense, that's proved true. Bank earnings are in line with those of European peers, with new fees making up part of the cost of low rates; the amount of cash in circulation has climbed only modestly. Still, some Danes find themselves contemplating bizarro-world challenges to the normal way of doing business. In the neo-baroque parliament building, Benny Engelbrecht relates some of them. The 45-year-old Social Democrat lawmaker was responsible for business and taxation until 2015, a role in which he was forced to contemplate dilemmas like whether it would be legal to tax negative interest payments to mortgage borrowers as income. (It is.)

Last year the central bank flagged another alarming possibility. Fearful of angering retail depositors, banks aren't yet taking haircuts from individuals' accounts. Large and medium-size companies, however, are subject to just that. But businesses that prepay their taxes in Denmark receive modest interest on the deposits, which is credited against what they owe or are refunded. With no limits on prepayments, might they start using the taxman as an unofficial bank? Rules had to be hastily struck to limit how much a business could deposit, removing the dodge before anyone took significant advantage of it, Engelbrecht says.

For companies, there aren't a lot of options. "You get penalized these days for having cash in the bank," laments Jens Lund, chief financial officer of logistics group DSV. The firm found itself in a tricky situation in November, when it sold 5 billion kroner ($750 million) of shares to fund a takeover of rival UTi Worldwide. Short of renting a huge vault, that meant sitting on most of the proceeds at negative rates until the deal was finalized in January, at a cost of about 4 million kroner. Apart from shopping around for the bank that would take the smallest cut, Lund says, "there's not much you can do about it."

CONVERSATIONS IN Copenhagen these days turn quickly to real estate. The city's in the midst of a construction boom, its center of urban gravity shifting inexorably toward a harbor crammed with new apartment buildings. At one end a whimsical, bikes-only bridge, the Bicycle Snake, squiggles between gleaming new construction. The water here is perfectly swimmable, and when office workers hop in for lunchtime dips in fine weather, it's as if a gang of energetic summer camp counselors had been given control of a midsize metropolis.

There's no question negative rates have driven up the price of owning a piece of this urban vitality. Apartment prices per square meter soared 43 percent between the start of 2010 and the end of 2015, according to real estate broker Home; in early May the International Monetary Fund urged the government to rein in Danish house prices.

Keeping the boom from getting out of control is partly the job of Jesper Berg, who runs what's almost certainly the world's hippest banking regulator. The Danish Financial Supervisory Authority occupies a

USING NEGATIVE INTEREST RATES AS A CURRENCY TOOL

Sources: {EURDKK <Crncy> GP <GO>} {DEREC&D <Index> GP <GO>}

Copenhagen's Superkilen park is as eccentric as the Danes themselves

converted warehouse in the gentrified neighborhood of Osterbro; it feels like a late-stage startup, complete with hardwood floors and an open plan. From a balcony with a sweeping view of downtown's construction cranes, Berg concedes "we have some froth" in the urban housing market, "but not a bubble." Compared with New York, London, and even Stockholm, Copenhagen real estate is still a bargain: $500,000 buys a decent two-bedroom.

If Berg is correct, that's largely because the country regulates the housing market to a degree unimaginable in the U.S. It's nearly impossible for a foreigner with no connection to Denmark to buy property, preventing inflows of overseas money. Banks apply stringent financial criteria to mortgages for buy-to-let properties; it's hard for Danes to purchase homes they don't intend to live in. Regulatory guidelines require minimum down payments of 5 percent and stress tests of borrowers' finances against runups in rates. With the encouragement of regulators, banks have hiked fees on flexible-rate loans, nudging buyers into fixed-rate mortgages. The rules are even tighter for properties in Copenhagen.

Real estate players also argue that Danes, temperamentally, are a risk-averse bunch—especially with memories of a 2008 property crash still fresh. "I think people have learned from the last bubble," says Karsten Beltoft, chief executive officer of the Danish Mortgage Banks' Federation.

One of those people is David Garby, a 36-year-old website editor whose mother saw her apartment plunge in value after that bust. He and his girlfriend recently bought a new home, an 800-square-foot apartment just outside central Copenhagen. They opted for a fixed-rate mortgage at 2.5 percent, even though far lower interest was available at an adjustable rate—the result "of my Calvinist upbringing," Garby jokes on a sunny cafe terrace. "I wanted to be conservative."

Beltoft's concern: What happens if negative rates move from medium-term peculiarity to long-term reality, reversing the fundamental principles of debt and savings in a way that makes the change seem permanent? Since the Code of Hammurabi legislated interest rates in the 18th century B.C., and perhaps much earlier, capital has had a cost; in modern Denmark, it often doesn't. "I believe it will change the psychology," Beltoft says. "That could be dangerous."

Berg puts his apprehension about staying below zero indefinitely in terms that Danes, who cram the country's white-sand beaches in the brief Nordic summer, can easily understand. "There's a difference between standing on the beach in dry sand and moving into the water," he says. "The further you go out, and the longer you stay there, the more problems you can run into." ●

Campbell is a senior reporter in London. Levring covers Nordic economy and government in Copenhagen.
With assistance from Tasneem Brogger, Frances Schwartzkopff, and Christian Wienberg.

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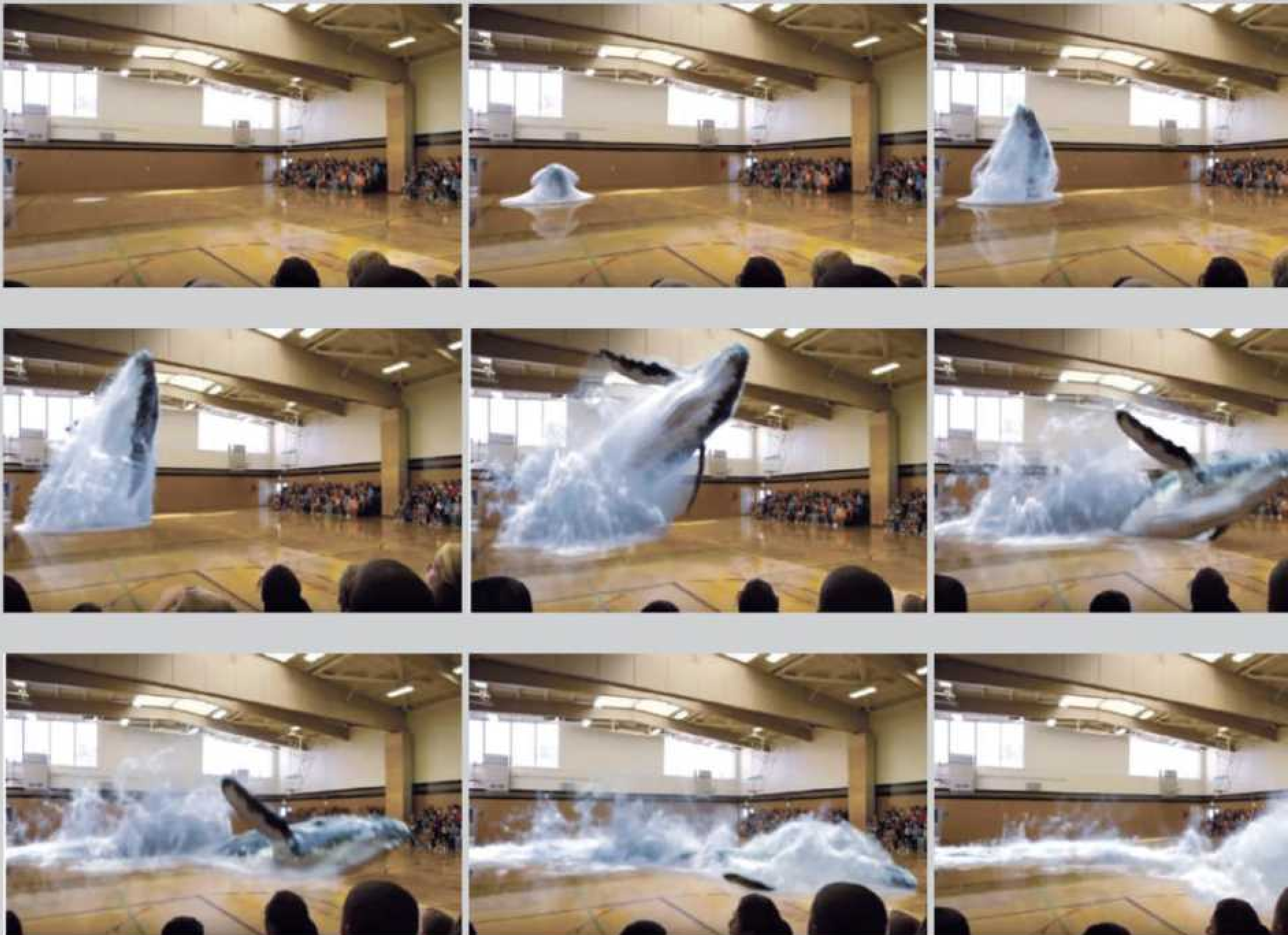
Even as virtual reality comes into its own, augmented reality—led by Google- and Alibaba-backed Magic Leap—could be the future.



Industry Focus

The Future of Media

POWERED BY
BLOOMBERG INTELLIGENCE

MAGIC LEAP'S FUNDING...

2014
Series B
$542m

2016
Series C
$794m

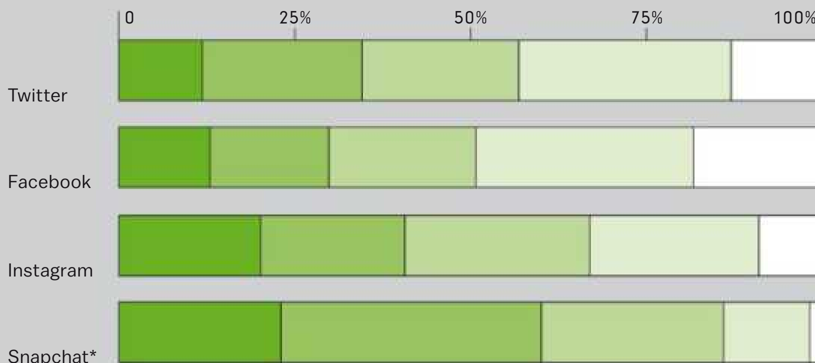
...AND VALUATION

$4.5b

Source: Magic Leap, CrunchBase, Bloomberg

It's quite the conundrum: Cable customers want less of what the traditional operators are offering, and what they do want needs to be faster. Broadband remains a good business, and it's growing. The risk is that the carriers' improved service will become the instrument of their own irrelevance as people spend more time with online gaming, Snapchat, or virtual reality—giving birth to vibrant industries. In the pages ahead, Bloomberg Intelligence—our research platform providing analysis and data sets on industries and companies at {BI <GO>}—tells you what to watch.

1 The Kids Helped Popularize Snapchat—And Now It Has Some Growing Up to Do



*No users under 13. Sources: EMarketer, Snapchat, Bloomberg Intelligence

THE COMPANY: The mobile-only messaging service Snapchat has perfected the art of impermanence. Unlike almost anything in the digital landscape, all content on Snapchat vanishes within 24 hours—or upon reading, in the case of private messages. Since its novel beginnings in 2011, the product has developed into a robust platform.

THE FINANCES: Valued at $18 billion, the startup has received $2.65 billion in funding. Snapchat's forward-sales multiple of 24 eclipses multiples at Facebook, Twitter, and LinkedIn based on pricing at their initial public offerings. Snapchat projects 2017 sales of $500 million to $1 billion, according to *TechCrunch*.

THE AUDIENCE: The product may have 220 million to 250 million monthly active users worldwide, according to a BI analysis, though the more meaningful number may be its 100 million daily active users in developed countries. Most compelling of all is Snapchat's popularity with younger audiences. About 65 percent of users are under the age of 24.

THE USAGE: Snapchatters averaged about 4.5 hours on the messaging app in February. Instagram users average about 4.7 hours a month, while Twitter's average app use declined to 2.4 hours in February 2016 from 4.1 hours in March 2013. Snapchat's steady share of mobile user time suggests high levels of engagement and incremental growth in the share of social media users' time.

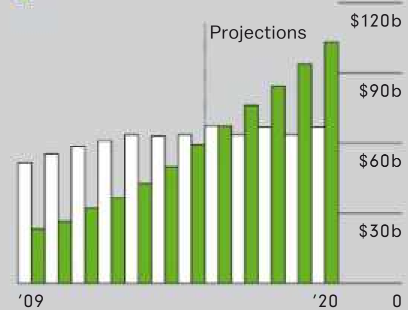
THE PARTNERSHIP: The app scored a deal with Comcast's NBC to show highlights from the 2016 Summer Olympics, the first time the U.S. network has agreed to share video of the sporting contest. Snapchat isn't even paying for Rio de Janeiro access and will instead share revenue from advertisements paired with the content.

THE CHALLENGES: Snapchat's valuation sets a high bar for revenue growth. Scaling custom ad formats, improving targeting, attracting older users, and converting services to revenue are big hurdles. Its ability to manage these will determine if Snapchat follows Instagram and its ramped-up sales—or Twitter and its faded valuation. Get more insights at **{BI INET <GO>}**.

—Jitendra Waral, BI internet analyst

2 In Advertising, Digital > Television

■ Digital media is expected to become the top U.S. advertising medium in 2016, surpassing TV for the first time. Online ads may grow 14 percent, to $67 billion, based on Magna Global projections, while the TV market is expected to be relatively unchanged. Meanwhile, mobile ads are expected to surpass desktop ads for the first time this year and become a $100 billion market, according to EMarketer. The majority of that growth will be driven by the U.S. and China, which together will account for 62 percent. Use BI's Advertising & Marketing Dashboard, **{BI ADVTG <GO>}**, to access ad-spending data in major global economies. *—Geetha Ranganathan, BI media analyst*



Sources: {MEDFTTNL <Index> <GO>}, {MGEUTNET <Index> <GO>}

PREVIOUS SPREAD: COURTESY MAGIC LEAP/YOUTUBE (9)

3 Chollywood vs. Hollywood

■ China's box office may surpass that of the U.S. by early 2017, according to the Motion Picture Association of America. In 2015, ticket sales there rose 49 percent from the prior year, to $6.78 billion. Should the nation's theatrical sales continue to expand at a similar rate, they may grow to $10 billion this year, compared with the $11.1 billion the U.S. and Canada grossed in 2015. Learn more—and get box-office data!—at **{BI DVENN <GO>}**. *—G.R.*

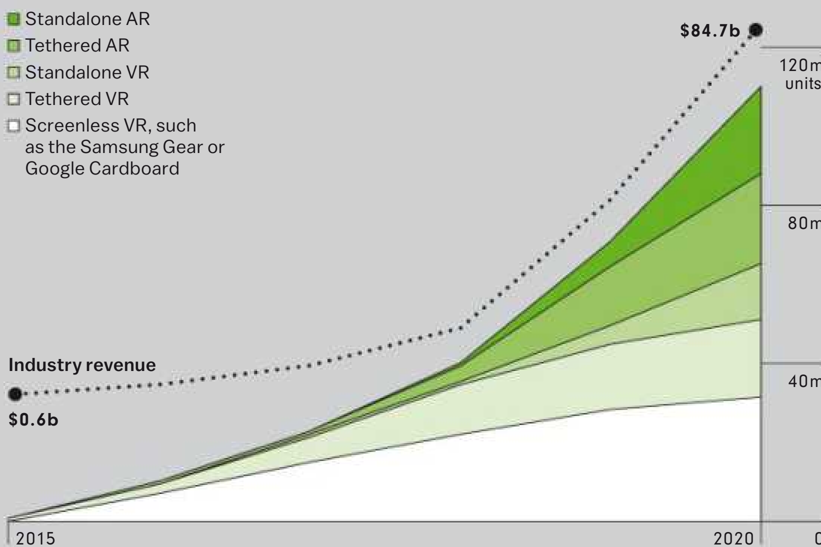
4 Reality Just Isn't Good Enough

■ If you want to glimpse the future, get ready for virtual reality—and maybe even augmented reality. That said, mainstream adoption of VR or AR may take four to five years. Price is only one determining factor. Internet speeds, headset designs, graphics power, and the next console cycle will all prove key catalysts.

Sales tied to VR headsets may top $1 billion this year—Sony, Facebook, and HTC have rolled out products—and could approach $21 billion by 2020, says Gartner. (IDC sees commercial applications creating an even larger market for AR.) Gaming will likely be VR's core function in the near term, which may give Sony, with its 36 million PS4 owners, an early advantage.

Facebook's Oculus Rift requires a powerful PC, costing $1,000-plus, to run VR effectively, and IDC estimates only 15 million PCs are powerful enough. But with Gartner estimating more than 200 million PC gamers globally, the market's size may spur upgrades and drive sales for graphics-chip leader Nvidia. Oculus, however, has an early ecosystem advantage.

SHIPMENTS OF AUGMENTED AND VIRTUAL REALITY HARDWARE



Figures after 2015 are projections. Source: IDC

The next life cycle for gaming consoles from companies including Sony and Microsoft could be determined by the shift to VR. The average eight-year life cycle for console models could be drastically shortened due to the need for more powerful devices to run VR.

While VR may be the theme now, AR—which aims to enhance perceptions of reality rather than replacing them with the virtual—could prove the ultimate destination. The two formats may even need to merge into one for this market to gain momentum. The convergence could push this nascent technology to become as ubiquitous as the smartphone.

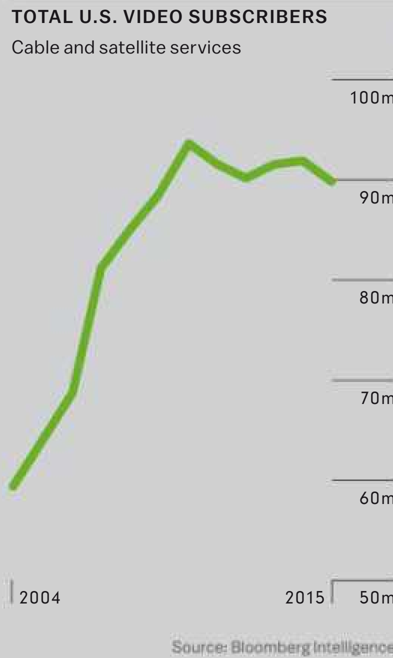
Microsoft, Intel, and Apple all have ambitions in the AR category, but the secretive Magic Leap—which hasn't released a product—owns the zeitgeist. Backed by Google and Alibaba, the startup reached a $4.5 billion valuation after a record-setting series C funding round in January.

Magic Leap's headset will use a type of light-field technology to simulate 3D images superimposed on the real world. The proprietary technology would project patterns of light to the eye, enabling it to perceive virtual objects similarly to the way people naturally see existing things. For more, go to **{BI CETXG <GO>}**. *—J.W.*

ILLUSTRATION: LA TIGRE

5 Cord Cutting Is for Real, But It's Also Overrated

■ After hemorrhaging video subscribers over the past decade, U.S. cable operators are seeing growth stabilize. Credit their high-intensity capital expenditure, which jumped 20 percent in 2014 and 7 percent in 2015 as companies boosted network capacity and deployed advanced set-top boxes. For instance, Comcast, the No. 2 U.S. multichannel video distributor behind AT&T, has added subscribers through the rollout of its X1 set-top box. At Charter Communications, recent acquisitions will almost quadruple the company's subscriber base. Both moves point to the surprising resilience of the cable video business. *—G.R. and Paul Sweeney, BI senior media analyst*



6 It's All About The Data

■ Broadband continues to be a bright spot for cable operators, becoming a main growth driver as video subscriptions plateau. In the U.S., the top four public cable operators added almost 1 million data subscribers, for a 7 percent gain, in 2015. In contrast, the telecoms are struggling to retain market share as customers give up traditional digital subscriber line (DSL) connections. As consumers shift to over-the-top content—via the internet—cable companies' data dominance helps mitigate the risk to their bottom lines. *—P.S.*

ILLUSTRATIONS: LA TIGRE

QuickTake

The Auction That May Change the Media Landscape

BY TODD SHIELDS

The U.S. government expects to reap billions of dollars from selling something we can't see, taste, or weigh: the spectrum. Some of these invisible electromagnetic waves carry radio, television broadcasts, and, increasingly, YouTube videos to our smartphones. With demand exploding, mobile capacity is being strained. So mobile operators have been seeking out TV signals, because they go far and penetrate buildings. Now the Federal Communications Commission is arranging an auction to transfer some TV bandwidth to mobile use. The goal is to increase competition and service. Some TV viewers could end up paying the price.

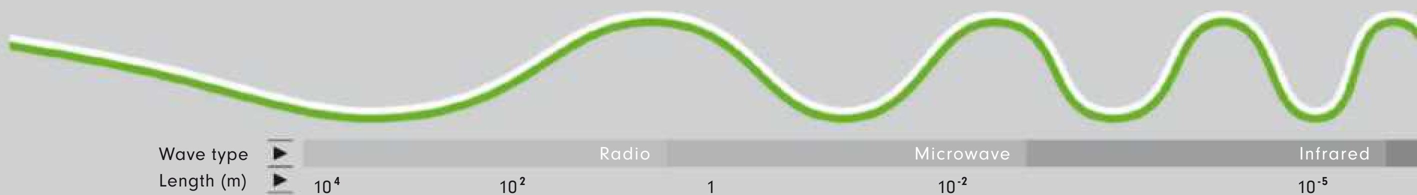
The Situation

The FCC has invited television stations to give up their airwaves so it can sell them to the highest bidders for use by wireless devices. The agency will then share the earnings from this first "incentive auction" with stations. On May 31 the agency began to suggest offering prices to TV stations; later 99 bidders can make offers for the airwaves. The sale is expected to net the government $10 billion to $40 billion, money that will be used mainly to reduce the federal budget deficit. Mobile operators have been beseeching the U.S. government to free up enough airwaves to meet soaring demand from smartphone users and other wireless customers. The number of U.S. wireless devices doubled in a decade to reach 355 million in 2014. Video accounted for 50 percent of total mobile data traffic in 2012; by the end of 2014 it was 55 percent.

The Background

Isaac Newton observed that sunlight passing through a prism split into a rainbow of colors; he called this a spectrum (for specters or ghosts). The entire electromagnetic spectrum ranges from tiny waves shorter than an atom (high frequency) to miles in length (low frequency). Different frequencies have

THE ELECTROMAGNETIC SPECTRUM



7 The Quest for Original Content

ESTIMATED COSTS PER EPISODE

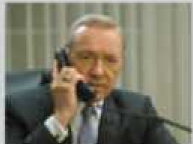
Amazon's *The Grand Tour*

$6.9m

HBO's *Game of Thrones*

$6m

Netflix's *House of Cards*



$3.8m

Source: Ampere Analysis

FROM TOP: COURTESY AMAZON PRIME; HELEN SLOAN/HBO; DAVID GIESBRECHT/NETFLIX

■ Original content has been critical to premium networks in attracting new subscribers. Shows such as HBO's *Game of Thrones* have drawn viewers (9.5 million in 2015 for *GoT*) comparable to shows on more widely distributed broadcast and cable networks. On average, HBO spent 49 percent of its content budget on originals over the past three years—and it plans to increase its original content by 50 percent this year. New competitors such as Amazon Video are also making a heavy bet on original content, with the company spending $250 million for a new car show with the former hosts of *Top Gear* called *The Grand Tour*. *—G.R.*

8 Animation Means Money

■ Comcast expects to close its $3.8 billion acquisition of DreamWorks Animation by the end of this year. The company's interest is driven by the profitability of the animation genre. Animated films, such as DreamWorks' *Shrek* flicks, had the highest average net profit margin among films from 2005 to 2014, at 36 percent, vs. a 16 percent average for all releases, according to SNL Kagan. *—G.R.*

different qualities, with some carrying more information and some going farther. Together they form a sort of real estate in the sky. The neighborhood was wide open when the Italian radio pioneer Guglielmo Marconi in the 1890s showed how to send signals wirelessly over distances. Radio soon flourished with little regulation, at first mainly for ship-to-ship communication. In 1912, after radio interference blocked an iceberg warning for the doomed *Titanic*, the U.S. Congress established federal authority over airwaves. Later the government began assigning, without fee, licenses that granted exclusive use over certain frequencies. Applicants were winnowed through hearings or lotteries. In 1994 the FCC began assigning airwaves via auctions. Countries from India to Brazil have also used auctions. Europe's frenzied 2000 and 2001 auctions reaped almost $100 billion but left the overpaying mobile providers hobbled by debt, leading to bankruptcies and government bailouts.

The Argument

The U.S. government sees mobile as a way to spread high-speed internet access to more people and has endorsed the spectrum auction. Seven percent of Americans own a smartphone but don't have broadband service at home or any other easy access to the internet. Smaller nationwide carriers T-Mobile and Sprint have persuaded the FCC to prevent the dominant providers, AT&T and Verizon, from bidding on some frequencies to ensure that the biggest companies share the available airwaves. When it blocked AT&T's purchase of T-Mobile in 2011, the U.S. Department of Justice said four national carriers were needed to keep the wireless market competitive. TV stations that sell spectrum can move to other frequencies, perhaps sharing with another broadcaster. Although most TV viewers watch via cable or satellite, critics say stations dropping off the air will hurt the roughly 15 percent of Americans who only get free over-the-air TV broadcasts. And scores of public television stations operated by financially strapped local governments and universities could close or reduce their reach, because the auction money may be too good to pass up.

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Source: NASA

Henry Kravis:

The Markets Q&A

“Always worry about what you might lose on the downside”

By JASON KELLY

PHOTOGRAPHS BY DANIEL SHEA

PRIVATE EQUITY HOLDS trillions of dollars in assets, controls brand-name companies, and invests on behalf of pensions, endowments, and government funds around the world. Back in 1976, it barely existed. That’s when Henry Kravis, his cousin George Roberts, and their boss Jerome Kohlberg Jr. quit Bear Stearns and started their eponymous investment company, KKR, which is celebrating its 40th anniversary. ¶ Kravis and Roberts, co-chief executive officers, have transformed not only how companies are bought and sold, but also how they’re run. They’ve also expanded the firm far beyond leveraged buyouts, diversifying into real estate and hedge funds as well as a few businesses once dominated by big banks. Today, through ownership stakes in more than 100 companies with a combined annual revenue of $200 billion, KKR indirectly employs almost a million people. ¶ In this interview, Kravis, 72, ruminates on becoming a CEO of CEOs, being a steward of other people’s money, his unique partnership with Roberts, and the evolution of the firm. Competition in private equity will only increase, Kravis predicts—as will the appetites and ambitions of his investors and competitors. “There’s money everywhere today,” he says. ▸

JASON KELLY: Let's start with some numbers. KKR began with $120,000 in 1976. Forty years later, you have more than $120 billion. What's the biggest lesson between all those zeros?

HENRY KRAVIS: Jerry Kohlberg, George Roberts, and I started with a specific culture in mind, which is one of the reasons we all left Bear Stearns. Bear was very much an eat-what-you-kill culture, and that's exactly what we didn't want. We were big believers in working together. We wanted everyone to share in everything we did, whether you worked on a deal or not. We got as far away from eat-what-you-kill as we could and went to the idea of what's the right thing for the firm. Get the best out of everybody and the best out of the firm. So we started with that 40 years ago, and today our culture remains identical.

JK: What's changed in those 40 years?

HK: There's money everywhere today. There's almost no institution in the world—whether it's a sovereign fund, a foundation, an insurance company, banks, pensions funds—that doesn't do something in the private equity sector. Information today is better than ever before. Markets are pretty darn good. There's so much more transparency. Which also means our business has much more competition. I sort of liked it when it was just us.

JK: Buy-slash-and-sell is the typical perception of the private equity industry. How do you think of yourselves at KKR?

HK: We like to think of ourselves as industrialists. I'm using industrialists in a broad sense. We buy a company and look at what we can do to make it better. How can we improve operations? Maybe it's fixing the pricing or the supply chain, or putting the proper metrics in place so we can better measure what the company is doing. Maybe we have to change some of the company's management. And understand that we are long-term investors for the most part. Our average holding is seven years. To me, there's so much more to investing than buying low and selling high.

JK: There was a lot more to invest in and fix 10, 20, 30 years ago. What's been the impact of private equity on the corporate world?

HK: The biggest area where we've influenced companies is governance. You don't read much about a company blowing up because it wasn't governed properly. Governance plays such an important role. We hold management accountable. But at the same time, we're a partner with management, and we really want them to understand we're in this together.

JK: What's the difference between private equity in the U.S. and elsewhere?

HK: I go to China a fair amount. I was on a trip there a couple of years ago, meeting with the head of their CSRC, which is like the SEC. I asked him, "How many private equity companies in China do you have? And he said, "We are well in excess of 500—probably more, but that's not a bad number." I almost fell off my chair.

What they do, so many of them, is they focus on buying stock before an offering and then dumping it once it goes up. So the CSRC asked me to speak to their top 75 people about what you do with a company once you buy it, which was exactly the message they wanted to get out to people in China's private equity industry. They wanted to get away from buy-and-flip because that wasn't helping companies at all. They said, "You are actually helping companies, and that's what we'd like to have in China."

JK: So you have 500-plus competitors in China alone, not to mention the U.S. and Europe. What differentiates you from the competition?

HK: At KKR, our best asset is our people. George and I have encouraged everyone to think as creatively as they possibly can—not to wait by the phone and think that JPMorgan or Goldman Sachs are going to call them with an idea. Sure, you get that too, but go out and create ideas. Everyone at KKR is paid on how well the firm does. By doing that, we can get you the best solution you need.

No. 2, it's our long-term approach, the fact that we focus on stakeholders. We used to pay more attention to the stockholder: How well did you do on this investment? Today we worry about the environment, the community, the employees—they're all top of the mind. George and I are also cousins, so when we talk to family companies, we can relate to them. They say, "You're like us."

Lastly, we have a very large balance sheet. That gives us an opportunity to invest side-by-side with our investors and put much more of our own capital into any transaction we might do.

JK: What's the most surprising thing you're doing as an investor?

HK: We did only private equity until 2004. We'd go see a company and by about the third sentence somebody on our team would ask, "Is your company for sale?" And the CEO would say, "We have no interest in selling." And our team wouldn't have much more to say after that.

Today KKR is in three broad buckets: private markets, public markets, and capital markets. Private equity is probably 40 percent of what we do, and the rest is these newer businesses, which are all growing very well.

We didn't start off thinking we would be in the credit business, or real estate, or hedge funds. This is an evolution. We didn't do any of this overnight. It took a long time. In the process we became much more of a solutions-provider that can invest up and down the capital structure as opposed to a pure private equity

investor. So we never have a conversation that begins and ends with, "The company's not for sale." Now we start off with, "What do you need today that you're not getting?"

JK: Did you miss deals because of that?

HK: In 2002, I remember going to see an energy company called Williams, in Oklahoma. I'd grown up with the Williams family in Tulsa, and they were having some financial difficulty and needed to restructure their balance sheet. We said, "Why don't we buy the company, take it private, and as part of that we'll restructure the balance sheet?" They thought about it and decided they didn't want to go private. So we said, "All right, let us provide you with a structure that can fix your balance sheet." They thought about what we gave them and said, "That's a great structure, but we have no money for this." They ended up taking the exact structure we gave them and calling Warren Buffett. After about five minutes, Buffett said, "This is a no-brainer," and he did the deal. We decided right then that KKR needed to get into the credit business.

JK: You interact with executives so much. What was your first experience on that front?

HK: The summer before graduate school I worked for the Madison Fund. Ed Merkle, who ran it, used to call me Kid. He'd say, "Kid, I want you to go out and see Tri-State Motor Transit." And I'd say, "Who's going with me?" And he said, "No one." It's the first company I'd ever called on, and I'm going to see the CEO. A few weeks later, he said, "Kid, I want you to go out and see Disney." I said, "Who am I going to see?" He said, "Roy Disney." I said, "Who's going with me?" He said, "No one." Well, that scared the heck out of me. Later, working with Jerry and seeing how he treated people and dealt with executives, that certainly gave George and me awfully good training, too.

JK: Take me back to 1976. How did the whole KKR experiment begin?

HK: We started with $120,000. George and I each put up $10,000—that was all we had—and Jerry put up $100,000, because he was 20 years older. And then we went out to raise our first fund, a $25 million private equity fund. There was no such thing then, but the first people we talked with—mostly insurance companies we'd worked with at Bear—all liked what they heard. But the catch was they wanted to be the investment committee. Well, we'd just done that and had left Bear for a reason: to make our own mistakes and our own right decisions.

JK: So no $25 million fund. What did you do?

HK: George and I went to Joe and Rose Restaurant—there's a picture of it right over there—and said, "Why don't we go to eight individuals and ask them to put up $50,000 each for 5 years?" That would give us $400,000 a year. Then, if you've given us $50,000, in return you get the ability to come into any of our deals. But if you do invest, we want 20 percent of the profits.

JK: How did you come up with 20 percent, which became the industry standard?

HK: George's father and my father were in the oil-and-gas business, and in those days there was something called "a third for a quarter." If I had a lease and wanted to drill a well, I would go to the money person and say, "I'll put up 25 percent of the cost, you put up 75 percent, and you're going to get a two-thirds interest and I'm going to get a one-third interest for my 25 percent." We thought 20 is close enough to 25. I'm often asked, "Why didn't you pick 25 percent because that would have stuck and carried interest?" We were just trying to get started, so that was literally what we started from.

JK: You've mentioned Jerry Kohlberg a few times. He left the firm in 1987 after 11 years and passed away last year, but he's one of the K's in KKR. What contribution did he make beyond that initial $100,000 investment?

HK: Jerry had a big contribution here. Don't forget, he was 20 years older than George and myself. We learned a lot from Jerry. The very first private equity deal—Stern Metals in 1965—that was Jerry. One of the things that worked really well was that he let us run. I've always had that opportunity. My parents also gave me enormous leeway and said, "Go make your own mistakes."

Jerry gave us that leeway and provided a little gray hair, which, at 32, neither George nor I had. Together we all discovered the culture and values we thought were important. Jerry's had a lasting legacy in that regard. ▸

"There's so much more to investing than buying low and selling high"

JK: You and George have one of the most unique partnerships in business and have been co-CEOs of KKR for the past three decades. Why has it worked so well?

HK: I think it starts with our DNA. We're first cousins and have known each other since age 2. We grew up together, went to college together, roomed together in New York during the summers.

When you share common values and common goals, you can go a long way. I only want the best for George, and he only wants the best for me. I love him. Next to my wife and my children, he's the closest person in my life.

But if we talk about things, we're not going to agree on everything. And that's good. I can finish George's sentences, and he can finish mine. I know what is going to be an issue for him, and we talk about it.

JK: What are those conversations like?

HK: The last major disagreement we had was when we were 7. He wanted to ride my new bike. Obviously I wanted to ride it first. I was getting chased around the house for not being gracious, ran into a corner, cracked my head open, and needed 26 stitches. So I made a decision that there's no point to argue with him.

JK: What was your toughest moment together?

HK: Somewhere in the 1990s the firm was struggling a little bit. Our returns were suffering. George and I sat down in this room and said, "We're making mistakes." It wasn't other people making mistakes. You're running a firm, your name is on the door, the responsibility is yours. That's when we set up a new investment-committee approach. We set up 100-day plans for new companies we buy. We go through every division, look at personnel, and put metrics in place.

But it was George and I looking at each other. It wasn't, "You made that mistake" or "I made that mistake." We made that mistake together, so let's figure out what we're going to do. Everything we've ever done has been split right down the middle. It always has been, and it always will be.

JK: Looking to the future, how do you replicate the relationship you and George have here?

HK: I don't think you do. We don't have anybody here who's known each other since age 2. I remember getting into an interesting discussion with a professor from Yale who said, "There's no co-CEOs who ever work."

JK: Right, that's true!

HK: Well, that's not true. Goldman Sachs had them for years—I mean, Weinberg and Whitehead, a famous partnership. And it worked until it didn't, but it did work.

JK: But not like this.

HK: I'm guessing there are probably some other companies where people started something together and kept going. Who are those guys who have the ice cream? Ben and Jerry? I think they did pretty well.

JK: What are you doing to ensure KKR can endure?

HK: The one thing we do want is for KKR to outlive us, like a Goldman Sachs. We talk about culture and values—that's our foundation and the reason this firm can last many more years. Will it go on exactly as it has been? Probably not. It'll be different.

JK: KKR is such a well-known brand. Is that ever a burden?

HK: I don't look at it as a burden, I look at it as a responsibility. Every day I worry about the hundreds of thousands of employees we have at all our various companies. I worry about the millions of pension beneficiaries who are counting on us. I'm also worried about growing. So yeah, I worry about that. And to me, that is the responsibility a brand—a good, strong brand—brings.

One of the things that always sort of surprised me is the kind of brand we've been able to build. George and I, every day, try to get better—we try to make ourselves better and try to make this firm better. You build your reputation a brick at a time. But we're going to make mistakes. Believe me, we've made a lot of mistakes.

JK: What's been the biggest mistake?

HK: I don't know if there's any one biggest mistake. We've had financial mistakes. We've had companies that didn't work out, such as TXU and Samson, or Regal Cinemas a long time ago. But you learn from those mistakes. You hope you never do them again; shame on us if we do. And we want everyone at KKR to understand what the mistake was. One of the things we do not do at the firm is say, "You made that mistake, you caused us to lose money." Hey, the buck stops with George and me. We could have stopped any investment. We're on the investment committee, we hear all the opportunities. So that's our responsibility. It's also our responsibility to make sure that everyone here understands and lives by the values. Those values are what create the brand.

Also, George and I believe you have to be as transparent as you possibly can with your investors. They've given you money, and you've lost it.

JK: When you think about how deals are done today compared with back in the day, how are things different?

HK: Well, we used to be able to put up a dollar of equity and borrow $20 or $30 to buy a company. When we bought Safeway in 1986, it was about $5.3 billion, and we put up about $123 million of equity. When we bought RJR Nabisco, originally we put up $1.3 billion of equity against $30 billion of total purchase price. But today, that's all changed. You put up a dollar of equity and borrow a dollar of debt, maybe two, depending on your total earnings. So the capital structures have changed entirely.

JK: How does that change you as an investor?

HK: When you buy a company, obviously you've got to look at the price you're paying. One thing that's different from the 1970s and the 1980s is that the valuation of companies has changed significantly. So we look at where the industry is going, and we look at the downside.

JK: Where did you learn that?

HK: When I was in my early 30s at Bear Stearns, I'd have drinks after work with a friend of my father's who was an entrepreneur and owned a bunch of companies. "Never worry about what you might earn on the upside," he'd say. "Always worry about what you might lose on the downside." And it was a great lesson for me, because I was young. All I worried about was trying to get a deal done, for my investors and hopefully for myself. But you know, when you're young, oftentimes you don't worry about something going wrong. I guess as you get older you worry about that, because you've had a lot of things go wrong.

JK: That must inform how you talk to companies you're interested in buying.

HK: One of the questions I always like to ask a CEO when I'm thinking of us making an investment is, "You're here today, where do you want to be five years from now?" Then I want to know 10 years. And the body language is great. Most of the time they're thinking about what's going to happen next quarter. But we really do think in those long-term increments.

JK: Any big ideas you've come across in recent meetings with CEOs?

HK: We thrive on innovation. George and I really try to stay on the cutting edge. I love it. I learn a lot from meeting with startups. There's a terrific company in San Francisco called AppDirect, started by Nicolas Desmarais and a partner. They focus on the enterprise area with apps, and it's growing like crazy right now. I'm amazed at the number of entrepreneurs I meet with who are starting these companies. I ask them, "How do you hire? What's your strategy?"

I compare their responses to the dot-com period around 2000. Back then I'd ask, "What's your strategy?" and people would tell me, "Go public." I'd say, "That's not a strategy—that's a way to raise money." "It's all eyeballs," they'd say. "OK, eyeballs," I'd say. "You're looking at your screen: How are ►

“People who are curious are going to be better investors and better stewards of others’ money”

you going to turn those eyeballs into money?” And of course all of those people went away. The arrogance during that time was staggering. I can’t tell you how many people told George and me, “You don’t get it, we’re probably going to put you out of business.”

JK: But this time is different?

HK: These are real businesses that are going to be around for a long time. I don’t know if the valuations are too high or too low, but the companies will stay, and they will grow. There will be shakeouts yet— you can’t have four competitors in the same category that are valued more or less the same, because only one or maybe two are going to survive. But what these companies are doing right now and how they’re thinking about disruption is phenomenal.

JK: How does that affect your investing decisions?

HK: We focus a lot on disrupters: What they’re doing, what they could do. When we’re making an investment in a nonstartup-type company, we ask ourselves, “Who’s going to disrupt this company or industry?” Then, “Let’s really think about it, so we don’t make the wrong investment.”

JK: Because you and George are really CEOs of CEOs, you probably have better access to C-suites than anybody else. What insights are you gleaning?

HK: Smaller and midsize companies are telling us, “I don’t have the banks covering me anymore.” The banks today are pulling away from a lot of these companies, because the capital charges are so high. There’s not enough margin in it for them. They’ve let a lot of people go and ceded quite a bit of that business. We got into a lot of these businesses because we saw a need.

JK: How much of that was opportunistic in the wake of the credit crisis and the heavier regulation that came for some of the traditional providers?

HK: We saw the opportunity to build out this solution-provider approach. Today, because of regulation in the banking industry, many of these banks used to carry inventory and make markets, and that’s no longer the case. You had much faster pricing, you had more transparency. A lot of that is gone now.

JK: Doesn’t that worry you?

HK: What worries me is, if there’s ever a major run on credit funds—high-yield funds, let’s say—who’s going to buy this debt? The banks used to be the ones that made the markets and had very big inventories, and they could take it on. Today, if they’re even still in the business, they’re down to a third of what they were. And that worries me, because I think we have put certain things at risk when we didn’t need to. In the U.S., I think regulation may have swung too far now. We needed it, no question about it. But I think there also is a need to step back and ask, “Do we really need everything that Dodd-Frank or the Volcker Rule has created? Are we hurting mainstream corporate America because they can’t get credit or capital as easily as they could before?” Sure, if you’re a big company, no problem, you can get all the capital you want. But if you’re a small or midsize company, it is much more difficult today, because the inventory and capital charges are just so high.

JK: Do you think regulators are too heavy-handed?

HK: Some regulation is really important. I don’t know what the exact right amount of regulation is. Don’t forget, until the financial crisis, which certainly was not created by the private equity industry, there was no oversight of us at all. Zero. Today, all of us in the private equity industry, whether you’re publicly traded, private, or an alternatives firm, you come under the regulation of the SEC. And that’s fine, I think it’s made us all better. To be able to say to you this regulation is important and this one’s not, I don’t want to go down that road. But I do think everyone, in every industry, should have accountability. We have accountability to our shareholders, to the institutions and high-net-worth people who give us money, to our employees, to the communities in which we serve, and to all the employees of the companies we buy. I have no problem with that at all. I just think in certain areas maybe that pendulum has swung too far.

JK: You mentioned information earlier. What’s a source you’re able to use to your advantage?

HK: One company I like to look at is First Data, which we own and gives us enormous up-to-date information on the consumer—and this is extremely

important because the consumer is about 70 percent of GDP in the U.S. First Data puts out something called SpendTrend reports based on the credit- and debit-card usage during that month. And since we process well over 40 percent of all transactions in the U.S., we get enormous information. Are customers using credit cards, or are they using debit cards? That tells you their state of mind. If they're using debit cards, they're worried about building up debt. If they go back to using credit cards, they're feeling better about themselves. What's the transaction size? That reveals if they're buying necessities or something more.

JK: What's something that jumped out at you?

HK: Our most recent SpendTrend reports have shown that consumers' largest expenditure, by far, has been on health care. It's funny, you had a big dividend for the consumer with the advent of lower gasoline prices. You would think they'd go out and spend on things, go shopping at Macy's or whatever. But they have not spent on things, except on essentials. A lot of people are saying, I want to spend my money on experiences. And we can pick that up. We have a dashboard of all our companies that shows what their revenues are, what they're earning, whether or not they're hiring, and we break it out by Asia, Europe, and the U.S.

I don't know if we picked the right companies, but what they're showing, interestingly, is mid- to high-single-digit revenue growth and double-digit earnings growth. Part of that is management. They're really operating the companies much better than when we bought them.

JK: What other data points interest you?

HK: Our focus used to be much more on the micro, which meant we focused on the company and didn't look at the macro enough—and that's something you have to take into account if you want to be a good investor. Certain times we got into trouble and made mistakes; I think there were macro issues that were really out of management's control. But having said that, shame on us. We should have known that this would happen or would be an issue. We didn't focus on it enough. And about five years ago we set up a macro asset and allocation group, which has been invaluable and made a huge difference in how we think.

Another thing that's been phenomenally helpful is ESG [environmental, social, and corporate governance]. We partnered with the Environmental Defense Fund, for example, to see what 26 of our companies could do with CO_2 emissions, recycling, water, and waste. And it was a story of doing well by doing good. Not only did we cut down the emissions and were able to recycle and save on waste and water usage, but we also saved an enormous amount of money on cost.

JK: So you're thinking more broadly. What have you been reading lately?

HK: It runs the full gamut. I just finished Walter Isaacson's *Einstein: His Life and Universe*, Charles Murray's *Coming Apart*, and Greg McKeown's *Essentialism*. I also recently read *ISIS: The State of Terror* and *The Emperor of All Maladies*. So everything from how you run your life, to what we're all worried about today, to what's happening in our communities, where I wish we all had more tolerance than we do.

JK: You're a longtime backer of Republican candidates. What are your thoughts on the political landscape this election year?

HK: That leadership matters, OK? But I'm not going to comment on who's my candidate or go down the road of who would do a better job.

JK: So when you think about the future of private equity, what happens next? You've witnessed the first 40 years. What does the next 40 look like?

HK: Certainly more competitive than the last 40, there's no question about that. It's an asset class that almost every institution today says, "We have to be in this because we cannot meet our obligation unless we put more and more capital into this."

So I imagine there will be many more private equity firms than there are today. It's very hard to kill a private equity firm. You can kill a hedge fund overnight; people pull their money out as fast as they put it in. You can't pull your money out of a private equity firm as easily. If a firm is bad, all that can really happen is that it won't be able to raise another fund. Eventually it'll go out of business. But that can take years.

There are some firms—I call them the I-I-I firm, meaning it's all about me—where once that one person retires or passes away, the firm will disappear. But the firms that have really focused on building a long-term, institutional approach to investing will, I think, be here for a long time.

JK: If you could talk to Henry and George at Joe and Rose's 40 years ago, what advice would you give them as they figured out their next move?

HK: When you're 32 years old and starting a company, you don't know what you don't know. Young entrepreneurs don't have any fear. They don't have any belief that they can fail. So here's the advice I give young people: Believe in yourself, build an incredibly strong team, and focus on your company's culture.

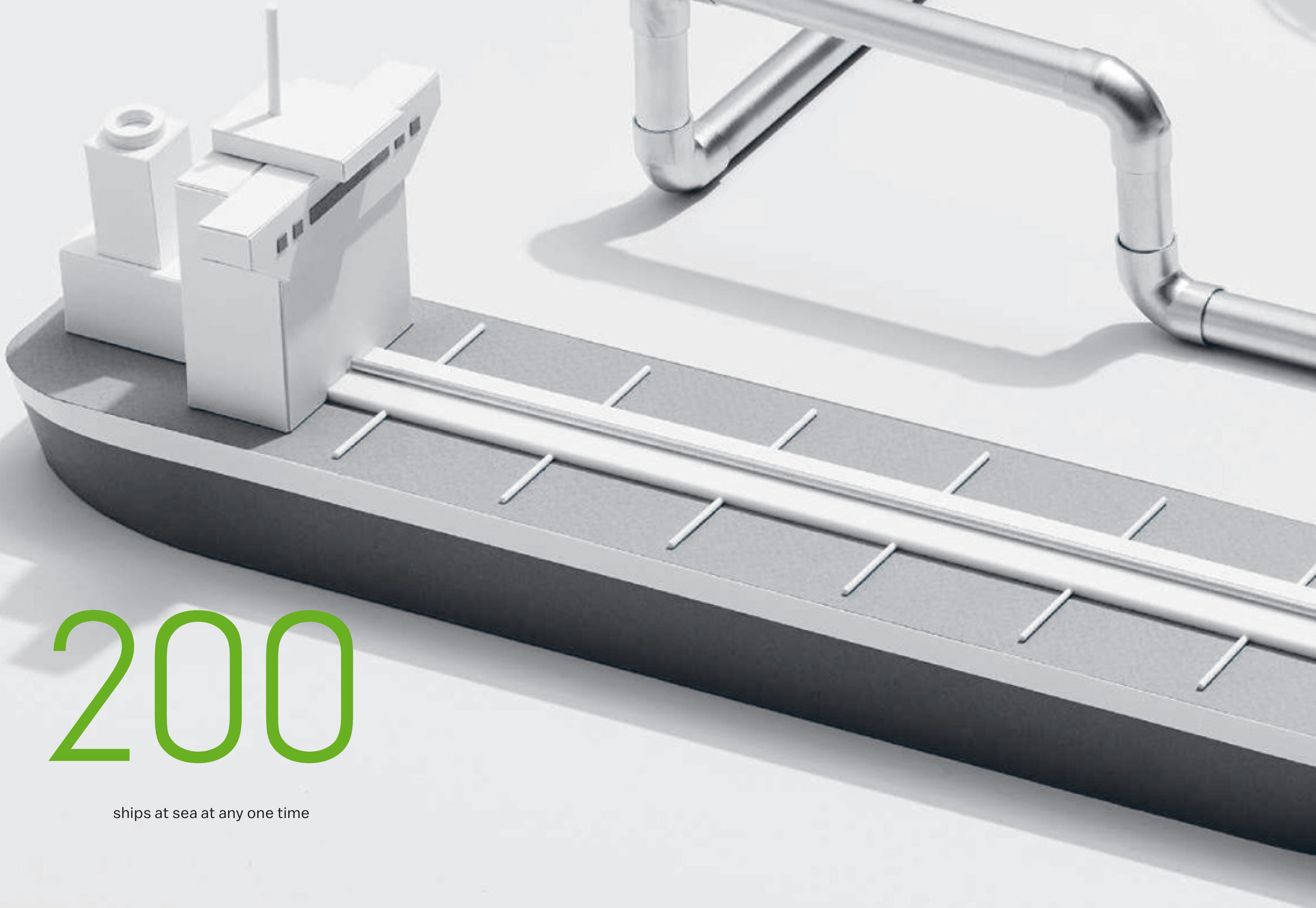
Also, if I can take one thing other than integrity and instill that in people, I'd want it to be curiosity. Because to me, people who are curious are going to be better investors and better stewards of others' money. If there's no curiosity, you're basically doing something that's already been done by someone else.

Kelly is Bloomberg's New York bureau chief.

Pipelines in

11

countries on five continents



200

ships at sea at any one time

By JAVIER BLAS and ANDY HOFFMAN

ARTWORK BY KYLE BEAN

Vitology

How the world's largest independent oil trader makes billions in volatile times

18.1M

cubic meters of storage capacity across the globe

IT WASN'T A normal business trip, even for Ian Taylor. Over an almost 40-year career in oil, the Oxford-educated Brit had set down in plenty of hot spots, from Tehran to Caracas, Baghdad to Lagos. Yet this journey—destination Benghazi, Libya, in the midst of a civil war—was different.

All Taylor had to do was peer out the window of the private plane he was in for a reminder. A thousand feet below, a NATO drone chaperoned the aircraft. Taylor, the compactly built chief executive officer of Vitol Group, the world's biggest independent oil trader, found himself wishing it were a proper fighter jet.

It was early 2011. Forces revolting against the 42-year dictatorship of Colonel Muammar Qaddafi had just taken control of the city and founded their own government. This meeting with the ragtag group of former military officials and local politicians had come together quickly, but if anybody could arrange something with them, Taylor figured, it was Vitol. A few weeks earlier, one of his top executives, Christopher Bake, had fielded a call from Doha. Qatar's oil minister, an intermediary explained, wanted to know if Vitol would be willing to supply fuel to the Qatari-backed Libyan rebels. Vitol had just four hours to reply.

Bake, based in Dubai, signaled Vitol's interest "in about four minutes." He then looped in his colleagues, most of them in London, to pull together a firm proposal. Vitol, he soon told the intermediary, was in. That they could move on a deal like this—in a bloody war zone—spoke volumes about the company's culture. As anybody in the oil business could attest, Vitol was a nimble and hungry opportunist, always ready to pounce.

Now, inside the plane, Taylor and Bake, who looks almost like a bodyguard thanks to his rugby-player frame, were en route to clinch the deal. But there was a catch: The rebels had no money. Vitol would have to be paid in crude. Western governments tacitly approved the arrangement, although aside from the lone drone, there wasn't any official support. If something went wrong, Taylor and his company were on their own.

The two men braced themselves as the plane banked hard. The risk of anti-aircraft fire from Qaddafi forces made a conventional landing impossible, so the pilot descended rapidly in a series of stomach-churning turns. Once on the ground, Taylor and Bake made their way to the designated meeting point.

Back then, the center of Benghazi, a tired collection of dusty 1970s buildings around a fetid lagoon, was a far more dangerous place than the one portrayed in this year's Hollywood film *13 Hours: The Secret Soldiers of Benghazi*, about the attack that killed U.S. Ambassador to Libya J. Christopher Stevens in September 2012. In the early days of the civil war, Benghazi was a city where nearly every man—and often even children—carried a Kalashnikov, and the rest of the population lived under the constant threat that Qaddafi troops could breach the city's defenses.

After some discussion, Vitol accepted the deal. Things went awry within days. Despite promising to keep it secret, the rebels announced they'd made an arrangement to sell oil. In response, Qaddafi's forces immediately blew up a key pipeline. Without oil, Vitol couldn't be paid.

Still, the company upheld its end of the bargain. Over the coming months, its tankers shipped cargo after cargo of gasoline, diesel, and fuel oil into eastern Libya. "The fuel from Vitol was very important for the military," Abdeljalil Mayuf, an official at rebel-controlled Arabian Gulf Oil in Benghazi, later said.

In the end, the rebels brought down Qaddafi, and once the fighting subsided, Vitol got its oil. At one point, as everyone waited for production to restart, the amount owed by the rebel government ballooned to more than $1 billion.

Five years later, Taylor, now 60, recalls the Benghazi affair over breakfast at London's St. Pancras station ahead of the 9:18 a.m. Eurostar to Paris. "It was a deal which, to be honest, got much larger than it should have," he says.

THE BOLDNESS OF the Benghazi deal epitomizes the world of Vitol—a high-stakes mix of business and energy geopolitics conducted in some of the most difficult corners of the world. The closely held company, which last year made a net profit of $1.6 billion, is a hidden giant of the global economy, handling more than 6 million barrels a day, enough to meet the combined daily needs of Germany, France, Italy, and Spain.

Vitol CEO Taylor

THIS PAGE: PHOTOGRAPH BY FINN TAYLOR FOR BLOOMBERG MARKETS. PREVIOUS SPREAD: PHOTOGRAPH BY MITCH PAYNE FOR BLOOMBERG MARKETS

“I will kill—kill!—to have that system”

Over half a century (the company will celebrate its 50th anniversary in August) Vitol has never suffered an annual loss. Profits surged from just $22.9 million in 1995 to a record $2.28 billion in 2009, according to documents reviewed by *Bloomberg Markets*. At its peak, Vitol’s return on equity, a measure of profitability compared with the money that partners have invested, was a geyserlike 56 percent. Even Wall Street pales in comparison; Goldman Sachs’s best ROE since going public in 1999 is 31 percent. “Vitol has established itself as the ultimate energy trader,” says Jean-François Lambert, who as former global head of commodity and structured trade finance at HSBC dealt extensively with the company.

This is the story of how Vitol got there and how at times it stumbled along the way—reconstructed by *Bloomberg Markets* through two dozen interviews with current and former executives and others in the industry, and reviewing hundreds of pages of previously unreported financial and legal records filed in the Netherlands, the U.S., and Luxembourg.

Vitol, which trades about 6.5 percent of the world’s oil, fights in a tough arena. It competes with other independents such as Glencore, Trafigura Group, Mercuria Energy Group, Gunvor Group, and Castleton Commodities International. It also grapples for market share against Big Oil’s in-house trading arms, including those of BP, Royal Dutch Shell, Total, and, increasingly, state-owned Chinese oil companies.

As for the future, Vitol faces a daunting fact: The best days of oil trading are almost undoubtedly in the rearview mirror. Margins are shrinking as the market becomes ever more transparent and competitors emerge fighting for the same barrels. Even as Vitol sinks more capital into assets such as refineries and terminals, returns are falling. Last year’s ROE was 16 percent—for Vitol, a less-than-stellar number.

TAYLOR BECAME AN oil trader by chance. Of Scottish descent, raised and educated in England, he went to work at Shell for a simple reason: It paid better than other jobs he was considering. Starting in 1978 he learned the oil-trading ropes through stints in Singapore and Caracas, where he met his wife.

Vitol has grown like a Silicon Valley startup under Taylor, who came on in 1985 and took the top job a decade later, transforming the company into one of the world’s top traders as oil demand surged in China and other emerging markets. During his time as CEO, Vitol has increased its equity value by 3,500 percent, from $278 million in 1996 to almost $10 billion last year. Over the same period, Glencore went from $1.2 billion to $35 billion, a smaller though still impressive 2,800 percent rise.

Vitol was born amid more modest ambitions. In August 1966, two Dutchmen, Henk Viëtor and Jacques Detiger, invested 10,000 Dutch guilders (about $2,800 at the time) to start a Rotterdam company with the aim of buying and selling refined petroleum products by barge up and down the Rhine. They crunched Viëtor and “oil” to get Vitol.

The company’s first accounts showed a small profit and a balance sheet of 200,000 guilders including the value of the owners’ two cars. The business grew as the competition—major producers that controlled long-term contracts—began breaking apart in the late 1960s and ’70s. Small traders, including Vitol, started buying and selling oil on the nascent spot market.

As business grew, Vitol expanded geographically, opening offices from Switzerland to London to New York. Tension followed, with the founders split on strategy. In 1976, Viëtor, then CEO, left, and Detiger took over. By the time Taylor joined to run the crude oil side of the business, Vitol was handling about 450,000 barrels a day—a decent figure but only half what the industry’s leaders did. The kings of the oil trading game back then were Phibro, which had just bought Salomon Brothers, the investment bank, for $550 million; Marc Rich + Co., founded by the eponymous trader and onetime tax fugitive; and Transworld Oil, controlled by John Deuss, who’d risen to prominence and infamy by doing business with South Africa in the days of apartheid.

The modern Vitol began to take shape in 1990, when Detiger and seven other partners sold the company for $100 million to $200 million (the actual figure wasn’t disclosed) to a group of about 40 employees, including Taylor. The management buyout was financed by what was then ABN, the Dutch bank, and trader Ton Vonk took over as CEO.

Since that time, no single shareholder has controlled more than 5 percent, creating what Taylor and others describe as a “we” culture that’s the ►

VITOL GROUP NET INCOME

Sources: Bloomberg, Company filings

cornerstone of Vitol's success. "If anyone thinks they are bigger or better than the sum of the entity," says Bake, "he tends to get indirectly smacked down."

Vonk pushed Vitol into crude trading, expanding beyond refined products, and started signing so-called processing deals with refiners, supplying crude and receiving fuels. Those agreements led to what would be the most profitable deal ever for Vitol—and one that also almost brought the company down.

In the early 1990s, Vitol was processing crude at a seemingly cursed refinery in a town called Come by Chance on the eastern edge of Canada. When a fire tipped the refinery into bankruptcy, Vitol bought it for $300 million in 1995, then booked a $1 billion profit when it sold the plant a decade later. It remains the company's best-ever return from a single deal.

What's little known is that Vitol almost went belly-up as it struggled under the cost of upgrading the Come by Chance refinery just as its trading business floundered. In 1997 net profit fell to just $6.6 million, far below the consistent earnings ranging from $60 million to $70 million it achieved in 1992, 1993, and 1994 before it bought Come by Chance. As an investment, the refinery "was too big" relative to the company's size, says Kho Hui Meng, head of Vitol in Asia.

The experience continues to resonate. In the wake of Come by Chance, Vitol became fanatically conservative and overcapitalized. (Rating companies S&P Global Ratings and Fitch Ratings privately give Vitol an investment-grade BBB rating, according to a presentation reviewed by *Bloomberg Markets*.) Since then, Vitol has sought out partners, including an Abu Dhabi sovereign wealth fund, when buying assets. Today it co-owns five refineries with a capacity of 390,000 barrels per day. But Kho says Vitol never forgets its key strength. "Our core business is trading, moving oil from A to B efficiently," he says.

ON A SUNNY APRIL MORNING in Rotterdam, Jack de Moel oversees the bread and butter of Vitol's business. The company owns the massive Euro Tank Terminal here, which De Moel manages, and the barges *Noorozee* and *Citrine* are taking on fuel oil from tank 404, which rises taller than a 10-story building. A few meters away, a big tanker, the 144-meter-long (472-foot) *Blue Emerald*, is also loading fuel ahead of a North Sea crossing. Its ultimate destination is the Thames Estuary in England.

The terminal loaded 3,900 barges and tankers last year—one every two and a half hours. Each of those ships represents a potential profit, albeit a relatively small one. As the round-the-clock work here shows, oil trading is a business of big volumes but razor-thin margins. It also requires a huge investment. Since 2006, Vitol has built 28 towering storage tanks alongside Rotterdam's deep-water Calandkanaal. They can hold enough fuel to fill up 22 million Volkswagen Golfs.

Vitol's financial health isn't linked to oil prices the way Big Oil's fortunes are. "We are long volatility," says Paul Greenslade, who was Vitol's head of trading until he retired in 2014. That's industry jargon meaning Vitol benefits from price fluctuations, regardless of market prices. In 2009, for instance, the year the company reported its best profit, oil plunged to $30 a barrel from a record $150. Last year, as most of the energy industry struggled amid cascading oil prices, Vitol reported its fourth-highest profit.

For Vitol, oil is just a starting point. It blends different fuels to create the exact grade needed for each region, customer, and even season. To ensure supply, Vitol will provide cash upfront to companies such as Russia's Rosneft or governments like the one that runs oil-rich Kurdistan in northern Iraq—more than recouping its money when it sells the oil.

"The perception of them is as speculators," says Craig Pirrong, a finance professor at the University of Houston. But, in reality, he says, Vitol is an intermediary between consumers and producers. It will turn supertankers into floating storage farms, timing sales to beat roller-coastering prices. In 2015 it hired one of the world's largest tankers—

a 380-meter vessel as long as the Empire State Building is tall—to store crude. On any given day, Vitol has about 200 ships at sea. Last year the company logged 6,629 ship voyages.

For the most part, Vitol is a passenger riding the oil market. Sometimes the market severely restricts profit-making; this was the case in 2012, 2013, and the late 1990s. At other times, the market provides opportunities, often unexpectedly. The war in Libya was one such case; the 2011 nuclear crisis in Fukushima was another, leading to a massive shift in energy flows to Japan. "Opportunity is defined externally," says Russell Hardy, a senior Vitol executive. The job of the company's traders, he says, is to find ways to profit from those opportunities.

VITOL'S OPPORTUNITY-DRIVEN culture has forged a fiercely loyal staff. It can't hurt that many have become fabulously wealthy. They keep a notoriously low profile, and little is known about their individual wealth. However, a messy divorce proceeding a decade ago involving one of the company's most senior traders offers a rare glimpse into Vitol's riches.

According to documents filed in Texas' 14th Court of Appeals, Mike Loya, who heads the company in the Americas out of Houston, controlled Vitol shares valued at $140 million at the end of 2007. Since then, Vitol's book value has almost doubled, with profits and payouts surging, suggesting that top executives are each worth hundreds of millions. Loya says that what lured him to move from his old job at Transworld in the 1990s was a chance to earn a stake in a dynamic business. "If you do well, you become one of the owners," he says.

In 2014 alone, according to documents reviewed by *Bloomberg Markets*, Vitol distributed a special dividend-like payment of more than $1.1 billion to its 350 or so employee shareholder-partners. From 2008 to 2014, these shareholders were awarded payouts totaling almost $5.6 billion. Even so, says Chief Financial Officer Jeff Dellapina, "over the past 10 years we've reinvested 50 percent of the profits in the business—an appropriate level for an established and growing company."

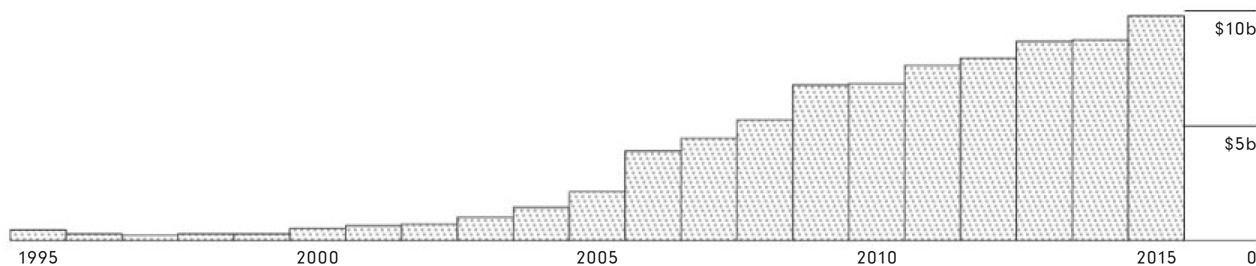
Vitol is a private company in more ways than one, and it's never found the oxygen of publicity to be particularly inviting. "When Vitol makes headlines, they are bad headlines," says Oliver Classen of the Berne Declaration, a Swiss nongovernmental organization that has researched commodity trading and advocates formal regulation of the industry.

In 1995, for instance, Vitol paid a Serbian warlord $1 million for help resolving a business dispute. Zeljko Raznjatovic, known as "Arkan," was indicted in 1997 by the International Criminal Tribunal for the former Yugoslavia in The Hague for crimes against humanity. He was assassinated in 2000 before his trial could go to court.

Vitol took its most damaging reputational hit in 2007 over paying the regime of Saddam Hussein about $13 million in "surcharges" to secure oil shipments under the United Nation's scandal-plagued Oil-for-Food Programme. The investigation, led by Paul Volcker, the former U.S. Federal Reserve chairman, exposed a world of illicit payments, secret bank accounts, and diplomats for hire. Rather than paying a fine without admitting wrongdoing, Vitol agreed to plead guilty in the Supreme Court of the State of New York; other companies, including Chevron, resolved similar civil and criminal cases at the time, but only a few pleaded guilty. "We did a settlement to protect our own staff," Taylor says, suggesting that without the deal, U.S. prosecutors could have charged individual traders. He points out that there were plenty of others paying the same surcharges. "It was chaos," Taylor says of the UN program.

Vitol's reputation was rattled again in 2012 after the company purchased Iranian fuel oil, skirting U.S. and European Union sanctions. Vitol, which used its Bahrain subsidiary for the deal, denied wrongdoing. ►

VITOL GROUP SHAREHOLDER EQUITY



Sources: Bloomberg, Company filings

Nonetheless, the episode marked a watershed for the company. Scarred by bad publicity and the negative reaction of some of its banks, Vitol tightened its internal compliance standards. Other changes soon followed. The company, for example, scaled back much of its trading activity in Nigeria as corruption allegations piled up against officials under then-President Goodluck Jonathan.

Even so, Vitol lags in disclosing information that activists such as the Berne Declaration consider imperative. While Glencore and Trafigura have joined a voluntary scheme to improve transparency in the commodity sector, Vitol has resisted. Unlike other privately owned traders, including Cargill, it refuses to disclose its financial results.

Taxes are another rallying point for critics. In 2015, judging from calculations based on the company's accounts, Vitol paid an effective global tax rate of 14.1 percent, less than half of Goldman's 30.7 percent. Although Vitol is incorporated in Rotterdam, the partner-owners control it through two Luxembourg-based shell companies, Vitol Holding II and the Tinsel Group, according to information disclosed in the Loya divorce papers. It settles a large chunk of its trades in tax-friendly jurisdictions, including Switzerland and Singapore, longtime hubs for commodity traders. "Our main trading offices were established a long time ago in key trading centers," says Dellapina.

Although Vitol isn't the only company that tries to reduce its tax bill, it's been particularly successful at it. In 2013 it paid no tax at all—thanks to the use of tax credits—in a year when its net income was $837 million.

Even though the CEO and most top executives are based at the company's sleek, minimalist offices near Buckingham Palace, Vitol pays the bulk of its corporate taxes outside Britain. Criticism of Vitol's tax practices—from the Scottish National Party and others—has been exacerbated by Taylor's donations of more than $2 million to U.K. Prime Minister David Cameron's Conservative Party and to causes supported by him. "Vitol has an open and transparent relationship with the tax authorities in all the jurisdictions in which it operates and pays its corporate taxes in each of these jurisdictions," Dellapina says.

HAVING THRIVED FOR more than two decades, Vitol may need to prepare for choppier seas. Trading margins keep shrinking as the minute-by-minute movements of the global oil industry are disseminated on the internet. Possession of market information that others don't have—once Vitol's edge—is fast disappearing. So what will Vitol do?

As quick-witted as he usually is, Taylor struggles a bit to answer the question over his breakfast at St. Pancras. "You will be surprised," he finally says. "I don't know the answer."

After mulling things over, he says Vitol will benefit from "natural market growth." He also says he wants to buy more assets to complete the creation of what in the oil industry is known as "a system"—a cache of oilfield stakes, refineries, tanks, and petrol stations spanning the cycle from the ground to the gas tank—just like Big Oil. It would be Vitol's own brand of vertical integration, he says, featuring minimal investment or exposure to actual oil production. "I will kill—kill!—to have that system," he says.

Although building such a structure wouldn't come cheap, Taylor, along with his colleagues, is determined to stay private. Glencore's 2011 initial public offering, which created several paper billionaires overnight, doesn't tempt Taylor or his team, he says.

At least that's the case now. Bob Finch, a former Vitol senior executive and for years the largest shareholder, says Vitol considered the idea of hiring a bank to explore going public about 10 years ago. Unbeknown to those outside Vitol's inner sanctum, the IPO option reached the executive committee, where it was defeated by what Finch says was a "narrow vote." Taylor says the idea of hiring a bank was "rejected by most members" of the executive committee.

The biggest challenge for Vitol may be internal as it wrestles with succession. Transitions at other trading houses show they're anything but easy. Taylor, who recently battled throat cancer that's in remission, says he isn't going anywhere soon. But he and at least three other members of the nine-member executive committee are either past or near 60. His lieutenants—including David Fransen, who heads the office in Geneva, Loya in Houston, and Kho, the boss in Singapore—will at some point retire. Vitol has been grooming the next generation—including Hardy, Dellapina, Bake, and Mark Couling, head of crude trading—to take the baton. One of these men, all in their 40s or 50s, is expected to be the next CEO.

Until then, Taylor says he's adhering to his usual schedule, which means traveling for almost half the year. The commodities business is still ruled by the centuries-old pledge of "my word is my bond." Face-to-face meetings are imperative.

"You need to have relationships," he says. Which is the reason Taylor flew into Benghazi—a deal he didn't want to do "unless I knew who I was dealing with," he says. "It could have gone very, very badly wrong."

And with that he's off to catch the Eurostar—in search of the next deal. ●

Blas is chief energy correspondent in London.
Hoffman covers commodities in Geneva.

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How did
build the most
desk at Citigroup? By
in the same
bonds that almost

The

By DAKIN CAMPBELL and DONAL GRIFFIN

T-Man, at Salomon Brothers in 1999

Mark Tsesarsky

successful trading
finding gold
subprime mortgage
sank the bank

Alchemist

THE MEMO LANDED ON a Sunday in November. It was 2007, and securities backed by subprime mortgages were roiling markets and imperiling banks. Merrill Lynch Chief Executive Officer Stan O'Neal had just resigned under pressure, and Citigroup CEO Chuck Prince was rumored to be on his way out.

So the Nov. 4 memo to employees in Citigroup's markets division seems bold in hindsight. While other banks were looking to unload the toxic securities and Citigroup was taking an $11 billion writedown on its holdings, then-trading chief Jamie Forese and fixed-income head Paco Ybarra had other plans. They announced they'd turn the bank's souring mortgage debt over to a new team and chart a course for the future. It was, they said, a "great opportunity."

The man they would soon ask to oversee that strategy was Mark Tsesarsky, a refugee from Ukraine with intense blue eyes and a cool demeanor. At the time, T-Man, as he was known around the bank, was head of special situations for securitizations, which meant he made bets on Citigroup's behalf with bonds backed by mortgages and other assets. Now his bosses were asking him to help limit losses on someone else's portfolio of collateralized debt obligations—instruments with names such as Bonifacius and Jupiter that were threatening to destroy the bank—and find a way to profit from the turmoil.

Over the next eight years, Tsesarsky and his team did just that. They rebuilt their bank into Wall Street's biggest for CDOs, not by issuing securities but by buying billions of dollars of debt, holding it as values rose, and trading with customers. In the three years ended in December 2015, the handful of traders notched almost $2 billion in revenue, more than any other desk at the bank, according to people familiar with the company's operations. Their performance was made possible by an unprecedented rescue of the financial system, including a bailout of Citigroup, and a flood of central bank money that lifted asset prices.

Tsesarsky, 54, declined to comment. He hasn't given an interview since 1999, when he told the *Jewish Week* that his experience being discriminated against as a Jew in the former Soviet Union "makes me stronger and different." The bank's senior executives declined to comment as well. But the story of how he did it, pieced together from conversations with more than a dozen current and former executives, shows that even on a safer and sounder Wall Street and at a bank that says it wants to be more boring, a trader can wager billions of dollars in often opaque debt markets.

ON A SUNNY DAY this spring, construction workers in hard hats mingle outside two buildings in Lower Manhattan that have long housed Citigroup's investment bank and that this year became the company's headquarters. Michael Corbat, who became CEO in 2012, has been restructuring Citigroup, selling unwanted assets, shrinking its global footprint, boosting capital, and trimming staff. The scaffolding shrouding the bottom of one building is a sign of the changes.

But on the trading floor where Tsesarsky has a desk, at the top of the other building, little has changed. A wiry man who favors designer suits and ties, Tsesarsky runs the asset-backed bond-trading business behind a veil of secrecy. CDOs are only a small part of an empire that includes securities linked to auto or credit card loans, mortgages, and consumer-installment debt. For two decades, Tsesarsky shared leadership with Jeffrey Perlowitz, who announced his retirement in March. The louder of the two, Perlowitz was the id to Tsesarsky's superego, says one person who's known both men for years.

"There's a serene balance that he has," James Zelter, a former Citigroup colleague and now head of investments at Apollo Global Management's credit unit, says about Tsesarsky.

To understand how Tsesarsky turned toxic assets into gold, it's worth going back to the market's beginnings. In the 1970s, less than 10 years before Tsesarsky joined Salomon Brothers in 1986, a trader there created the first private mortgage bond by pooling home loans and divvying up the cash flows into different securities. The innovation spread risk across thousands of loans, making them easier to trade and attracting investors unwilling to buy single mortgages. It catapulted Salomon to the top of Wall Street.

By the turn of the century, the idea's success led bankers to a little-used instrument with an esoteric name, the collateralized debt obligation. Working much like a mortgage bond, a CDO packaged existing securities into new debt. It was a second-generation magic trick that enabled even subprime mortgages to be transformed into triple A-rated paper. The market took off, increasing to $521 billion in 2006 from $68 billion in 2000, according to Securities Industry and Financial Markets Association data. Citigroup, which had swallowed Salomon in 1998, became the biggest issuer of CDOs.

As home prices crested in 2006, investors found themselves too far from borrowers to judge the securities' risk and rushed for the exits. Banks had trouble unloading their inventory. The busiest arrangers—Citigroup, Merrill Lynch, and UBS, among them—suffered billions of dollars in losses as the debt plunged in value. By the time of trading chief Forese's November 2007 memo, it wasn't clear there'd be much left but rubble for Tsesarsky to manage. In December analysts at Barclays predicted the safest portions of the securities could lose as much as 80 percent of their value. Many considered the instrument broken,

PREVIOUS SPREAD: MICHAEL PARAS/BLOOMBERG

and much of Wall Street left the market for dead.

Citigroup, however, wasn't ready to give up. Executives, including Forese, viewed their experience in the business as the key to growth. Add to that Tsesarsky's more than two decades in the mortgage markets, and Citigroup's leadership thought it could make money and avoid another near-death experience, according to an executive privy to the discussions. In short, the bank decided to go long.

Ten months later, Lehman Brothers declared bankruptcy, plunging the world into a crisis that threatened the financial system. Citigroup needed a government transfusion of more than $500 billion, including emergency loans and asset guarantees—at least $14 billion for risky mortgages in Tsesarsky's portfolio—and the U.S. Department of the Treasury took a 27 percent stake in the bank.

Even so, Tsesarsky's team enjoyed more freedom than others, says a former colleague. In at least one instance, Tsesarsky helped persuade management to give more resources to the business, beating Bank of America and other rivals that didn't want to commit the additional capital.

Citigroup was ready when the Federal Reserve Bank of New York auctioned a portfolio of CDOs in 2012. The team canvassed customers and collected orders, making pitch after pitch about its deep knowledge of the securities and their cheap prices, according to a person with knowledge of the strategy. In cases where the bank saw something too good to pass up but couldn't persuade investors to bid, it used its own money to buy the debt, the person says. Of the more than $45 billion sold by the central bank, Citigroup won $6.3 billion, paying an average of 38¢ on the dollar.

Over the next few years, the bank reaped the rewards, becoming the go-to source for the more than 500 mutual funds, hedge funds, and other institutions still trading CDOs, according to one person familiar with Citigroup's operations. And because there was less competition in an illiquid market, the difference between what Citigroup paid for the bonds and what it sold them for was greater than in less opaque parts of the debt markets, the person says.

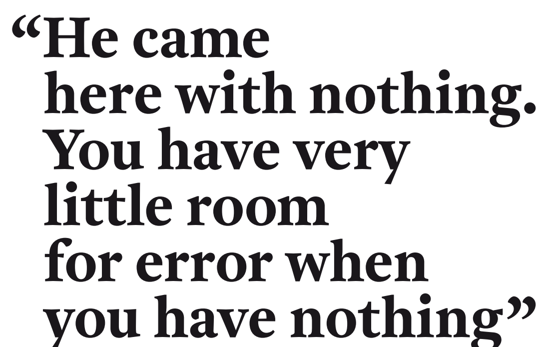
The bank also stocked up on inventory and profited when those positions rose in value. In the first years after the crisis, bargains were plentiful: Much of the CDO market traded at deep discounts. As home prices rebounded, borrowers refinanced loans or started making payments, and the securities recovered.

In some cases, Citigroup took steps to force gains by amassing senior positions in CDOs and unwinding the structure, getting access to the mortgage-backed securities inside that traded at higher prices, says a person with knowledge of the bank's strategy. The trade has typically been a hedge fund strategy because banks face capital constraints, according to Grant Buerstetta, a partner at Blank Rome who specializes in the deals. "To get a deal unwound is a home run," he says.

While it isn't clear how much Citigroup made from marking up inventory, one thing is certain: By 2015 the bank had full control of the CDO market. It traded about $6 billion of the securities with roughly 150 customers that year, according to a person with knowledge of the operation. That amounted to about $700 million of revenue, or 80 percent of the market, says another person. The tally, more than 6 percent of the bank's total from bond trading last year, was large enough to save the unit from reporting its worst performance since before the financial crisis. The team booked $700 million in 2013 and $500 million in 2014, that person says. The gains helped the larger securitized-markets operation run by Tsesarsky and Perlowitz tie for No. 1 on Wall Street, according to Coalition, a London-based research firm.

The success of the unit and its unusual mandate stuns Ronald Colombo, a law professor at Hofstra University and former counsel to Morgan Stanley. "The theatrics are horrible," he says. "It's impossible to imagine. You're being bailed out with one hand, and you're pouring money into the very same assets that precipitated the bailout with the other."

The performance of Tsesarsky's team is notable not only for its size but also because of new rules that sought to limit the risks that banks could take. Deep in the 2010 Dodd-Frank Act, Section 619 forbids banks from engaging in proprietary trading, the practice of making bets with their own money. Known as the ►



Volcker Rule for the former Federal Reserve chairman who championed it, the law sought to curb Wall Street's speculative ways. It can be difficult to determine if a trade is for a client or the bank's own account, so lawmakers zeroed in on banks' inventory and the length of time securities are held. As a result, the rule stipulates that firms are exempt if they can prove that trades don't "exceed the reasonably expected near-term demands of clients, customers, or counterparties."

With illiquid positions such as those in the CDO market, that can be a blurry line, and companies have more opportunity to interpret the rule in their favor, according to Charles Whitehead, a Cornell University law professor. While Citigroup says the inventory buildup meets client demand, other banks may have shied away for fear of violating the letter or spirit of the rule, Whitehead says.

"All of our activities comply with every applicable regulation, including the Volcker Rule," says Danielle Romero-Apsilos, a spokeswoman. "Citi has been successful in our securitized-markets and structured-credit businesses because we have stood with clients in all market environments."

FOR TSESARSKY, it was just the latest winning trade. As a teenager in Ukraine, he escaped with his mother, grandmother, and sister to the U.S. with $90, according to a 1999 profile in the *Jewish Week*, which interviewed him after he won the Young Leadership Award from the Wall Street division of the UJA-Federation of New York. Growing up Jewish in the former Soviet Union, he risked arrest to read Leon Uris's novel *Exodus*, about the founding of Israel. He became a "Zionist in hiding," he said.

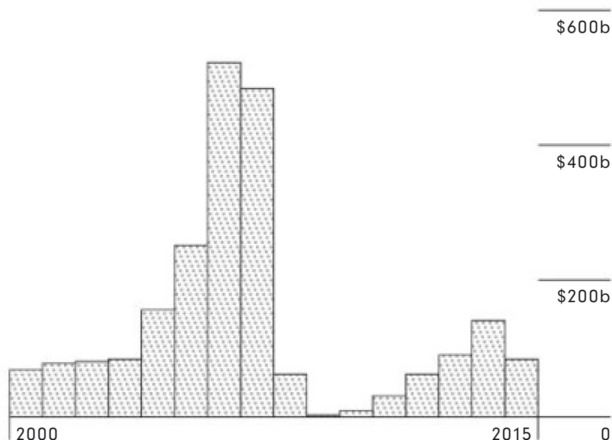
That upbringing informed his career on Wall Street, where Tsesarsky is known for his skill analyzing complicated trades, says David Finkelstein, a former colleague and a senior executive at real estate investment trust Annaly Capital Management. "He came here with nothing," Finkelstein says. "You have very little room for error when you have nothing."

During high school in Colorado and college at the Colorado School of Mines, Tsesarsky delivered pizzas, ushered at a movie theater, and worked at Kentucky Fried Chicken. After earning an MBA from the University of California at Los Angeles, he headed east.

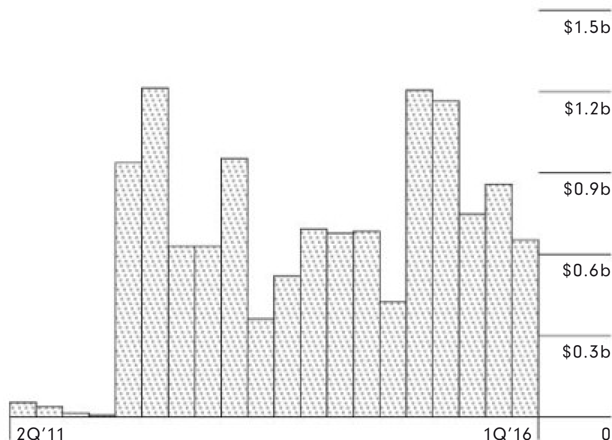
It was 1986—exciting times on Wall Street. Salomon, where Tsesarsky had won a spot in the training class, was pioneering new ways to package home loans into bonds. A year earlier, CEO John Gutfreund was crowned the "King of Wall Street." In 1989, Michael Lewis's *Liar's Poker* would be published, further cementing the company's reputation as a home for swashbuckling bond traders. After surviving the arduous program, Tsesarsky earned an assignment trading mortgage bonds.

It was the first time he'd prove adept at navigating the politics of Wall Street. While the typical mortgage trader was loud and obnoxious—eating marathons were common, Lewis wrote—Tsesarsky stood out for keeping kosher. In other ways, he fit right in. He was disciplined, fearless, and always looking for an edge, says Steven Beck, a former Salomon colleague. Before the widespread use of modeling software,

GLOBAL COLLATERALIZED DEBT OBLIGATION ISSUANCE



AVERAGE DAILY CDO TRADING VOLUME IN THE U.S.



Figures include global CDOs backed by mortgages and other assets, loans, bonds, trust-preferred securities, other CDOs, and hedge funds or private equity funds.
Source: Securities Industry and Financial Markets Association

Tsesarsky kept a manually updated list of hundreds of bond prices from the prior night's close, Beck says. Competitors avoided big trades until Tsesarsky was on vacation, although he followed the market closely even when traveling. Tsesarsky once called a junior trader from the top of a Colorado ski slope to place a trade, according to Beck. "Mark was obsessed," he says. "He wanted to win badly, he had a knack for winning, and he was determined to be the best trader on the Street."

In 1991, Tsesarsky received a promotion to head the team that trades government-backed mortgage bonds after a trader got in trouble for rigging bids in Treasury auctions, Beck says. It was at about this time that Tsesarsky first worked with Corbat, then an Atlanta-based bond salesman.

When Sandy Weill's Travelers Group bought Salomon in 1997, Tsesarsky was tapped to run mortgage trading for the combined company. He'd share the role with Perlowitz, beginning one of the longest-running partnerships on Wall Street. Named to lead the special situations securitization business in 2007, Tsesarsky oversaw Citigroup's push into film financing, traveling from Colombia to South Korea to evaluate potential investments, says a former colleague.

During those years, Tsesarsky kept the Salomon culture alive for a generation of mortgage traders. That meant being tough on colleagues when they made mistakes and rebuilding their confidence once the lesson was learned, says Finkelstein, one of at least a dozen traders who learned from him and went on to leadership positions in the industry.

Tsesarsky also has a protective side, former colleagues say. According to Finkelstein, nothing was more terrifying than committing Citigroup's capital as a junior trader under Tsesarsky. "When you make a mistake, you know it," he says. "You are in the hot seat." However harrowing the experience, Tsesarsky was always the mentor. "He makes sure you learn from it," Finkelstein says. "He doesn't let people fail."

And even when they lose money, Tsesarsky stands up for them. Former colleagues say he championed Anna Raytcheva, a Bulgarian-born trader who lost billions of dollars during the financial crisis and an additional $50 million in 2011 on bad mortgage bets. (A team run by Raytcheva that used the bank's money to make bets on government-backed bonds was disbanded in May.)

Tsesarsky and Perlowitz made their own blunders, too. They lost money on a 2004 German mortgage deal and in February 2007 provided a cash infusion to the struggling parent of Ameriquest Mortgage, once the largest U.S. subprime lender. By August, Citigroup had agreed to buy parts of the business.

Ameriquest ran late-night television ads that attracted lower-quality borrowers, and the acquisition was doomed from the start, says Richard Couch, an executive at the time in Citigroup's corporate mergers-and-acquisitions group. Some executives opposed the plan, code-named Project Adventure, but lacked the power to stop them, according to Couch, who refused to bless the deal's financials before sending Tsesarsky and Perlowitz to the board. "We wanted nothing to do with this thing," he says.

Six months later, incoming CEO Vikram Pandit dismantled much of the Ameriquest operation. By then, Tsesarsky was overseeing the CDO business.

TSESARSKY'S SUCCESS IN the CDO job—the $2 billion score Corbat, Forese, and other top executives don't want to talk about—points to Citigroup's continuing appetite for risk. The bank has more than doubled its derivatives holdings over the past decade, according to regulatory filings, and beefed up commodities trading.

Romero-Apsilos, the Citigroup spokeswoman, says the bank employs "prudent risk-management practices" in its asset-backed securities business. But the secrecy shrouding Tsesarsky's unit and the history of complicated, structured products on Wall Street raise questions about Corbat's commitment to making the company safer and more boring.

"No one really has any idea of the risks these banks are taking and therefore the threat they pose to the financial system at any point in time," says Dennis Kelleher, president of Better Markets, a nonprofit that advocates for tougher financial regulations.

Those risks may be diminishing, at least for the CDO business, as new deals remain scarce and older ones unwind or pay off. For Tsesarsky, that means plenty of time to contemplate what's next on the 4-mile walk he often takes between his office and the home on Central Park West he shares with his wife, who's a rabbi, and their four children. There's plenty to keep him busy: He sits on the board of an Upper West Side synagogue that calls itself the oldest Jewish congregation in the U.S., and he contributes to pro-Israel and Jewish causes. He once bought plane tickets for 250 Russians immigrating to Israel and joined them on the trip. "People on Wall Street become jaded and think that money is all that's important in life," he told the *Jewish Week* in 1999. "The indifference really bothers me."

Yet Tsesarsky is always searching for the next profitable trade. "He has this ability to see the long game, and he has this feeling for the market and where it's going," Finkelstein says. "When he sees opportunity, he jumps on it." ●

Campbell and Griffin cover banking and finance in New York and London, respectively.

Trading

The future of Hong Kong, long capitalism's Eastern citadel, is far from certain as mainland China's exchanges rise in prominence

By SAM MAMUDI

PHOTOGRAPH BY MATTHEW PILLSBURY

Places

IN HONG KONG, a city that lives for business, 2016 is shaping up as a year to forget. In the first quarter, the city's gross domestic product shrank by the most since 2011. In February, property sales hit a 25-year low. That same month, HSBC voted to stay in London instead of relocating its headquarters to the former British colony. In March, Hong Kong fell behind Singapore in Z/Yen Group's semiannual ranking of financial centers. Then in April, Dalian Wanda Commercial Properties, one of the world's biggest real estate developers, told the 125-year-old Hong Kong stock exchange to suspend trading in its shares. The company plans to relist elsewhere, according to a document sent to prospective backers—and that somewhere else poses an existential crisis for capitalism's Asian citadel.

Wanda's action was especially significant because of the identity of its controlling shareholder. Wang Jianlin, 61, Asia's second-richest person, is worth $33 billion, according to the Bloomberg Billionaires Index. The move by the ex-People's Liberation Army officer—perhaps best known internationally as the owner of AMC Entertainment and a part-owner of soccer club Atlético Madrid—is a shot across the bow of the bankers, traders, and tycoons who turned Hong Kong into one of the world's great financial centers. Wang's decision was the first step toward delisting the $30 billion company on Hong Kong Exchanges & Clearing (HKEx) and listing on an exchange on the mainland—most likely on Shanghai's, the largest. "The news took everyone by surprise," says Raymond Cheng, Hong Kong-based analyst at CIMB Securities.

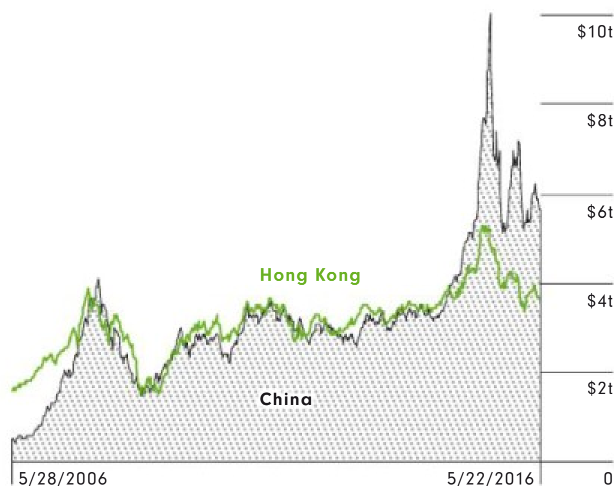
It was inevitable that, as the supercharged Chinese economy cooled, Hong Kong—long China's Wall Street—would take a hit. But Hong Kongers are confronting a deeper shift in understanding their place in China, in Asia, and in the world. The very slowdown on the mainland that's put the brakes on Hong Kong has at the same time spurred an acceleration in Beijing's efforts to lure foreign investment by opening up its financial system.

Because of these big-picture changes, the Hong Kong and Shanghai exchanges are, however gradually, trading places. Keen to establish the mainland city as an international center of finance, China's government has made it easier than ever to invest directly in mainland markets without going through Hong Kong.

That's one reason why MSCI, whose indexes are used as benchmarks for tracking more than $10 trillion of investor assets, is moving closer to adding mainland shares to its emerging-markets gauges. It's a decision that is inescapable. A nod from MSCI would spark an estimated $16 billion of inflows into China and signify the most high-profile endorsement yet of the country's transition to a more market-based economy. "The distinction between Hong Kong and the mainland stock market will eventually cease to exist," says Niklas Hageback, a Hong Kong-based money manager who helps oversee about $175 million at Valkyria Kapital, which focuses on stocks in the Asia-Pacific region.

Previous spread:
Hong Kong Exchanges & Clearing trading floor, May 2016

MARKET CAPITALIZATION OF EXCHANGES



Source: {WCAUCHIN Index <GO>}, {WCAUHK Index <GO>}

“The distinction between Hong Kong and the mainland stock market will eventually cease to exist”

HONG KONG IS A SURVIVOR. A former fishing port molded by Anglo-Saxon capitalists and hard-working refugees from the mainland, it grew into one of the most business-friendly economies in the world, surmounting challenges along the way. Despite widespread fears when Britain passed the city back to China in 1997, Hong Kong for the most part runs its own affairs, and its recent boom was partly due to Chinese largess: initial public offerings, tourism, and preferential access to Chinese markets. The former colony is in its 19th of 50 years as a Special Administrative Region—it’s part of China, but it has its own government and, notably, a legal system rooted in English common law.

Hong Kong’s future could well depend on how quickly China relaxes the tight controls over its own economy and fully integrates into global financial markets. Optimists say the city’s decades-long head start in building a credible legal and market infrastructure will protect its status for years. Others argue that Hong Kong’s gateway-to-China strategy is obsolete and the city must reinvent itself. “The question people in Hong Kong should now be asking themselves is: How do we become the Chicago to Shanghai’s New York?” says Mark Austen, chief executive officer of the Asia Securities Industry & Financial Markets Association (ASIFMA) in Hong Kong.

Many of the city’s traditional strengths are already overshadowed by forces on the mainland. Chinese companies have issued the equivalent of $1.1 trillion in local bonds this year, vs. just $8.4 billion in so-called dim sum debt in Hong Kong. The market capitalization of Hong Kong-listed stocks, which through mid-2014 consistently exceeded that of stocks on the mainland, now trails them: $3.7 trillion as compared with $5.6 trillion.

The value of average daily shares trading in the city has been about $8.8 billion this year, against a combined $80 billion in Shanghai and Shenzhen, China’s two main financial centers. Companies announced plans to raise less than $460 million via IPOs in Hong Kong through April, the slowest pace since 2001. The declines have taken their toll on HKEx, whose market value has slumped 41 percent over the past year to $28 billion. Equity valuations in China are more than three times higher on average than in Hong Kong. That’s part of the reason Wang wants to relist Wanda’s property unit on the mainland.

Although the numbers seem stacked against Hong Kong, its defenders point out that 1,401 overseas companies had their regional headquarters in the city last year, up from 1,340 in 2011, according to the Census and Statistics Department. A survey of 100 companies inside and outside of Hong Kong with a capitalization of more than $1 billion showed that half believed the city was the “preferred or ideal” location for their regional financial management needs, according to East & Partners, a business-banking market research and analysis firm.

If anything is on Hong Kong’s side, it’s history. Whereas China is just opening up to the world, Hong Kong has been a global, outward-looking place since the British took charge in the mid-19th century. The former colony’s established legal system and tradition of laissez-faire governance help explain why Hong Kong for 22 straight years has sat atop the Heritage Foundation’s annual measure of business-friendly economies. China, by contrast, ranked 144th in this year’s survey. “Hong Kong is fully compatible with the international system,” says Kevin Lai, the Hong Kong-based chief economist for Asia (excluding Japan) at Daiwa Capital Markets, a Japanese brokerage. “It has taken 50 years to build these qualities. Even if China announces legal reforms today, it would take 20 years.”

The compatibility Lai cites is one reason why China in November 2014 chose Hong Kong to anchor what’s known as the Stock Connect, a cross-boundary investment channel linking the Hong Kong and Shanghai stock exchanges. The program allows traders from around the world to buy and sell Shanghai shares through their Hong Kong brokerage accounts. A second link—with China’s second-largest stock market, in Shenzhen—is expected to be implemented this year. While trading volumes and financial benefits haven’t been overwhelming, Stock Connect is an important symbol of China’s opening up to global trade. ►

HONG KONG EXCHANGES & CLEARING STOCK PRICE

Source: {388 HK Equity <GO>}

QUITE THE OPPOSITE MESSAGE emanated from China last year. When shares on the Shanghai Stock Exchange crashed, the authorities went to extreme lengths to prop up the market, allowing hundreds of companies to halt trading in their shares and banning major stockholders from selling. Several people, including executives at Citic Securities, China's largest brokerage, were arrested. But China has started to roll back those harsh measures while also quietly pushing forward on some key changes to make mainland markets more appealing to foreign funds. In the interbank bond market, for example, financial firms and institutional investors now have quota-free access to more than 37.8 trillion yuan ($5.8 trillion) in securities.

MSCI called China's recent changes "significant," but it also noted that international investors still have concerns, including the risk of widespread trading halts during stock market downturns. Among 23 strategists surveyed by Bloomberg in May, 10 predicted MSCI will allow Chinese shares in its indexes, 5 forecast a rejection, and 8 said it was too close to call.

In the long term, China's growing financial clout is the greatest threat to Hong Kong's prominence. In the shorter term, the danger is that mainland authorities will chip away at the freedoms and legal protections that make the city so attractive to international investors.

Tensions between Hong Kongers and the rulers in Beijing have been a regular feature since the 1997 handover. Thousands of citizens flooded the streets of Hong Kong in the summer and fall of 2014 for 79 days of pro-democracy protests, demanding an end to what they said was China's increased political interference. When Zhang Dejiang, the No. 3 figure in the Communist Party leadership, visited from Beijing in mid-May, Hong Kong deployed as many as 6,000 police officers every day of his trip to protect him and keep protesters at bay.

Last October the Securities and Futures Commission of Hong Kong put forward a plan to gain direct access to the identities of anyone conducting trades through the city, fueling concern that the data would be shared with mainland authorities. China is one of very few major markets where such monitoring activity occurs at the level of individual traders; the U.S. and most other jurisdictions don't track transactions at the broker level unless there's evidence of wrongdoing. "The core values in Hong Kong are under more pressure than people had previously perceived," says Steve Vickers, founder and CEO of Steve Vickers & Associates, a specialist risk mitigation, corporate intelligence, security, and consulting company in Hong Kong.

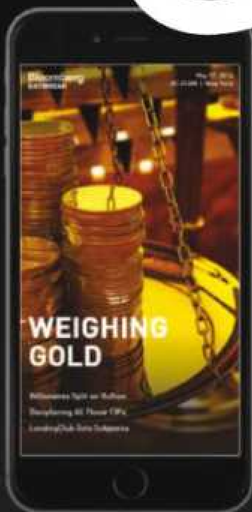
To maintain its importance as a financial center, Hong Kong should not only defend its traditional advantages—the rule of law, its deep pool of financial expertise—but also build itself into a hub for derivatives and asset management, says ASIFMA's Austen. By refashioning itself as a bit of Chicago and a bit of Boston in the shadow of New York, he says, Hong Kong could complement rather than compete with the overpowering growth of equity and debt markets in China.

It's a vision shared by HKEx CEO Charles Li. He argued in a blog post in April that the city has an opportunity to thrive as a place where investors come to hedge their China risk with contracts on everything from currencies to interest rates. HKEx's revenue from equity and financial derivatives rose to HK$2.2 billion ($283 million) last year from HK$750 million in 2010. "We will be able to continue in our unique and irreplaceable role of facilitating China's development while securing Hong Kong's prosperity for another generation and beyond," Li wrote.

Add it all up, and it's clear that unless Hong Kong changes in the face of the mainland's rise, it faces further erosion of its status. Having slipped behind Singapore as a hub, Hong Kong might find it difficult to bounce back, says Fraser Howie, co-author of *Red Capitalism: The Fragile Financial Foundation of China's Extraordinary Rise*. "Five hundred years ago, Venice was the economic power in the Mediterranean," Howie says. "Now it's just a tourist attraction."

Mamudi covers market structure in Hong Kong.

Wake. Read. Know. Go.



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Cheat Sheet

A Compendium of Noteworthy Functions

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July 2016, volume 25, issue 3, BLOOMBERG MARKETS (ISSN 1531-5061) (USPS 008-897) is published six times a year with issues in March, May, July, September, November and December by Bloomberg Finance L.P., 731 Lexington Avenue, New York, NY 10022, and distributed free to subscribers of the BLOOMBERG PROFESSIONAL service. POSTMASTER: Send address changes to Circulation, BLOOMBERG MARKETS, P.O. Box 1583, New York, NY 10150-1583. Periodicals postage paid in New York and at additional mailing offices.

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Breakfast of Champions

By JOE WEISENTHAL

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EVERY MORNING I wake up, go on Twitter, and ask, "What'd I miss?" FOMO—fear of missing out—is one of the defining characteristics of our age and fills me with existential dread. Which is also why I recently began incorporating a visit to {NRR <GO>}, or News Readership Rankings, as part of my morning routine. It's the fastest way to find out which companies people are looking at the most. This morning the most viewed is Apple because, well, Cupertino can really move the needle. But when I look at the one people are paying attention to relative to the norm, it's Richemont, the Swiss parent company of Cartier, which has just confirmed that the luxury goods sector remains mired in a funk. I'm deeply interested in the global macro environment, so this fact fascinates me because makers of Swiss luxury goods are bellwethers for all kinds of economic trends. If not for {NRR <GO>}, I might have missed this insight altogether. There's so much more, too. You can narrow down your universe of companies by region or portfolio and change your time frame to capture how things have changed over the past hour, or eight hours, or longer. You can also examine publication counts to see who's making the most headlines, and even get a sentiment analysis to see who's receiving the best or worst reception. Quite simply, if you have any urge to learn about the world fast, this function opens up a world of opportunities. ●

Weisenthal co-hosts *What'd You Miss?* on Bloomberg TV and is the managing editor of bloomberg.com/markets.

ME
BY MELIÁ
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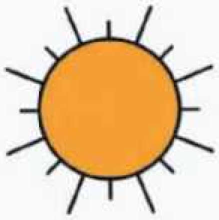

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Investing in the funds may be more volatile than investing in broadly diversified funds. The use of leverage by the funds increases the risks to the funds, which are not suitable for all investors. The funds should be utilized only by sophisticated investors who understand leverage risk, consequeances of seeking daily leveraged investment results and intend to actively monitor and manage their investments.

Risks: An investment in the Funds involves risk, including the possible loss of principal. The Funds are non-diversified and include risks associated with concentration risk that results from the Funds' investments in a particular industry or sector which can increase volatility. The use of derivatives such as futures contracts, forward contracts, options and swaps are subject to market risks that may cause their price to fluctuate over time. The Funds do not attempt to provide returns which are a multiple of the return of the Index for periods other than a single day. For other risks including correlation, compounding, market volatility, shorting for the bear funds, and specific risks regarding each sector, please read the prospectus. Distributor: Foreside Fund Services, LLC.