THE SELFIE BILLIONAIRE • CASH IN ON THE CLOUD

JUNE 21, 2016

Forbes

Sara Blakely
A billionaire thanks to Spanx

Sophia Amoruso
The Nasty Gal makes good

Diane Hendricks
At almost $5 billion, she's number one

AMERICA'S RICHEST SELF-MADE WOMEN

FROM TAYLOR SWIFT AND SUSAN WOJCICKI TO OPRAH WINFREY AND MARISSA MAYER.

THE DEFINITIVE RANKING OF THE 60 MOST SUCCESSFUL TRAILBLAZERS


Kathy Ireland
The model of a superbrand
Meg Whitman
Silicon Valley's richest woman
Toni Ko
Makeup mogul with a beautiful business mind


PLUS
THE 100 MOST POWERFUL WOMEN IN THE WORLD
FROM BEDROOM TO BOARDROOM TO COURTROOM
HOW TO BUILD A BILLION-DOLLAR BRAND IN YOUR SPARE TIME
Katrina Lake
Stitching a high-tech fashion fortune
Dorothy Herman
Real estate's big deal
Liz Elting
Taming the Tower of Babel

TO ACHIEVE FINANCIAL SECURITY, THERE ARE TWO HALVES TO CONSIDER:

PROTECT

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WOMEN AT WORK: A NEW BREED OF

FROM LEFT:
PATRICIA STOUT
OWNER AND PRESIDENT, ALAMO TRAVEL GROUP

RACHEL WIXSON
PARTNER, CUMBERLAND CONSULTING GROUP

ALICE HOUSTON
OWNER AND PRESIDENT, HOUSTON-JOHNSON, INC.

EMILY LEY
FOUNDER, THE SIMPLIFIED PLANNER

THESE PIONEERING


FEMALE ENTREPRENEUR IS CHANGING THE FACE OF AMERICAN BUSINESS
Forbes
SELF-MADE SUCCESS
BUSINESSWOMEN ARE WRITING THEIR OWN RULES OF SUCCESS

Forbes

ON THE COVER

COVER PHOTOGRAPH BY JAMEL TOPPIN FOR FORBES, WITH TIM PANNELL.

SOPHIA AMORUSO'S MAKEUP BY KEIKO HIRAMOTO; DIANE HENDRICKS' HAIR & MAKEUP BY SUZANNAH HALLILI; KATHY IRELAND'S HAIR BY RICHARD MARIN FOR CLOUTIER REMIX; KATHY IRELAND'S MAKEUP BY LUIS CASCO FOR MARY KAY; KATHY IRELAND'S STYLING BY ROBÈRT BEHAR FOR OPUS BEAUTY; HAIR & MAKEUP FOR KATRINA LAKE, DOTTIE HERMAN AND LIZ ELTING BY SUZANNAH HALLILI.


18


38


42

46

INVESTING

64

FEATURES

ForbesBrandVoice

LIFE

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INSIDE SCOOP

Rethinking Our **Digital Universe**

BY LEWIS D'VORKIN

I OFTEN TELL my wife that I embrace getting older. She asks if that means my OCD tendencies, too. Well, at least my compulsion to learn from the digital past. Which brings me to PointCast, an Internet darling of 20 years ago. It was going to revolutionize online news with technology to "push" content to consumers so they didn't have to "pull" it through their browsers. Consumers didn't bite. The hype faded. PointCast quickly withered away.

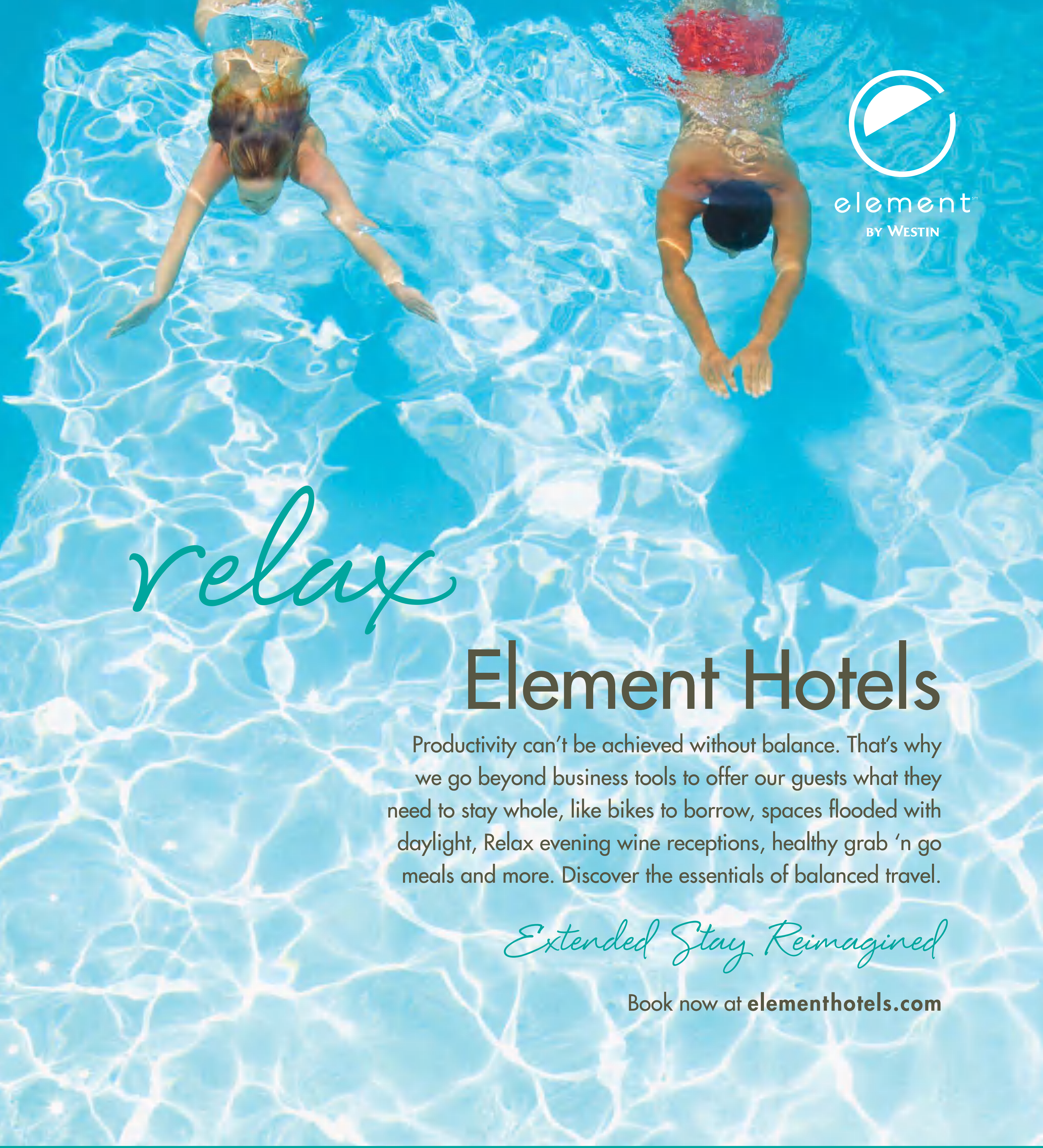
Push versus pull is back—this time as Facebook, Google and an array of technology platforms threaten to devour what came before. A huge pain point for digital news: In a mobile-led social world, Facebook and Google command more than half of all mobile advertising. So, the existential question for all of us is whether to protect what we've built (websites, apps, whatever) by playing the pull game or push content onto the platforms of The New Powers That Be (apologies to David Halberstam).

Six years ago, as social began to flourish but pull still reigned, FORBES aggressively set out to reinvent century-old newsroom thinking. We got a long way toward building a sustainable model for advertising-supported journalism with an incentive-based contributor network and an ethos that enabled marketing partners to transparently publish content on Forbes.com and in print. With "push" gaining consumer favor in a social-led mobile world, we're reinventing again.

How so? We're developing a mobile-only premium website experience. Think in terms of cards—summaries of text, graphics, quotes that can be linked in chains. Now we're putting people in place for an even newer work flow. This one will curate, produce and distribute content for new form factors that work for both push and pull consumers. We can tease readers with content to pull them into our new experience, or we can push the content to live autonomously on other platforms—social networks, messenger bots, even Amazon's Echo.

Our thinking will provide exciting opportunities for our BrandVoice partners, including full-screen mobile video and fresh native ad executions, contextually placed within a new hashtag system that categorizes our stories. We see print advertisers benefiting, too, as FORBES magazine content is refashioned for text, graphic and video cards.

As we build the next, my focus on the past will join my OCD behaviors. It will help provide the perspective we need on our march forward.


element
BY WESTIN

"With all thy getting, get understanding"

UNCLE SAM UNCLE TYRANT

BY STEVE FORBES, EDITOR-IN-CHIEF

OUR FOUNDING FATHERS understood that tyranny wasn't likely to come from a foreign invasion but from the step-by-step erosion of our freedoms by an expanding government. This is what we are facing today. Most people have no conception of the slippery slope we're on.

Two ominous trends threaten us. One is the monstrous growth of the regulatory state, whereby "independent" agencies, such as the EPA and the FCC, are creating countless rules that carry the force of law. These entities, not our increasingly emasculated Congress, are today's real lawmakers. More and more they conjure up mandates based on whim and fact-free ideology. And often these diktats are written in vague or ambiguous language that gives bureaucrats oppressive discretionary powers.

Traditional Cabinet departments, such as the Treasury, are also engaging in government by decree. The Treasury recently issued a legally dubious rule to stop so-called inversions, whereby a company changes its headquarters' mailing address to one outside the U.S. to save on taxes. Bureaucrats rightly calculated that companies wouldn't undergo the years of uncertainty involved in fighting this decree through our oft slow-as-molasses court system.

Another weapon of oppression is the criminalization of a torrential number of what were once civil violations. A typical example: It is now a federal crime to walk a dog on federal lands with a leash that's longer than 6 feet. Instead of a fine (putting aside why there's a need for such a prohibition in the first place), violators can be sentenced to up to six months in prison. While the Founders couldn't have known the specifics of how a future government would seek to sink its claws into the people, they wouldn't have been at all surprised that it would do so unless stopped.

No one knows for sure how many federal laws there are these days that can trip up—and imprison—the unwary citizen. In the early 1980s the Department of Justice came up with an *estimate* of 3,000 crimes. Today experts believe that number is over 5,000.

Worse, there are some *300,000* criminal offenses listed in the 80,000-page Code of Federal Regulations.

Noted legal scholar, defense attorney and Forbes.com contributor Harvey Silverglate wrote an aptly titled book in 2009, *Three Felonies a Day: How the Feds Target the Innocent* (Encounter Books). It makes the frightening case that the typical professional in this country unknowingly commits several federal crimes during a typical workday.

If Uncle Sam wants to get you, he can.

- An 11-year-old girl in Virginia, who saved a woodpecker from a cat, was hit with a fine for "transporting" a protected species.
- A fisherman who threw back some undersize fish he had caught was hauled into court and convicted of violating the antishredding clause of the Sarbanes-Oxley Act. (The Supreme Court overturned the conviction by a one-vote margin.)
- A Maryland developer, James Wilson, was prosecuted and sentenced to prison for violating the Clean Water Act, when he improved a piece of land the Army Corps of Engineers claimed as "navigable water," even though the nearest river was six miles away. Wilson had the resources to fight the conviction, and, ultimately, it was overturned. But most Americans don't have pockets deep enough to take on the federal government.
- An outdoorsman named Tom Lindsey and several others began rafting down Idaho's Snake River at 7 a.m. instead of 9 a.m. and used gas stoves for cooking at their campsite. The feds hit Lindsey with several indictments, which were later overturned.
- An Alaskan fisherman sold ten otters to a person he thought was an Alaska Native. Selling to non-Alaska Natives is a felony, and the fisherman, who was hardly

rich, pleaded guilty to a felony.

• A chief engineer at a retirement home diverted backed-up sewage to a storm drain. Unbeknownst to him, the drain wasn't connected to the city's sewage system but to a stream that emptied into the Potomac River, a "protected" waterway. Result: a felony conviction and probation.

Bureaucrats and prosecutors love this criminalization binge. Targets, especially nonrich individuals, are more likely to cop a plea when faced with criminal instead of civil charges, especially since the feds have immense resources and theirs are limited. Companies also know they can be destroyed by an indictment. Ask former accounting giant Arthur Andersen. It collapsed when hit with federal criminal charges, which were subsequently tossed out—too late, however, to save the firm.

What to do? One powerful antidote is being pushed by Senator Orrin Hatch (R–Utah) and a number of House members: the reform of criminal intent requirements. In other words, the feds won't easily be able to go after people if those people didn't know they were committing a crime. The doctrine is called *mens rea*, Latin for "guilty mind." *Mens rea* has long been part of Western legal tradition but has too often fallen into disuse.

As Hatch has warned, "Our criminal code has grown too large, too complicated and too sclerotic. We have too many crimes that criminalize too much conduct and result in penalties that too often are unnecessarily harsh."

There's a major effort in Congress for prison-sentencing reform legislation. Hatch wants a so-called default *mens rea* requirement to be a part of this bill. This would "protect individuals from being convicted for conduct they did not know was wrong. At the very least, the government should have to prove criminal intent in order to convict."

Hatch's legislation would "set a default *mens rea* requirement for all statutes that lack such a requirement. It would ensure that courts and creative prosecutors ... [can]not convict without *any* proof of a guilty mind."

Senator Hatch's assessment is correct: "I question whether a sentencing reform package that does not include *mens rea* reform would be worth it."

Surprisingly, while such a reform enjoys widespread support in the House, it's meeting stiff resistance among several Senate Republicans, who confuse prosecutors and bureaucrats abusing citizens and companies with being tough on crime. They need a reeducation course in the Constitution.

The Hatch approach would deal a badly needed blow in defense of our basic liberties.

U.S. Is Real Culprit

The bankruptcy of economic policy was on display with the U.S. Treasury's recent release of its "watch list" of potential currency manipulators. Conspicuously absent was the biggest manipulator of the 21st century: Uncle Sam himself. Washington's decision in the early part of the last decade to "gradually" weaken the dollar to stimulate the economy and boost exports led to the economic disaster of 2007–09, which, in turn, led to the disastrous election of Barack Obama.

Countries that are fooling around with their money are only following our dreadful example.

Volatile money hurts investment, the key to a higher standard of living. Like a computer virus, currency instability corrupts the information that marketplace prices are supposed to convey. The surge in oil prices from around $20 to $25 a barrel to well over $100 led people to believe we must be running out of the stuff. As happened in the 1970s, when we last debauched the dollar, prodigious amounts of capital were directed into the energy sector. When the dollar strengthened, oil crashed, and considerable anguish ensued.

Currency manipulation *never* leads to long-term economic strength. Ask Brazil, Argentina and Zimbabwe. F

Restaurants: Go, Consider, Stop

Edible enlightenment from our eatery experts and colleagues Richard Nalley, Monie Begley and Randall Lane, as well as brothers Bob, Kip and Tim.

• Porter House Bar and Grill
Time Warner Center, 10 Columbus Circle (Tel.: 212-823-9500)

To celebrate a decade of success, chef Michael Lomonaco and his staff closed the restaurant to give it a major "lift." The redo is indeed beautiful, but it's the delicious food that remains the draw. Start with the fresh seafood plateau or the creamy risotto with fava beans, peas, truffles and pine nuts. Move on to a steak that's generous and cooked to perfection or to one of the best Dover soles in the city. The puffy onion rings are a must, as is the oversize coconut cake.

• Vivolo
140 East 74th St. (Tel.: 212-737-3533)

Angelo Vivolo is approaching his 40th year as owner/host of his eponymous restaurant. This romantic, flower-filled spot serves some of the best traditional Italian fare, with updated versions and presentations. Favorites: succulent pork meatballs (great as a meal or an appetizer); the frutti di mare; linguine pasta with clams, pancetta and spicy chili peppers; pan-seared grouper; grilled salmon; and veal scaloppine. End with fresh fruit, some biscotti or the tortoni, a semifreddo ice cream.

• East of Eighth
254 West 23rd St. (Tel.: 212-352-0075)

A popular local spot that has good, old-fashioned American fare—from crisp fried calamari to steak frites generous enough to feed a small family. The slaw with the fried chicken is also particularly noteworthy. Save room for the creamy caramel-y cheesecake.

• L'Amico
Eventi Hotel, 849 Avenue of the Americas, at 30th St. (Tel.: 212-201-4065)

Laurent Tourondel's latest NYC venture, a trattoria-like restaurant, is a fun place for an informal and fabulous meal. Hits among the first courses: the grilled octopus, the burrata and the arugula salad. The white mushroom pizza with truffle paste, fontina and taleggio is wonderful, as are the succulent scallops with cauliflower, hazelnut, lemon and caper-sage brown butter. Do order a homemade gelato, such as salted caramel or black cherry amaretto.

• Bangkok Cuisine
1586 Second Ave., at 82nd St. (Tel.: 212-988-1112)

This is stellar dining for Thai food fans. Kick off the night with a delicious Thai-version cocktail. Then start with the 5-Star Thai dumplings, filled with chicken and shrimp; the golden curry puffs; and the green papaya salad. From the tasting menu try the delicate, creamy yellow curry chicken with Thai roti or the pan-roasted sea bass with a soy ginger glaze. Everything is delicious.


SILOS NEVER INTERESTED ME.
THEY BREED GENERIC ANSWERS.
I AM NOT A STOCK CHARACTER IN A WORKPLACE MOVIE.
I AM TRAINED TO WORK AMONG TECHNOLOGISTS, DESIGNERS, WRITERS, AND STRATEGISTS.
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THE NEW SCHOOL

LeaderBoard

JUNE 21, 2016

Oracle co-CEO Safra Catz lands at No. 20 in our annual ranking of the world's 100 most powerful women. She's among America's top-earning executives, having pocketed more than $57 million last year, and one of 15 on the list who are leaders at tech companies.
PAGE 16

ILLUSTRATION BY AARON SACCO

Forbes LeaderBoard

1 Angela Merkel
Chancellor/Germany

2 Hillary Clinton
Presidential candidate/U.S.

3 Janet Yellen
Chair/Federal Reserve/U.S.

4 Melinda Gates
Cochair/Bill & Melinda Gates Foundation/U.S.

5 Mary Barra
CEO/General Motors/U.S.

6 Christine Lagarde
Managing director/IMF/France

7 Sheryl Sandberg
COO/Facebook/U.S.

8 Susan Wojcicki
CEO/YouTube/U.S.

9 Meg Whitman
CEO/HP/U.S.

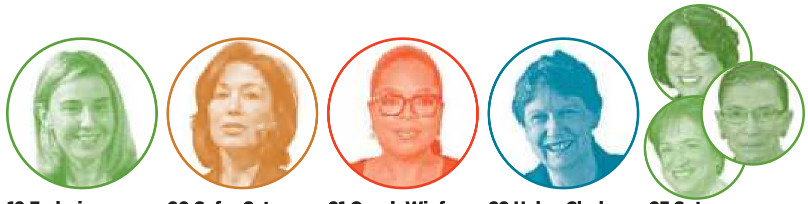
The World's Most Powerful Women

FOR THE SIXTH YEAR running, German Chancellor Angela Merkel is *die Nummer eins* on our ranking. (Hillary Clinton, for now, is stuck at number two). Nearly a third of these women lead a nation or play a major role in its policymaking; together they govern or directly influence more than 3.6 billion people. Nearly half run a global company; nine have built a billion-dollar business. In all, they control some $1 trillion in revenue.

Four metrics determine this list: money (personal fortune, company sales, national GDP); media presence; influence exerted across multiple spheres; and success at effecting change within one's organization, company or country.

KEY BY INDUSTRY

billionaire politics business media tech giving finance



19 Federica Mogherini
Foreign policy chief/European Union/Italy

20 Safra Catz
Co-CEO/Oracle/U.S.

21 Oprah Winfrey
Media mogul/U.S.

22 Helen Clark
Administrator/U.N. Development Programme/New Zealand

23 Sotomayor, Ginsburg, Kagan
Justices/Supreme Court/U.S.

33 Loretta Lynch
Attorney General/U.S.

34 Ursula Burns
CEO/Xerox/U.S.

35 Lucy Peng
CEO/Ant Financial Services Group/China

36 Sheikh Hasina Wajed
Prime minister/Bangladesh

37 Sri Mulyani Indrawati
Managing director/World Bank/Indonesia

47 Bonnie Hammer
Chair/NBCUniversal Cable Entertainment/U.S.

48 Ertharin Cousin
Executive director/U.N. World Food Programme/U.S.

49 Laurene Powell Jobs
Philanthropist/U.S.

50 Nicola Sturgeon
First minister, Scotland/U.K.

51 Gina Rinehart
Business tycoon-activist/Australia

52 Bidhya Devi Bhandari
President/Nepal

53 Dana Walden
Co-CEO/Fox Television Group/U.S.

54 Phebe Novakovic
CEO/General Dynamics/U.S.

55 Marissa Mayer
CEO/Yahoo/U.S.

65 Lubna Olayan
CEO/Olayan Financing/Saudi Arabia

66 Susan Cameron
CEO/Reynolds American/U.S.

67 Donna Langley
Chair/Universal Pictures/U.K.

68 Katharine Viner
Editor-in-chief/*The Guardian*/U.K.

69 Wang Feng Ying
CEO/Great Wall Motor Co./China

70 Arianna Huffington
Editor-in-chief/Huffington Post/U.S.

71 Diane von Furstenberg
Founder/DVF/U.S.

72 Dalia Grybauskaitė
President/Lithuania

73 Tory Burch
Founder-CEO/Tory Burch/U.S.

83 Ellen Johnson-Sirleaf
President/Liberia

84 Fabiola Gianotti
Director-general/CERN/Italy

85 Lynn Good
CEO/Duke Energy/U.S.

86 Mary Meeker
Partner/Kleiner Perkins Caufield & Byers/U.S.

87 Patricia Harris
CEO/Bloomberg Philanthropies/U.S.

88 Eliza Manningham-Buller
Chair/Wellcome Trust/U.K.

89 Irina Bokova
Director-general/UNESCO/Bulgaria

90 Sara Blakely
Founder-philanthropist/Spanx/U.S.

91 Raja Easa Al Gurg
Managing director/Easa Saleh Al Gurg Group/U.A.E.

10 Ana Patricia Botín
Chair/Banco Santander/Spain

11 Ginni Rometty
CEO/IBM/U.S.

12 Park Geun-hye
President/South Korea

13 Michelle Obama
First lady/U.S.

14 Indra Nooyi
CEO/PepsiCo/U.S.

15 Angela Ahrendts
Senior VP/Apple/U.S.

16 Abigail Johnson
CEO/Fidelity Investments/U.S.

17 Tsai Ing-wen
President/Taiwan

18 Michelle Bachelet
President/Chile

24 Marillyn Hewson
CEO/Lockheed Martin/U.S.

25 Arundhati Bhattacharya
Chair/State Bank of India/India

26 Aung San Suu Kyi
State counselor/Myanmar

27 Ruth Porat
CFO/Alphabet/U.S.

28 Anna Wintour
Artistic director/Condé Nast/U.S.

29 Queen Elizabeth II
Monarch/U.K.

30 Ho Ching
CEO/Temasek/Singapore

31 Adena Friedman
President/Nasdaq/U.S.

32 Irene Rosenfeld
CEO/Mondelez/U.S.

38 Margaret Chan
Director-general/World Health Organization/China

39 Drew Gilpin Faust
President/Harvard University/U.S.

40 Chanda Kochhar
CEO/ICICI Bank/India

41 Samantha Power
Ambassador/United Nations/U.S.

42 Pollyanna Chu
CEO/Kingston Securities/Hong Kong

43 Sheikha Lubna Al Qasimi
Minister, Intl. Cooperation & Development/U.A.E.

44 Amy Hood
CFO/Microsoft/U.S.

45 Beth Comstock
Vice-chair/GE/U.S.

46 Kolinda Grabar-Kitarović
President/Croatia

56 Elvira Nabiullina
Governor/Bank of Russia/Russia

57 Rosalind Brewer
CEO/Sam's Club/U.S.

58 Peng Liyuan
First lady/China

59 Nemat (Minouche) Shafik
Deputy governor/Bank of England/U.K.

60 Mary Callahan Erdoes
CEO, Asset Management/JPMorgan/U.S.

61 Zhou Qunfei
Chair/Lens Technology/Hong Kong

62 Nguyen Thi Phuong Thao
Chair/Sovico Holdings/Vietnam

63 Dong Mingzhu
Chair/Gree Electric Appliances/China

64 Güler Sabanci
Chair/Sabanci Holding/Turkey

74 Mary Jo White
Chair/SEC/U.S.

75 Kaci Kullmann Five
Chair/Norwegian Nobel Committee/Norway

76 Gwynne Shotwell
COO/SpaceX/U.S.

77 Kiran Mazumdar-Shaw
Chair/Biocon/India

78 Zanny Minton Beddoes
Editor-in-chief/*The Economist*/U.K.

79 Miuccia Prada
Co-CEO/Prada/Italy

80 Folorunsho Alakija
Business tycoon/Nigeria

81 Solina Chau
Cofounder/Horizon Ventures/Hong Kong

82 Judy Faulkner
Founder-CEO/Epic Systems/U.S.

92 Debra Cafaro
CEO/Ventas/U.S.

93 Shobhana Bhartia
Chair/HT Media/India

94 Greta Van Susteren
Anchor/Fox News/U.S.

95 Heather Bresch
CEO/Mylan/U.S.

96 Ameenah Gurib-Fakim
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97 Risa Lavizzo-Mourey
CEO/Robert Wood Johnson Foundation/U.S.

98 Lee Boo-jin
CEO/Hotel Shilla/South Korea

99 Beth Brooke-Marciniak
Global vice-chair/EY/U.S.

100 Jenny Lee
Managing partner/GGV Capital/Singapore

BY ALIX MCNAMARA WITH CAROLINE HOWARD

NEW BILLIONAIRE

Quick, Smile!

In photo-obsessed Asia, Cai Wensheng's image-editing apps have become megahits—without a flicker of a real business model.

"WE ARE BASICALLY No. 1 in this industry," says Cai Wensheng, the 46-year-old cofounder of popular appmaker Meitu, delivering his boast from an art-filled four-story villa in China's southeastern Fujian Province. "We have seen no less than 100 competitors, but they all come in second."

To the victor go the spoils: Cai is worth an estimated $1.3 billion with reportedly at least a 35% stake in Meitu, creator of 14 Photoshop-like apps. It has raised over $360 million from investors such as Foxconn and Tiger Global Management, and its apps attract more than 360 million active monthly users. The selfie reigns supreme in Asia, where shutterbugs obsess over unblemished images even more than Americans do.

Cai was a high school dropout who sold cosmetics and handbags in the Fujian countryside before founding a *wangzhi daohang*—a Web directory of sorts—that sold to Google in 2007 for $20 million. He and a partner, the more design-focused Wu Xinhong, started Meitu in 2008. It has been a hit, but can it actually make a profit in photo apps? So far, Cai has eschewed advertising for fear that it will turn off his loyal users.

He wants Meitu to move into e-commerce and games soon, though he doesn't offer precise details. For revenue, the company relies largely on its line of smartphones, of which it has sold some 200,000 a year since 2013, an analyst says. (China's Xiaomi sold 70 million handsets last year.) One selling point of the Meitu smartphone: It's a supersize gadget with a front-facing 21-megapixel camera—intended, naturally, for selfie fanatics.

BY YUE WANG
TIM FRANCO FOR FORBES


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LeaderBoard

FORBES @ 100

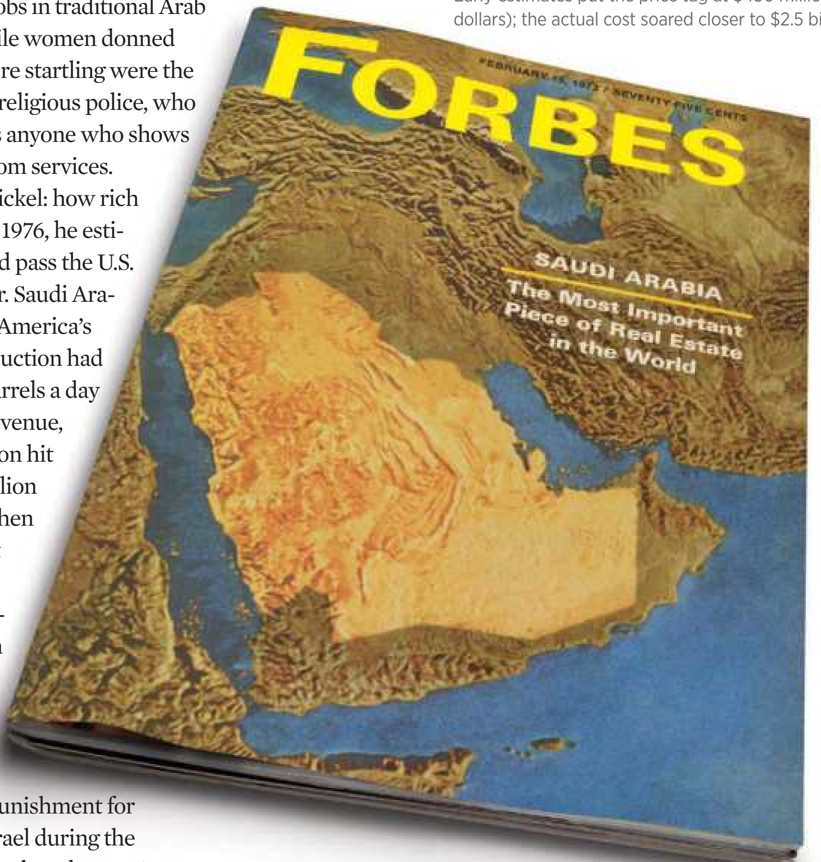
As FORBES' September 2017 centennial approaches, we're unearthing our favorite covers.

Golden Sands: Feb. 15, 1973

SIPPING CARDAMOM-flavored coffee in Saudi Arabia, FORBES' Stephen Quickel noticed how "Saudi men ... go to their jobs in traditional Arab robes and headdress," while women donned full-length black veils. More startling were the kingdom's cane-wielding religious police, who "hustle off to the mosques anyone who shows signs of playing hooky" from services.

Just as apparent to Quickel: how rich Riyadh might become. By 1976, he estimated, the kingdom would pass the U.S. as the leading oil producer. Saudi Arabia had nearly quadruple America's proven reserves, and production had risen 27% to 5.7 million barrels a day from '71 to '72. Saudi oil revenue, Quickel figured, would soon hit \$8 billion (roughly \$43 billion today). Its wealth would then imbue it with "power that promises to be one of the most decisive—and potentially disruptive—forces in global economics for the balance of the century."

That October, Saudi-led OPEC imposed an oil embargo as punishment for America having armed Israel during the Yom Kippur War. Oil skyrocketed—up 350% to \$11.69 a barrel (\$63 today) by January—and kept rising even after the embargo was lifted in March 1974, worsening U.S. inflation and overall economic woes.



"Faster than ever before in the history of nations, the desert kingdom of Saudi Arabia is emerging from backwardness to world power."

SIGN OF THE TIMES

Takeoff Trouble

Bright promise once surrounded the Concorde, the supersonic airliner capable of flying from New York to London in under four hours. But the cost of developing the aircraft turned out to be far greater than expected: Early estimates put the price tag at \$450 million (\$2.4 billion in current dollars); the actual cost soared closer to \$2.5 billion (\$13.4 billion).

"The seats that cradle the Concorde's crew cost nearly \$1 million; few kings have sat on more expensive thrones."

FACE FROM THE PAST

He Shoots, He Scores

The most important man in the NBA in 1973 wasn't particularly tall or athletic. (Unlike Kareem Abdul-Jabbar, that is, pictured above.) In the boardroom, though, Lawrence Fleisher loomed large. The pudgy, bespectacled New York tax attorney had run the NBA Players Association for over a decade, guiding the union as its members' average salaries rose 1,200% in eight years to around \$65,000 in 1973 (\$350,000 in 2016 dollars).

FAST FORWARD

Raytheon's Greater Range

1973: In the eight years since Thomas L. Phillips took over Raytheon as president, it had become leaner and more diversified; Phillips terminated moneylosing units, such as its semiconductors operation, and acquired new businesses, including Amana Refrigeration. Sales reached \$1 billion (\$5 billion today).

2016: Raytheon's revenue is closer to \$23 billion, though the company is nowhere near as diversified as in Phillips' day: The U.S. military accounts for 70% of sales now; under Phillips that figure approached 30%.

AMAZING ADS

Private Eyes

Electronic security, employee theft, bogus insurance claims. *Plus ça change ...*

BY ABRAM BROWN

NICOLAS ASFOURI/AFP/GETTY IMAGES; SSPL/GETTY IMAGES

FIRST WORLD PROBLEMS

The Churl Next Door

Good fences make good neighbors. The billionaire over the hedge? Not so much.

DAVID GEFFEN is under fire for renovations to his Fifth Avenue penthouse. In March two neighbors sued, saying scaffolding anchored into exterior walls has done $2.5 million worth of damage to their apartment. (Seventeen other Geffen neighbors have filed complaints in the last three years, some of which he's settled.) Such un-neighborly behavior is surprisingly common among the ten-figure set:

▶ Hedge funder **Larry Robbins** submitted plans in 2009 to turn three lots behind his New Jersey mansion into a 10,000-square-foot hockey rink. He stuck a small apartment in the basement, reasoning it would, by law, make the facility a residence. Neighbors' challenges were dismissed; the arena still stands.

▶ In 2010 Oracle's **Larry Ellison** sued his neighbors, whose trees were blocking his view of San Francisco Bay. The neighbors tried to obtain landmark status for their greenery; Ellison hired a "tree lawyer" and reportedly offered to buy their house. They settled out of court.

▶ A decade ago investor **Ira Rennert** built a 100,000-square-foot home said to contain 29 bedrooms (and deemed too gaudy, apparently, even for the Hamptons). Locals' lawsuits were dismissed; Rennert continued to stoke tensions by landing his helicopter on the property.

▶ Residents of Marin County, Calif. have spent decades battling **George Lucas**' plans to expand his film studios there. So instead he says he's going to build 224 low-income housing units smack in the center of one of the wealthiest areas of the country. Neighbors say he's vindictive; Lucas claims altruism. Public hearings are scheduled for later this year.

▶ In 2003 H-E-B grocery billionaire **Charles Butt** caused a stir in Maine, where papers reported that he had a massive apple tree moved to his summer home from a nearby town. The 27-mile, ten-hour trip inconvenienced thousands, as the tree was wider than the two-lane highway it traversed. Butt, calling the move "a massive mess," later took out ads in four area newspapers to apologize.

▶ Marvel Entertainment CEO **Isaac Perlmutter** has been embroiled in a long-running comic book saga with a Palm Beach neighbor over how the local tennis club should be run. In 2013 the man sued, claiming Perlmutter and others orchestrated a hate-mail campaign against him, sending letters to his associates claiming he was a murderer and sexual predator. The case remains in court; Perlmutter denies the allegations.

ALL EXCESS

The $100,000 Fountain Pen

LET'S GET RIGHT to the point: You should not have to take out a second mortgage just to buy a fountain pen. So why does this one cost $100,000? Consider that its 18k white-gold nib is deployed by a 12-jewel skeletonized mechanism you'd expect to find inside a watch. Which makes sense given that Richard Mille, the luxury Swiss watchmaker, created this complex writing instrument.

The barrel and cap of the hefty RMS05 are crafted from a dark gray NTPT carbon, but it's the intricate mechanical heart, seen through a sapphire crystal, that's the real showstopper here. A simple push of a button at the top of the pen activates the movement—which took four years to develop—and delivers the vanishing nib. The effect is so mesmerizing that you may actually forget what you wanted to write in the first place.

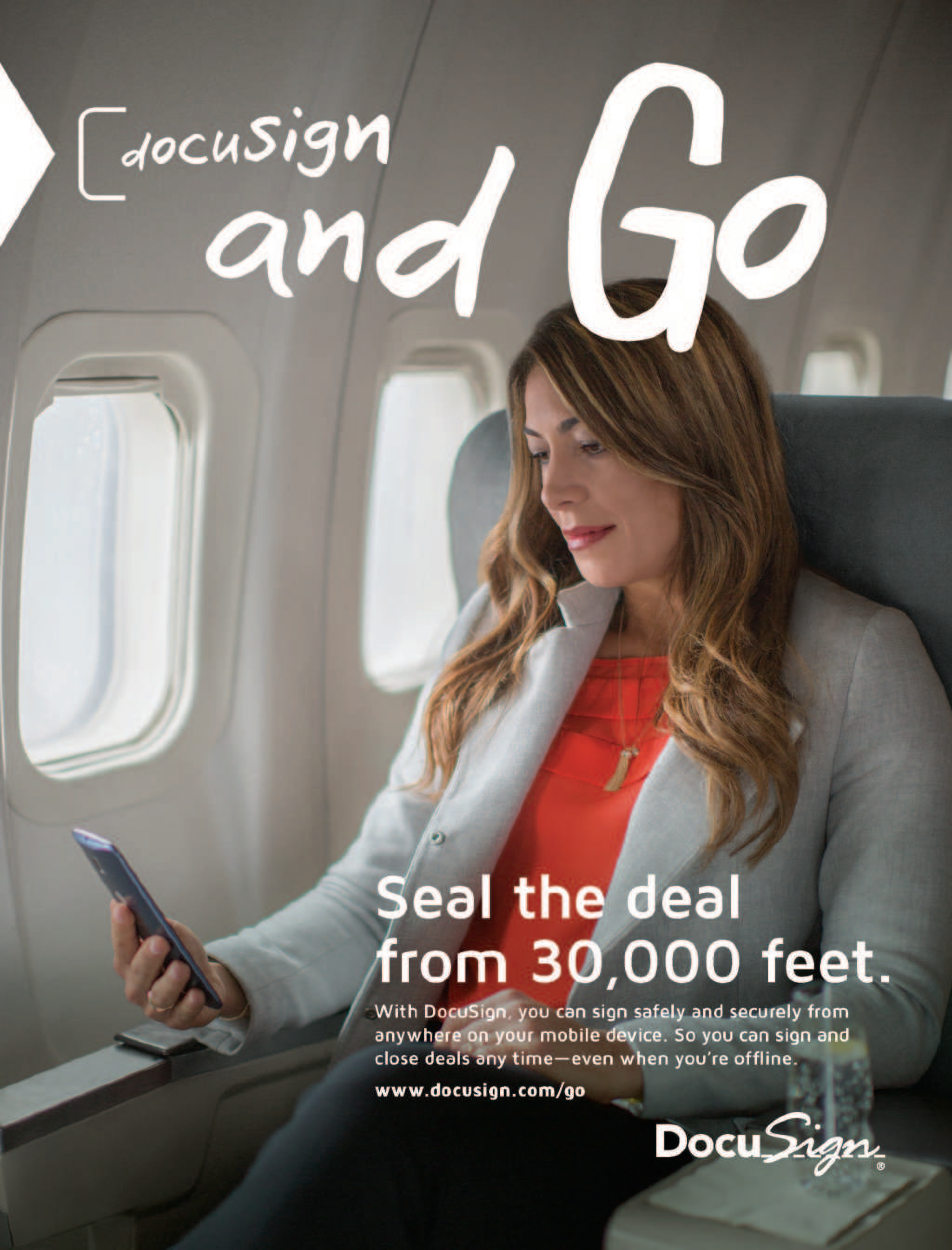
SCORECARD

EVAN SPIEGEL +LOVE NEST

NET WORTH: $2.1 BILLION

The 26-year-old Snapchat cofounder reportedly buys a $12 million, 7,000-square-foot spread in Los Angeles with his 33-year-old girlfriend, former Victoria's Secret model Miranda Kerr.

FIRST WORLD PROBLEMS BY CHASE PETERSON-WITHORN; ALL EXCESS BY MICHAEL SOLOMON
ILLUSTRATIONS BY DAVE URBAN; SPLASH NEWS/NEWSCOM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LeaderBoard

EXECUTIVE TRAVELER

Michelin Stars in the Sky

Five airlines with tray-chic menus by award-winning chefs.

AIRPLANE FOOD is famously unappetizing, but over the past few years partnerships between airlines and award-winning chefs and restaurateurs have really taken off. In February New York restaurateur Danny Meyer announced that food from his Union Square Hospitality Group would be served on Delta, and, in May, American announced that four acclaimed chefs would upgrade its menus, including Chicago's Maneet Chauhan and Dallas' Julian Barsotti. As it does on land, Michelin-worthy food comes at a price—these meals are served almost exclusively in first class and business. Here's where to find those high-flying chefs.

MANEET CHAUHAN

RESTAURANTS:
Chauhan Ale, Masala House

HIGHEST MICHELIN RATING:
0

AIRLINE:
American Airlines

CLASS LEVEL:
First class and business

SAMPLE DISH:
Cajun-spiced Chilean sea bass with green gazpacho and Jerusalem artichoke puree

NOBU MATSUHISA

RESTAURANTS:
Nobu, Matsuhisa

HIGHEST MICHELIN RATING:
1 star

AIRLINE:
Qatar Airways

CLASS LEVEL:
First class and business

SAMPLE DISH:
Oven-roasted mustard and dill salmon with dill pine-nut rice, yellow dal with shredded cucumber and carrot salad

GEORGES BLANC

RESTAURANTS:
Restaurant Georges Blanc, L'Ancienne Auberge

HIGHEST MICHELIN RATING:
3 stars

AIRLINE:
Singapore Airlines

CLASS LEVEL:
Suites, first class, business and premium economy

SAMPLE DISH:
Beef bourguignon with dark wine sauce, potatoes, carrots and ham

NEIL PERRY

RESTAURANT:
Rockpool

HIGHEST MICHELIN RATING:
0

AIRLINE:
Qantas

CLASS LEVEL:
First class, international business class and premium economy

SAMPLE DISH:
Nyonya-style curry of ling with crispy shallots, snow peas and jasmine rice

DANIEL BOULUD

RESTAURANTS:
Daniel, Café Boulud

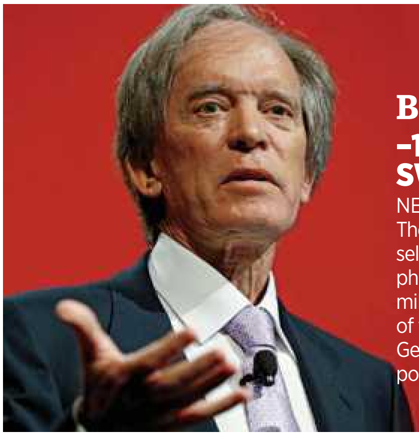
HIGHEST MICHELIN RATING:
3 stars

AIRLINE:
Air France

CLASS LEVEL:
"La Première" (first class) and business

SAMPLE DISH:
Atlantic lobster with curried coconut sauce, black rice and bok choy (pictured above)

SCORECARD



BILL GROSS
–1,000 SWISS STAMPS

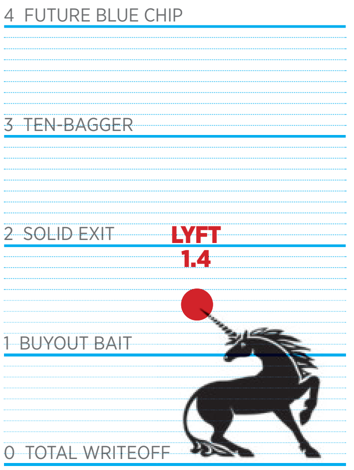
NET WORTH: $2 BILLION

The legendary bond investor sells a smidgen of his colossal philatelic holdings for $4.5 million, including six examples of the rare 1843 "Double Geneva," which features two postal seals on each stamp.

MIDAS METER

Long and Winding Road

A POLL OF FORBES' Midas List of the world's greatest venture capitalists showed subdued confidence in Lyft's drive.



EXECUTIVE TRAVELER BY MAGGIE MCGRATH; MIDAS METER BY ABRAM BROWN
NEILSON BARNARD/GETTY IMAGES; DAVID BECKER/GETTY IMAGES; BERTRAND RINDOFF PETROFF/GETTY IMAGES; CARLA GOTTGENS/BLOOMBERG; DAVID BECKER/GETTY IMAGES; JIM YOUNG/REUTERS

30 UNDER 30

Pioneering Women

Mechanics, medicine and moon shots from the Forbes 30 Under 30, in 30 words or less.

Taylor Feehley

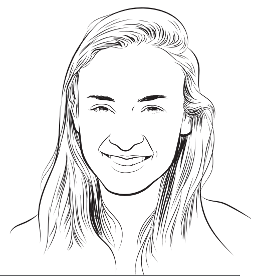
WASHINGTON UNIVERSITY MEDICAL CENTER | 26

Feehley's research into gut bacteria and its relationship to food allergies could enable, for example, dairy-averse infants to drink milk safely. She'll begin postdoc work in St. Louis this summer.

Maran Nelson

CLARA LABS | 24

Wish you had an employee who handled tedious office work without earning a salary? Nelson's artificial-intelligence startup designed Clara, an affordable software platform that behaves like an assistant.



Karishma Shah

GOOGLE[X] | 25

The youngest hire at Google's moon-shot factory, Shah joined Google[x] at 21 and focuses on quickly turning a big idea—like the company's proposed drone delivery service—into a prototype.

Katelyn Reno Shelley

FORD MOTOR CO. | 27

Shelley makes the assembly lines Ford famously invented that much more efficient, finding simpler, faster ways to install cylinder heads and assemble engines.

Iliana Vargas

NORTHWESTERN UNIVERSITY | 29

Cognitive neuroscientist Vargas wants to make you smarter in your sleep. Her research focuses on sounds that can improve memory while people slumber.

RICHEST BY STATE

West Virginia

POPULATION: **1.9 MILLION**

2014 GROSS STATE PRODUCT: **$74.8 BILLION** (5.1% GROWTH)

GSP PER CAPITA: **$40,446** (RANKS NO. 47 NATIONWIDE)

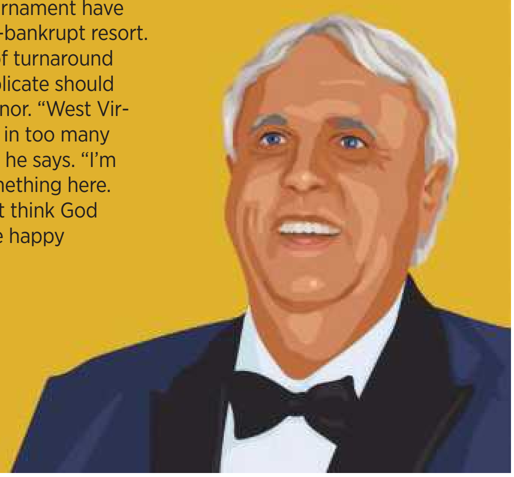
RICHEST: **JIM JUSTICE, $1.6 BILLION**

"I HAVE PLENTY OF MONEY to just hang out and do what I want, but I don't think that's what the good Lord put me here to do," says 65-year-old Jim Justice, the West Virginia coal titan. In May, whether from an act of divine will or not, Justice got one step closer to becoming his state's next chief executive when he captured the Democratic gubernatorial nomination. He'll face Republican state senator Bill Cole in November.

"I just think I can help," Justice says. "I've created a lot of jobs and fit round pegs in square holes." That has mostly entailed running his family's mining business, which he inherited when his father died in 1993. Sixteen years later, he sold many coal assets to Russian firm Mechel OAO for $436 million in cash and stock. Now, thanks to the struggling coal market, he's buying back some of those assets on the cheap, including a few mining sites for just $5 million plus royalties on coal sales, said to be a fraction of what Mechel paid.

Justice is also known as the man who revived the Greenbrier luxury resort in the West Virginia town of Sulphur Springs. After buying it for a reported $43 million in 2009, he spent more than $250 million renovating the 11,000-acre landmark, which includes a Cold War–era bunker designed to house Congress in the event of a nuclear attack. Additions such as an underground casino and annual PGA tournament have revitalized the once-bankrupt resort.

That's the type of turnaround Justice hopes to replicate should he be elected governor. "West Virginia has been 50th in too many things for too long," he says. "I'm supposed to do something here. And if I don't, I don't think God above is going to be happy with me."



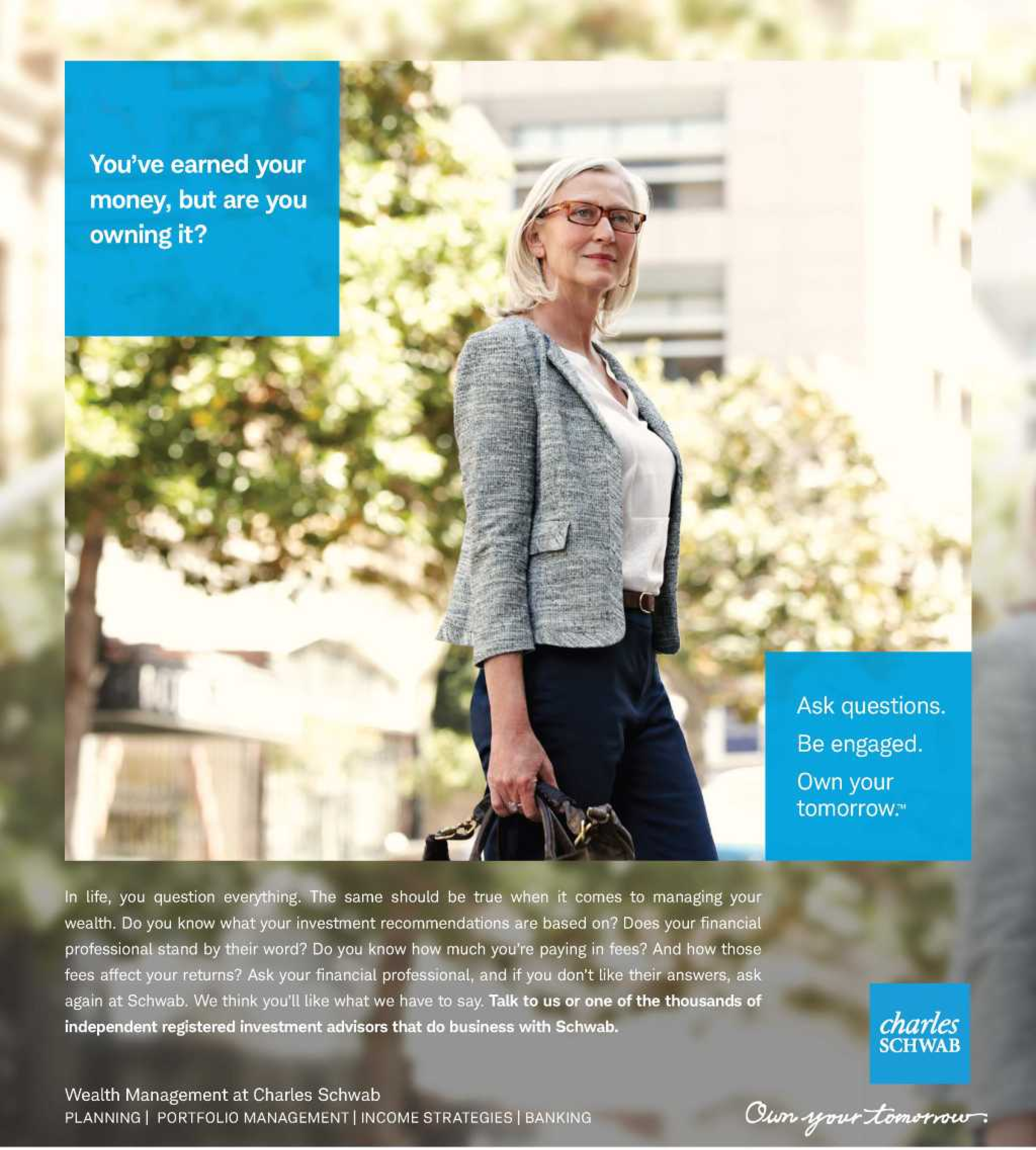
SCORECARD

VICHAI SRIVADDHANAPRABHA +LEAGUE CHAMPIONSHIP

NET WORTH: $3.3 BILLION

The Thai owner of Leicester City, soccer's epic 5,000-to-1 underdog that won this year's English Premier League title, sees his team stand to earn $130 million from the Premier League this season and $60 million from the Champions League next year, according to sports-marketing firm Repucom.

30 UNDER 30 BY KATHRYN DILL; RICHEST BY STATE BY MAX JEDEUR-PALMGREN AND CHASE PETERSON-WITHORN
ILLUSTRATION BY CHRIS LYONS (RIGHT); ILLUSTRATIONS BY PATRICK WELSH (LEFT) PLUMB IMAGES/LEICESTER CITY FC/GETTY IMAGES



You've earned your money, but are you owning it?
Ask questions. Be engaged. Own your tomorrow.™
In life, you question everything. The same should be true when it comes to managing your wealth. Do you know what your investment recommendations are based on? Does your financial professional stand by their word? Do you know how much you're paying in fees? And how those fees affect your returns? Ask your financial professional, and if you don't like their answers, ask again at Schwab. We think you'll like what we have to say. Talk to us or one of the thousands of independent registered investment advisors that do business with Schwab.
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Own your tomorrow.

SEAL THE DEAL

Get Squared Away

A little silk in the pocket says so much.

IT'S EASY TO turn up your nose at the pocket square. Unlike its cotton cousin the handkerchief, which has a clear utilitarian purpose, a linen or silk square is purely for show. But with business-casual now business as usual, the pocket square has returned, front and off-center, to add a dash of panache without making you look like a stiff. In 2015 Men's Wearhouse reported a 50% increase in pocket square sales over the past five years, and dapper men such as Daniel Craig, David Beckham and CNN's Jake Tapper are rarely seen without one.

As for how to wear it, the first rule is never match it to a tie (if you still even wear one). Beyond that, there are countless ways to let it flow from your jacket pocket—aside from a simple straight fold—so start with these two basic methods: Pick it up from the center of the square and decide whether you want points up (so they rise like stalagmites) or down (to create a simple puff). Finesse as needed. You really can't blow it—or into it.

1. Silk flower pocket square by Brooks Brothers ($40). 2. Silk signature dots pocket square by Eton ($60). 3. Silk pocket square by Nick Graham ($40). 4. Silk pocket square with dots by Liverano & Liverano ($100). 5. Silk "Boucles d'Attelage" pocket square by Hermès ($145). Wool sport jacket by Ravazzolo ($2,495).

BY MICHAEL SOLOMON

PHOTOGRAPH BY DAVID ARKY; CREATIVE STYLE DIRECTOR: JOSEPH DEACETIS; STYLE ASSOCIATE: JUAN BENSON


GOOD HELP
THESE DAYS
IS HARD TO...
OH WAIT...
THERE IT IS.
HR IS LIVE.
With SAP® SuccessFactors® and SAP Fieldglass® solutions, you can attract the right people, at the right time, for the right role – across your entire workforce. And reward them instantly. So you can take constant care of the heartbeat of your business – your people.
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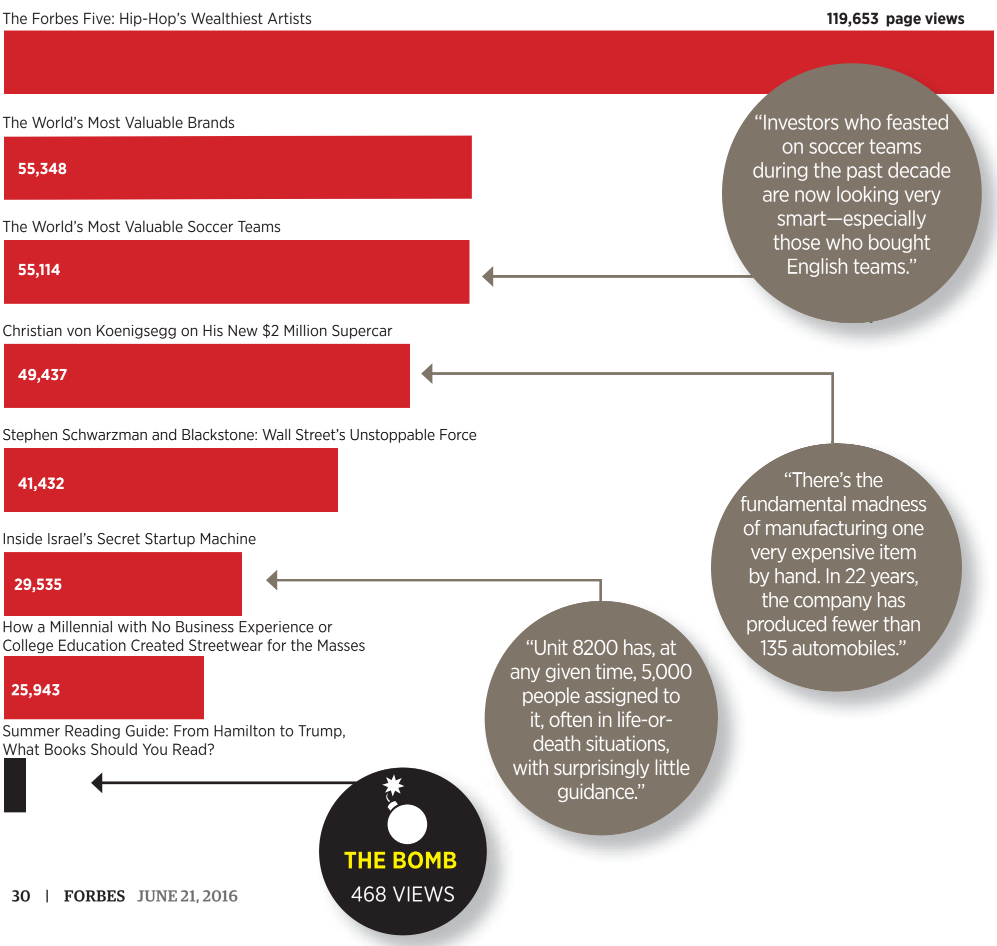
CONVERSATION

FINANCIAL CRISES—FROM Black Monday in 1987 to the credit freeze of 2008—have in fact been very good to Blackstone Group and its head, Stephen Schwarzman, our May 31 cover subject. "The most powerful banker on the planet," writer Steve Schaefer called him, and readers worldwide expressed admiration and awe. "Now that's motivation and inspiration at its best," tweeted Deebu Jacob, an entrepreneur in Bangalore, India. Added Floridian Felipe Bricio, "Furthest thing from corrupt. He's a smart guy and his work ethic is superb." Our Money Masters list, which Schwarzman topped, inspired similar encomiums. Via LinkedIn, Elena Gorba, a manager at Jumeirah Group in the United Arab Emirates, quoted Wells Fargo's John Stumpf, No. 14 on our list: "'There is a difference between knowledge and wisdom.'"

THE INTEREST GRAPH

Rappers got beaucoup views from our most recent issue / Six digits of mad clicks just might make you wish you / Could make your own living dropping lyrical rhymes / Leaving soccer, supercars, even Blackstone behind



GOAAAAL TENDING

Our annual rundown of soccer's most valuable franchises drew impassioned chatter, particularly overseas. We assume all comments were pecked out with feet only.

***THE SUN*, LONDON:** "Manchester United's week goes from bad to worse after West Ham defeat: Financial bible Forbes claims they're only world's third-richest football club."

TALKSPORT RADIO, U.K.: "Amazingly, the No. 1 footy club is still lagging behind American football's Dallas Cowboys, the richest sports team in the world, worth $4 billion."

SB NATION: "What's the takeaway [from Italy's AS Roma being ranked No. 18]? Well, quite simply, growing the value of a sports franchise, particularly one with some sizable chips stacked against it, is a long con—making the cliché 'Rome wasn't built in a day' all too apt."

BBC WORLD BUSINESS REPORT: "The English Premier League is essentially 'NFL Global.' It does the same thing, really, that the NFL does. That's why we've seen so many Americans buying in. Indeed, three of the top ten clubs on the list are Premier clubs owned by Americans."

LEE DAVY, WRITING AT CANADIAN SPORTS ANALYST AND BOOKMAKER CALVIN AYRE'S SITE: "There is a huge connection between money and success all over European football, [but] the 2015–16 season will be remembered as the year we learned that anything is possible. Leicester's enormous success ... is a miraculous improvement from where they were over a decade ago."

BY MICHELA TINDERA AND ALEXANDRA WILSON


Caps off! Today we celebrate the success of so many...
...and keep working for the success of many more.
We celebrate students graduating from high school or moving on to the next grade. And we're proud to play a part. We're the nation's largest organization dedicated to helping students overcome barriers, stay in school and stay on the path to graduation. Working inside public schools and with community partners, we do this for 1.5 million at-risk kids every year. But 11 million more students need similar help. To learn what you can do, go to **CommunitiesInSchools.org**
Communities In Schools

LET AMERICA REINVENT ITSELF

ONE OF THE ESSENTIAL characteristics of the U.S. is its capacity to reinvent itself while remaining true to its essentials: freedom, individualism, love of justice and equality of opportunity.

Never despair over America. Just when you think it's making an unholy mess of its role as the world's greatest superpower, it's preparing for a great leap forward into the future. America's most recent nadir was in the 1970s, when, during the gloomy aftermath of Richard Nixon's resignation, the general opinion was that the country's glory days were over and that its power status would quickly sink to second class.

I vividly recall the sneers that greeted Ronald Reagan's election as President. After all, he was just a B-movie actor—and a poor one at that. But Reagan quickly established his mastery and turned out to be one of America's greatest Presidents. He gave the nation back its self-confidence, reasserted its status as a superpower and won the Cold War. Reagan ended his eight years in office in a blaze of glory. And it was Russia, shorn of half its empire and satellites, that took on the role of a second-class power as the 21st century began.

Is the same thing about to happen again? Nothing could be more pathetic than Barack Obama's presidency, now dragging to its ignominious close. Russia's Vladimir Putin has few cards in his hand other than Siberia's natural resources and an inventory of aging military hardware. Yet, compared with Obama, who is prone to inertia and inactivity, Putin looks like a master strategist and improviser of genius. From the sidelines he's watched the bottomless mess in the Middle East. He didn't need to lift a finger to set in motion the biggest human invasion of Europe since the Dark Ages. In 2015 more than a million refugees moved north and west across almost undefended frontiers to overwhelm Europe's local welfare systems. Putin knows that not a single one of these refugees wants to immigrate to Russia, because instinctively they feel there's nothing for them in that vast expanse except space.

INDESTRUCTIBLE SPIRIT

Meanwhile, the U.S. is going through its customary election year suspension of government. But this time there's a difference: Donald Trump.

Like Reagan, Trump began as a joke. But as he's continued to score popular successes across the country, many Americans have come to see him as the answer to all their hostile feelings about government, i.e., that it's unresponsive, bureaucratic and run by elite groups of professionals, and is, in the broadest sense, un-American.

The media—predominantly a part of this elite—has from the start denounced Trump as vulgar, boorish, uncouth, redneckish, unsophisticated, racist and ignorant. But the media is slowly coming to admit that America itself is all these things and that attempting to suppress this truth will no longer work. The electoral system is unrepresentative of the people and a denial of democracy.

By refusing to be discouraged and demoralized by criticism, Trump has, in a sense, reinvented American democracy. He's a billionaire who has used his money sensibly to make this reinvention possible. Against all the odds and all the rigging—a salient feature of political conventions—Trump is on the brink of winning the Republican nomination.

Trump began his campaign by attacking political correctness, which underpins all the attempts to water down, erode, poison and destroy American democracy. His success has proved that the American democratic spirit is indestructible and that he is the choice of huge numbers of voters who want their party to once again be the upholder of freedom, individualism, justice and equality.

Those who, until recently, shouted that Trump could never win the GOP nomination now claim that he can never beat the person likely to be the Democratic Party's choice, Hillary Clinton. But who *is* Mrs. Clinton? She is the epitome of PC within the Democratic Party. Her entitlement to America's votes rests essentially on two facts: She is a woman, and she's the wife of a former President.

In November voters will have an excellent opportunity to reinvent their nation. There should be a general expulsion of shibboleths, an end to catchwords and slogans, a toppling of passwords and formulae and a tossing out of all the clichés and pseudopopulist gadgetry of electioneering. The U.S. is a great nation. From time to time it has gone through shocks, such as war, and has survived and profited from them, growing stronger in the process. This time there will be no fighting. It will all be done by voting, which is what elections are for. F

THOMAS KUHLENBECK FOR FORBES

PAUL JOHNSON, EMINENT BRITISH HISTORIAN AND AUTHOR; DAVID MALPASS, GLOBAL ECONOMIST, PRESIDENT OF ENCIMA GLOBAL LLC; AND AMITY SHLAES, WHO SERVES AS PRESIDENTIAL SCHOLAR AT KINGS COLLEGE AND CHAIRS THE COOLIDGE FOUNDATION BOARD, ROTATE IN WRITING THIS COLUMN. TO SEE PAST CURRENT EVENTS COLUMNS, VISIT OUR WEBSITE AT WWW.FORBES.COM/CURRENTEVENTS.

WHEN THE HOLIDAY SHIPPING SEASON HITS, WHO WILL YOU RELY ON?

USPS® makes more eCommerce deliveries to homes than anyone else. That's why eCommerce retailers count on us during the holiday season. Here are some reasons why when you ship with us, Your Business Becomes Our Business™:

Reliable: Over 660 million packages delivered last holiday season.

Convenient: Free regular Saturday delivery 52 weeks a year.*
With Priority Mail Express®, we even deliver on Sundays and December 25.†

Transparent: Upfront pricing, with no residential delivery surcharges and no fuel surcharges.

Let our experts help you get ready for the holidays.
Contact us for a free shipping analysis at **usps.com/dependabledelivery**

*Except when Saturday is a national holiday.
†Scheduled delivery date and time depend on origin, destination and Post Office™ acceptance time.
Some restrictions apply. For additional information, visit the Postage Calculator at http://postcalc.usps.com

UNITED STATES POSTAL SERVICE ®

A292

LONG BOOM IN CHEAP ENERGY

THOMAS KUHLENBECK FOR FORBES

THE COSTS OF digital processing, storage and bandwidth drop about 33% per year. That's why you can buy a 50" flat-screen HDTV for $300 (I paid $3,000 for one in 2008, and it still works great), a laptop for $200 and several brands of smartphones for $100.

Cool as these cheap prices are, they're not digital tech's neatest trick in the last ten years. Hint: It's not the iPhone, Facebook, Snapchat, Uber, Airbnb or Netflix television, either. Digital tech's most impressive, shape-shifting win in the global economy has occurred in oil-and-gas production. Since 2008 the cost-efficiency of fracking oil and gas from shale rock has improved 400%, according to Mark Mills, a senior fellow at the Manhattan Institute and a Forbes.com contributor.

Mills talked about his findings—and their effect on global economics and geopolitics—during the recent 25th Forbes Cruise for Investors. (Footnote: A lovely cruise it was, starting in Athens, moving to five scenic Greek Islands and ending in Italy's Capri and Rome.) Mills says the amount of oil and gas trapped in the earth's shale rock is, for practical purposes, limitless—or at least for the next few decades. The trick, of course, is producing that oil and gas cheaply. It takes a combination of deep directional drilling (e.g., 2 miles down, a 90-degree turn and another 2 miles down) and fracking (streaming a water-and-sand mix at high pressure to fracture the rock).

Enter digital technology, which has worked its Moore's Law miracle on drilling. Drilling became so accurate in the early 2000s that it created North Dakota's Bakken boom. But drilling improvement hasn't stopped. Digital technology never does. What was a shale-oil break-even drilling price of $80 per barrel is now $50, and it's headed for $40 and possibly $20.

"What this means," said Mills, "is that global oil prices are capped by technology and entrepreneurial drillers. As soon as oil hits about $50, the shale wells will start spooling up." Mills points out that OPEC and big oil companies, such as Exxon and BP, don't control the supply, the technology or the entrepreneurial fervor of "thousands of drillers and wildcatters funded by venture capital out of Houston and Oklahoma City."

Mills went on to say the central fact of our time is that the era of high (and volatile) energy costs is behind us. "This is hard for people to absorb," said Mills. "Our grandparents were shaped forever by the Great Depression of the 1930s. Today's business leaders and politicians are shaped by the volatile and often high oil-price era that began in 1973." But in fact, Mills said, the years from 1973 (the year of OPEC's first embargo) to 2008 (when oil hit $147 per barrel and Goldman Sachs predicted a new age of $200 oil) weren't the norm but an anomaly.

Adds Mills, "You can bet they're worried in Moscow and Tehran. Here's what they know: The geophysical resources of U.S. shale are Saudi-scale. Shale technology keeps getting better. Last year alone the costs to operate a shale rig were down 40% and productivity—output per rig—was up nearly 50%."

MANUFACTURING RENAISSANCE

Dismal though the political mood is today, the U.S. is heading into a remarkable era. The hand of cards America holds is like a royal flush: reliably cheap energy costs; low (on a global scale) real estate costs, especially in the South and Midwest; political stability; military strength; a growing population; the world's best research universities; and global leadership in all the key digital technologies.

Either President Clinton or President Trump, using a bit of brains and practical common sense, has the opportunity to preside over a 3%-plus growth economy. Each would have to get out of his/her own way, of course, and that's the joker in the deck.

President Clinton would have to resist the temptation to go hard left as a sop to the angry Bernie Sanders supporters. She would have to govern as a centrist like her husband.

President Trump could easily accomplish his stated aims of bringing back manufacturing and making America great again by playing offense, not defense. Defense is throwing up trade barriers and bullying companies like Carrier and Apple. That's bad, and it won't work. Offense is making the U.S. a magnet for manufacturing. The technology is in place. So is the talent, with a bit of investment in training for skilled trades. The long trend of cheap energy looks probable. All President Trump would have to do is slash the country's bloated regulatory structure and replace it with something lean and fast, like Singapore's. If President Trump did that one thing, he'd have a successful presidency.

RICH KARLGAARD IS THE PUBLISHER AT FORBES. HIS LATEST BOOK, *TEAM GENIUS: THE NEW SCIENCE OF HIGH-PERFORMING ORGANIZATIONS*, CAME OUT IN JULY. FOR HIS PAST COLUMNS AND BLOGS VISIT OUR WEBSITE AT WWW.FORBES.COM/KARLGAARD.


MIRANDA COSGROVE
WANTS TO KEEP
DOLPHINS SINGING
DOLPHINS USE SOUND
TO FIND FOOD, TO
COMMUNICATE AND LIVE.
But dolphins and their song could be blown
away by seismic blasts a hundred thousand
times louder than a jet engine. It could hurt
and kill tens of thousands of dolphins.
Join Miranda and help save the dolphins.
oceana.org/dolphinsong
Miranda Cosgrove swims
with Atlantic spotted dolphins
off Bimini, Bahamas.
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Verticals

JUNE 21, 2016

Texas oilfields, like this one north of Amarillo, are selling at a steep discount: $1 million will buy 1,500 acres. You paid double that just two years ago. Interested in a slightly used piece of the oil patch? E-auctioneer EnergyNet has emerged as the marketplace of choice.
PAGE 38

PHOTOGRAPH BY JUSTIN CLEMONS FOR FORBES

Oil for Sale. Cheap!

How online auctioneer EnergyNet helps bring liquidity, and recovery, to America's busted oil patch.

BY CHRIS HELMAN

In the first 18 months of the oil bust, 70 companies have gone bankrupt, defaulting on $40 billion in debt. A trillion dollars of oil company equity has been wiped out. Layoffs top 200,000. With oil holding at around $45 a barrel, more liquidations are on the way. Already the old guys swear this bust is worse than in 1986, when oil dropped below $25 in today's dollars.

At least one thing is better now: Thanks to the magic of the Internet, it's easier for cash-strapped oil companies to auction off even their crummiest fields. That might help cushion the blow for near-insolvent outfits praying for higher oil prices to bail them out. "They have no choice but to sell assets to pay off debt," says Chris Atherton, president of EnergyNet, "and I tell them, 'We're going to sell this no matter what.'"

EnergyNet, based in Amarillo, Tex., is the biggest online auctioneer and broker of oil-and-gas properties in America. Why sell your oilfield online? Price discovery. It's like what eBay does for Pez dispensers and Fiestaware: It exposes your junk to more potential buyers than an old open-outcry auction, where you have to show up in person. "It's a very liquid market now," Atherton says. "Our deals average 12 bidders, and we have 300 to 400 companies looking at each package even if it's a dog of a property." In the past year EnergyNet auctioned or brokered $300 million of sales, on which it made an estimated $15 million in commissions.

Atherton remembers 2014 as the top of the market for American oilfields. And there was one deal in particular: That summer, in an EnergyNet auction, Athlon Energy bought the mineral rights under land in the Permian Basin of Texas for the nosebleed price of $35,000 an acre.

"Our eyes were pop-

ping out—everything was hitting red," Atherton says. And then Athlon turned around and sold itself to Calgary-based Encana for $7.1 billion—at an implied valuation of some $37,000 per acre. It's been downhill since. Today you can buy similar land in the Permian for around $15,000 an acre. "What used to be a $3 million deal 18 months ago is now a $1 million deal."

Bryan Sheffield, CEO of Parsley Energy, has been taking advantage of the downturn to build on Parsley's leading position in the Permian Basin. "We monitor everything on EnergyNet, and we have bought some nice assets through them," Sheffield says. "It's genius, but you have to do your homework."

There are plenty of assets for sale that look very cheap relative to a few years ago. Consider the liquidation of publicly traded Dune Energy. It went into bankruptcy with $144 million in debt, and its assets fetched just $20 million at auction. "If you think you got an asset for a bargain, it's probably a real crummy asset," says Carl Tricoli, co-president of Houston-based private equity shop Denham Capital, which has invested $8.4 billion in energy companies, including Tall City Exploration and Ursa Resources. He remembers 2015 as the year when oil companies were too racked with fear and loathing to even consider deals. Now they've begun to accept their fate and are looking for options. "I would not characterize the mood as desperate. It's more resigned and pragmatic. The market is rewarding survivability," says Tricoli, who thinks there's a pool of more than $50 billion in private equity ready to invest in American oil and gas.

A small fish in that pool of equity is Michael Robinson, president of Houston-based Tigress Energy Partners, which oversees several million dollars in oilfield investments. Robinson has sold a handful of packages on EnergyNet. He likes that EnergyNet can turn an oilfield into cash in only 30 days and that he can set a reserve price. If no bidder hits the reserve, EnergyNet will come in after the auction and try to negotiate a sale. Robinson is ready to buy now, having sold a number of properties back in the flush markets of 2014: "When I see frothiness, I look to monetize."

It was the frothiness of Internet 1.0 that in 1999 led Bill Britain, a small independent oil producer in Amarillo, and his investor friends to found EnergyNet. Normally they would redeploy oil-and-gas cash into new wells, but instead they decided to roll the dice on the Internet. They weren't alone. Early competitors included TheOilAuction.com, EnergyAuctionPlace.com and Weex.com. All are now defunct. "We founded it in 1999, right in the Internet bubble. It burst almost the moment we got started," Britain says.

But the team was determined to plug on. It used to be that if you wanted to sell your oilfield you'd have to get with your banker and your broker and bring in cardboard boxes of paper files and lay out a "data room" for inter-

JUSTIN CLEMONS FOR FORBES

So you want to be an oilman? Bill Britain (left) and Chris Atherton of Amarillo-based EnergyNet have sold 50,000 properties since 2000.

ested buyers to peruse. Then you'd invite companies to send their best petroleum engineers to come look over your deeds, titles, drilling logs and geology reports. If a company didn't have time to send someone to your data room, it was unlikely to send somebody to the live auction where the property would be offered up with no reserve. If you were unlucky, the auctioneer wouldn't get to your property until the end of the day, when most bidders had retreated to the bar. "I got tired of giving properties away," says Britain.

The Web provided an easy way to broaden the pool of buyers. But back in 2002 Britain (then in his mid-50s) needed Internet-savvy sales guys, so he hired Atherton fresh from Enron. EnergyNet offered a new and scary way of conducting an old business. Atherton says he would walk into the offices of 60-year-old oil executives and try to convince them EnergyNet really was going to get firms to migrate from the paper-based data room to the Internet. They would say, "No, you're not. That's not how we do things," says Atherton, now 39. "If you're the accountant at some company and these young guys come in and say we're going to TurboTax it, you're going to be all like, 'I don't know about this.' They were shooting us down left and right."

But like other obscure survivors of Internet 1.0 (think Stamps.com and Coupons.com), EnergyNet prevailed because it started out as simple as possible and worked from there. The skeptics knew that trading oil-and-gas fields can be very complicated. Among the world's oil giants, only in America do landowners also control the rights to the minerals below the ground. And those rights get sliced, diced and sold. EnergyNet started out just selling basic stuff called nonproducing minerals. That's simply the legal right to whatever oil and gas might be found under a patch of ground. Step out from that and building an online data room gets more complicated. Once you have wells drilled and oil flowing, ownership becomes tied up in a whole mess of joint operating partners and working interests, Atherton says.

EnergyNet found early on that the best way to deal with the challenge of complex packages of assets is to simplify them into "the smallest strategic unit," says Britain. That way buyers get precisely what they want and maybe pay a premium for it. Early adopters included Shell Oil and Bank of America.

Its big break came with Chevron, which in 2003 agreed to have EnergyNet auction a big parcel of 700,000 net mineral acres stretching across dozens of counties in multiple states. Chevron's investment bankers wanted to sell it in one or two allotments for about $25 million total. EnergyNet, working on commission, chopped up the packages by county and sold them piecemeal for $45 million.

A key skill is on display at its headquarters, where 12 people work to "ingest" information from sellers and scan it for uploading on a copier-like machine the size of a car. Mom-and-pop operators send in files in cardboard boxes. More tech-savvy companies, like Chevron, provide already-digitized data. A recent Chevron property auctioned on EnergyNet had 19,000 pages.

EnergyNet now has over 75% of the online oilfield auction market. Every month 12,000 registered buyers look at its listings, up from 6,500 in 2013. Its biggest growth area: handling mineral leasing for the land offices of states such as Colorado and Texas, as well as the federal Bureau of Land Management. The company does about $30 million in sales annually of government leases. Britain has a pitch for why state land managers should consider it their fiduciary duty to market their land on EnergyNet. He cites as evidence the situation earlier this year when the Bureau of Land Management tried to hold a lease sale at a Reno, Nev. casino. Protesters chanting "Keep it in the ground!" disrupted the action, which ended with no bids.

Chanting won't disrupt an online auction, but hackers might. EnergyNet has suffered one cyberattack over the years, Britain says, "but we can fend those off." And if not? It can still do it "old school." In late February a seller insisted that EnergyNet host an old-fashioned paper-based data room. Up for sale is a complex property, with 700 old wells over thousands of acres of Texas. "Even though it's all online, this company still wants people to see every piece of paper," Britain shrugs. Creative destruction can still accommodate old habits, by special request. *

FINAL THOUGHT

* *"I wish we had never smelled the fumes of petroleum."* —WOLE SOYINKA

BY THE NUMBERS

BOOMTOWNS

Speculation about a tech slowdown abounds, but the industry's job-creation engine doesn't seem to be decelerating: The Bay Area and Silicon Valley, rich in such work, are atop our annual Best Big Cities for Jobs list for the third year running. A number of second-tier tech hot spots (Austin, Raleigh) have also posted strong job growth—spillover in part from Northern California, whose high costs push some startups and expanding firms to relocate. The top 5:

1. SAN FRANCISCO METRO AREA
JOB GROWTH, 2015 **4.6%**
JOB GROWTH, 2010–15 **23.8%**

2. SAN JOSE/SUNNYVALE/SANTA CLARA, CALIF.
JOB GROWTH, 2015 **4.1%**
JOB GROWTH, 2010–15 **21.0%**

3. ORLANDO/KISSIMMEE/SANFORD, FLA.
JOB GROWTH, 2015 **4.6%**
JOB GROWTH, 2010–15 **18.5%**

4. NASHVILLE/DAVIDSON/MURFREESBORO/FRANKLIN, TENN.
JOB GROWTH, 2015 **3.4%**
JOB GROWTH, 2010–15 **20.3%**

5. DALLAS/PLANO/IRVING, TEX.
JOB GROWTH, 2015 **4.6%**
JOB GROWTH, 2010–15 **18.9%**

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Billions of New Connections

Sigfox has developed a new kind of wireless technology that promises to finally make the Internet of Things a reality. It's now racing to build a global network before telecom giants wake up.

BY AARON TILLEY

On a drizzly San Francisco afternoon in March, Ludovic Le Moan, 52, climbs to the roof of San Francisco's stately public library. He's there to check on a 5-foot pole equipped with a small antenna and a briefcase-size box. It's one of 22 "base stations" his French startup, Sigfox, has placed throughout the city and one of 6,000 it operates across 18 countries as part of its improbable quest: building a wireless network that will cover at least 100 U.S. cities by year's end and eventually span much of the planet.

Global wireless networks are the stuff of Big Infrastructure—multiyear, multibillion-dollar projects that can be undertaken only by deep-pocketed corporate behemoths like telecoms. Le Moan's startup, which has raised $150 million from investors, is aiming for something different. If the wireless networks of AT&T or Verizon are like massive water projects of canals and municipal pipes, Sigfox's is the equivalent of a drip irrigation system. It transmits data in tiny, 12-byte packets at a time. That's not enough to download even a lightweight app onto a cellphone, but it's sufficient to beam a gadget's location or a reading from a sensor or to sound an alarm. It's aimed not at smartphones but at the long-promised next wave of Internet-connected devices known as the Internet of Things, or IoT. It could be the key to finally unlocking the tantalizing but still elusive future in which billions upon billions of gadgets—smart lightbulbs, connected thermostats, industrial sensors, biosensors, weather instruments and countless other devices—will be woven together to enhance efficiency in factories, speed up supply chains, revolutionize transportation, improve personal and public health, advance environmental protection and, yes, automate your home.

"The Internet of Things isn't the traditional cellular business," Le Moan says in his thick French accent. "The wireless industry's thinking is that this market naturally follows their existing business ... but the Internet of Things requires something new."

There's reason to believe he's right. Traditional cellular networks—3G and LTE—are costly, suck up too much power and are just too intensive for the needs of the billions of new, low-powered devices expected to come online in the next few years.

"We've all heard the value of connecting everything that hadn't been connected in the past, but now the question is, how do you actually connect everything?" says Peter Jarich, a vice president at market research firm Current Analysis. "The cost of cellular networks is arguably holding things back."

Sigfox is building its network for a fraction of what it would cost to set up an LTE or 3G network. The company's system beams its radio signals over an unlicensed segment of

"The Internet of Things is not the traditional cellular business," says Sigfox CEO Ludovic Le Moan.

LAURA STEVENS FOR FORBES

the airwaves, which is lightly regulated and free. As a result Sigfox can connect a large batch of devices for as little as $1 to $2 a year. And because its radios transmit using very little power, IoT devices that connect to the network can run for five years or more on a small battery.

Sigfox, which is based in Labège, a suburb of Toulouse in southwestern France, began building its network in 2012. Its customer base is small but growing, and the company has received endorsements from some industry heavyweights. Swedish security company Securitas Direct, one of its bigger customers, is using Sigfox radios as backup connections for its security systems. Korean electronics giant Samsung has incorporated a Sigfox radio into a new line of chips designed for IoT devices. French smart-home company Otio is attaching Sigfox radios to one million of its smoke detectors. Sigfox sees a particularly large opportunity in the future for industrial, agricultural and mining operations, such as the use of soil-moisture-and-nutrient sensors in farms or vibration sensors on oil rigs.

With only 7 million devices connected to its network so far, each paying as little as $1 a year for the privilege, Sigfox made just $13.5 million in revenue last year. But Le Moan predicts that, once its network achieves true global scale, the business will ramp up quickly. He aims to surpass $100 million in revenue by 2020 in France alone.

Sigfox was founded in 2010 by Le Moan and engineer Christophe Fourtet. Le Moan had already attempted to break into the IoT business with a startup called Anyware Technology. Its intention was to help businesses connect devices in the cloud, but the market was small and still missing something. “Ten years ago people were talking about how there would be billions of connected devices by now, but it didn’t happen because they didn’t have the right technology,” Le Moan says.

Fourtet met Le Moan through a former colleague at Freescale Semiconductor, where Fourtet was a longtime cellular chip engineer. Fourtet had developed the technical specifications for the Sigfox network but had given little thought to a business model or vision of what it could become. Le Moan was still COO of another company he had cofounded called Goojet (now scoop.it), but he was so taken by the technology that when he got home he told his wife he was going to change the world. “I was completely excited,” he says. “I didn’t sleep for a week.” Shortly after, the pair started Sigfox.

Le Moan has sold the Sigfox vision to a group of blue-chip investors that include Spanish telecom giant Telefónica and the venture arms of Intel and Samsung. He plans to raise a reported $200 million to $300 million more from investors and hopes to take Sigfox public in the next few years.

The additional cash should provide much-needed fuel for Sigfox’s rapid expansion. The company is facing stiff competition from startups like Ingenu and from LoRa, an industry alliance group headed by U.S. chipmaker Semtech that licenses its networking technology to others. “The marketplace has been dying for an alternative to cellular,” says Ingenu CEO John Horn, a wireless-industry veteran who previously headed T-Mobile’s IoT division. “Cellular is expensive, drains batteries and is not good in buildings.” Horn credits Sigfox with being a pioneer and doing “some great things” in so-called low-power wide-area networks (or LPWAN). But he’s not about to cede the market to his rival.

Neither are telecom industry heavyweights like AT&T and Verizon. As margins in the phone business are being squeezed by competition, the industry is looking beyond smartphones to new services. As a result, telecom companies are trying to develop radio chips that suck up less power. But specifications on these chips are still a few years away; Sigfox, Ingenu and LoRa are ready to go now.

“There’s a race going on,” says Jarich. “The traditional cellular guys are developing technology for this market, and there’s room for coexistence between cellular and LPWAN. But is there room for three or four different technologies all doing the same thing? Probably not.” And that’s why Le Moan is rushing to keep Sigfox at the front of the IoT pack. ✱

FINAL THOUGHT

✱ *“It never occurred to me that a tiny telephone with a wireless transceiver would do whatever it is that it’s done to us.”* —**WILLIAM GIBSON**

TRENDING

WHAT THE 70 MILLION FORBES.COM USERS ARE TALKING ABOUT. FOR A DEEPER DIVE GO TO **FORBES.COM/TECHNOLOGY**

PERSON
DEBRA LEE

BET’s chief executive joins Twitter’s board of directors in Jack Dorsey’s latest move to diversify his company’s upper ranks as it works to bolster its user base.

COMPANY
BRITISH BROADCASTING CORPORATION

Broadchurch fans, tally-ho: The Beeb, in tandem with U.K. network ITV, is reportedly launching “Britflix,” a streaming service intended to rival Netflix and Amazon.

IDEA
YOUR PASSWORD FOR SALE

A notorious 2012 LinkedIn security breach reportedly affected not 6.5 million usernames and passwords but rather 117 million. That’s one way to connect with others.

PAUL MORIGI/GETTY IMAGES


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The New Liquid Asset

Three years ago HYT introduced innovative hydromechanical watches that were prized by collectors and disrupted the industry. Then a $23 million investment came flooding in.

BY ROBERTA NAAS

Water works: HYT cofounder Vincent Perriard (with an H2 watch in the background) is expanding the business to include lower-priced timepieces with increased production.

LAURA STEVENS FOR FORBES

Water is a watch's mortal enemy, but five years ago Swiss entrepreneur Patrick Berdoz saw an astonishing concept he thought was visionary: using liquid to indicate time. There have, of course, been water clocks for thousands of years, but no one had figured out how to create one that was wrist-size. So, along with three partners—including nuclear engineer Lucien Vouillamoz, who developed the innovative fluid system—Berdoz launched HYT, a watch brand whose raison d'être is producing hydromechanical timepieces.

The principle behind HYT's groundbreaking watches is two immiscible liquids that flow from bellows, through a capillary powered by a mechanical movement to indicate the time on the watch dial. The complex, revolutionary system would not have been possible without the help of sister brand Preciflex, which makes liquid indication devices for the medical, design and automotive fields. Both companies were chaired by Berdoz—who has bought and sold a number of medical and real estate businesses—and HYT watches began production in 2012.

Starting with $30 million (including funds from Berdoz and private evergreen investor SVC, or Swiss Venture Club) to develop technology that did not exist in the industry before, Berdoz brought in watch veteran Vincent Perriard, who had successfully headed up TechnoMarine and Concord, to serve as CEO of HYT.


EST.
1824
The
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RARE CASK
HIGHLAND SINGLE MALT
SCOTCH WHISKY
GIVE THE GIFT OF TIME WELL SPENT
THE MACALLAN RARE CASK
CAREFULLY SELECTED FROM LESS THAN 1% OF THE MACALLAN'S FINEST SHERRY OAK CASKS, THIS COMPLEX EXPRESSION IS A CELEBRATION OF OUR TIME-HONORED TRADITION.
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What the three men devised for HYT are watches that are complex not only in their technology but also in their design. The futuristic fluid system is set in cases that are atypical for the watch world. And collectors—particularly in Asian markets—can't get enough of these timepieces, which sell for upwards of $50,000. In 2013, the first full year of sales and production, HYT made about 150 watches. Last year it turned out 400. Revenue has grown accordingly: Berdoz claims sales of $4.6 million in 2013 with growth of about 40% in 2014 and another 20% in 2015.

Bold face: HYT's $120,000 Skull Maori indicates hours but not minutes.

Berdoz says he expects 20% growth in 2016 as well. And he is being conservative. Just after Baselworld 2016 in March—the world's largest watch exhibition—orders for HYT watches were up by 30% over the same period in 2015.

According to Berdoz, this year's growth is coming not from volume (production will remain at around 400 pieces) but rather from the introduction of more expensive timepieces. Currently, HYT's base model, the H1 watch, retails for $50,000 to $70,000 (depending on materials), and the average price of all models was $65,000 in 2015. The average this year is projected to be $80,000, thanks to collections with higher price points (the H2, H4 Alinghi and Skull collections, for instance, range from $90,000 to $180,000) and also to one particular ultra-high-end model, the H3, that goes for $285,000.

But it's the new investment money that came pouring in that has HYT set to take its growth to a whole new level. In February the brand received another $23 million in capital—including funds from Nestlé chairman Peter Brabeck-Letmathe—for expansion into new markets and new fields.

"This liquid technology is so promising that there is so much room for growth," Berdoz says. "That is why we raised the $23 million—to address the needs of the market, to be able to animate the brand in new ways moving forward."

The new capital will also allow HYT to reduce the prices of a soon-to-be-released line of watches with an all-new movement. Referred to in-house as X Series, the new movement is smaller and a lot more affordable. With it HYT can unveil watches that are slimmer and have a more approachable price range of $25,000 to $35,000. Additionally, Berdoz expects the new line (slated to be unveiled in 2018) will be produced in "thousands of pieces per year."

"HYT has a DNA as a luxury brand, so we will never be priced lower than the mid-20s, and we will always be hydro and mechanical," Vincent Perriard explains. "But with this new movement, we can accelerate growth by offering this smaller, thinner size, and by adding functions and complications. It opens a new frontier for us."

The new investment has also led to another development for the two companies. This one, code-named Aqua Quantum, is a line of liquid-display watches and jewelry in the fashion realm, with an entry price of $300. There will also be a collection of smartwatches, because the liquid can be used to display different functions. In addition, Preciflex is exploring new fluid-driven medical devices, and HYT is poised to open a U.S. subsidiary that offers an aftersale program with fluid specialists to service customers' watches.

"These new products will not be made under the HYT brand name, and because of the price and design concept, they will not compete with our business. It is a hybrid," adds Perriard. With prototypes already in hand, Preciflex is exploring production options that involve either establishing a separate company to produce and market the fashion line or working with a watch brand that is capable of mass production.

In other words, the floodgates are open. *

FINAL THOUGHT

* *"No clock is more regular than the belly."* —FRANÇOIS RABELAIS

TRENDING

WHAT THE 70 MILLION FORBES.COM USERS ARE TALKING ABOUT. FOR A DEEPER DIVE GO TO **FORBES.COM/ ENTREPRENEURS**

SHAWN BALDWIN/BLOOMBERG

PERSON
NAGUIB SAWIRIS

Last September the Egyptian billionaire offered to buy an island to serve as a refugee community. Greece and Italy turned him down. Now he's opening the offer to any government.

COMPANY
WTRMLN WTR

Serendipity paired this cold-pressed-juice company's launch with the release of Beyoncé's single "Drunk in Love." Hearing her croon "I've been drinking watermelon," founder Jody Levy sent her some samples. Queen Bey ended up an investor.

IDEA
THE STUDENT-DEBT 401(K)

Bogged down in debt, Tony Aguilar wanted to devise a way for companies to help employees pay down student loans with pretax dollars. The problem: That's illegal. So he came up with a workaround.

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Serving Up Entrepreneurs

Tasty Catering has won accolades for its food and its workplace culture. But its most impressive product may be the business owners it's grooming.

BY DARREN DAHL

Jamie Pritscher told Tom Walter (both above) she would quit if he didn't change the way he ran the company.

When Jamie Pritscher joined Tasty Catering as a logistics manager in 2006, she was happy to land a job. The business, which at the time had just under $5 million in annual revenue, had recently moved into a 23,000-square-foot building in Elk Grove Village, Ill., and Pritscher was one of several people brought on to keep up with the growth. "It was scary," she says, "because I was essentially creating my position. I had to figure out how to pay for myself."

Pritscher succeeded so well that she has gone on to take advantage of the unusual culture at Tasty to create two new businesses from scratch. Today she is cofounder and co-owner of That's Caring, which sells gift baskets tied to a social purpose, and nuphoriq, a marketing company that specializes in helping other catering companies. Both ventures were started with the financial support and advice of Tom, Larry and Kevin Walter, the three brothers who own Tasty Catering. At last count some 11 employees have started a dozen ventures while working for Tasty. The spinoff companies generate a combined $19 million in annual revenue—nearly double the parent company's revenue.

"Turning our employees into entrepreneurs has provided many advantages for our business," Tom Walter says. "We have created more employment for more people, we don't lose our

JEFF SCIORTINO FOR FORBES


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THOUSANDS OF DOLLARS
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best and brightest due to a glass ceiling, and we attract entrepreneurial young people because of our history as an incubator. Also, the younger entrepreneurs are providing a 401(k)-type revenue stream for us as we exit our businesses."

Growing up in Chicago with ten siblings, Tom Walter took a while to hit his entrepreneurial stride. When he decided at the age of 24 that he needed a job—but didn't want to work for someone else—he partnered in starting several bars, nightclubs and restaurants. Eventually, in 1984, he and two of his brothers started a hot dog stand called Tasty Dawg.

Over the next five years the stand turned into a small chain and then evolved into Tasty Catering, a corporate catering service that has grown to 49 full-time employees, with another 100 seasonal workers, and $10 million a year in revenue. Tasty has created a workplace that has earned the company numerous awards, including being named one of the psychologically healthiest workplaces in America. But it wasn't always so healthy. In fact, as recently as 2006, Pritscher and Tim Walter, Tom's son, who had joined the business full-time a year earlier, became so frustrated with the way Tom and his brothers were running the company that they threatened to quit.

While the brothers had distinct roles—Tom handled sales, Larry logistics and Kevin human resources—there was enough overlap to create tension among the staff. If a customer delivery was late, for example, Pritscher had to answer to all three brothers, each of whom seemed to have a different idea for how to solve the problem. Eventually, she went to Tim Walter and said, "I don't even know why I am here. I can't do anything without their say-so."

Tim, it turned out, felt the same way. Together they decided to issue an ultimatum. "It was a cold, dreary morning, and the first thing I had to face was an employee-led confrontation," Tom Walter says. "I didn't know any way else to lead but command and control, but they wanted us to change our leadership behavior. If we didn't change, they both said they would leave."

The threat worked. Moving forward, the Walter brothers decided, employees like Pritscher would be given not just the opportunity to do their jobs but also to become entrepreneurs. The goal was to see if the employees of even a small, blue-collar business could find the kind of fulfillment that would get them excited about coming to work—and sticking around.

Soon after, Tim started exploring how Tasty could generate more revenue from its kitchen, which sat unused 16 hours a day. Online, he found an open request from several school systems for 800,000 muffins that would meet certain dietary restrictions. He submitted a bid and won, but Tasty's ovens weren't big enough to handle the job. So he suggested buying new ones that would cost $85,000.

Instead, his father and uncles decided to invest the money in a company, T.F. Processors, that is owned jointly by the four Walters with Tim serving as CEO. Today it bakes muffins, breakfast breads and cookies for private labels as well as for Tasty, has 18 employees and generates some $2 million in annual revenue.

Pritscher started That's Caring in 2008. Three years later she teamed up with Erin Walter, Tim's sister, to launch nuphoriq, a marketing agency whose first client was Tasty Catering. Like many of the spinoffs, nuphoriq, which employs 12 and expects revenue to top $750,000 this year, started out filling a need for Tasty before looking to expand.

The other spinoffs include Touhy Capital, which provides billing, bill payment and payroll services, and Rios Ventures, which rents trucks to Tasty and others. "Each spinoff has a different ownership structure," Tom Walter says. "Each company is in a different market. Each company could be sold without impacting the others."

Every week the leadership teams for Tasty and the spinoffs—12 people in all—gather in a modest conference room at Tasty. The CEO of each company recaps its financials and challenges. "The final say in any decision is made by the CEO of that company," Tom Walter says. "Shareholders like me don't make any decisions for the spinoffs."

Meanwhile, Tasty Catering, the proud parent company, has continued to thrive. Perhaps most impressive, its annual employee turnover is 2% in an industry that averages 50%. And its profit margins, Tom Walter says, are nearly twice the industry average. *

FINAL THOUGHT

"If you want to build a ship, don't drum up the men to gather wood, divide the work and give orders. Instead, teach them to yearn for the vast and endless sea."

—ANTOINE DE SAINT-EXUPÉRY

MARGIN PROPHET

TRYING TO KILL THE BLOOMBERG

A FORMER COMMODITIES TRADER AT BLOOMBERG FOR FIVE YEARS, **MORGAN DOWNEY**, 43, STARTED MONEY.NET IN 2014. HIS GOAL: TO OFFER A SUPERIOR ALTERNATIVE TO THE $25,000-A-YEAR BLOOMBERG TERMINAL AT A FRACTION OF THE PRICE.

WHY START A COMPETITOR?

Two big things. There's a market need for a more intuitive, more affordable product than Bloomberg and Thomson Reuters. They're difficult to use. They feel like they were designed in the 1980s. They *were* designed in the 1980s.

WHAT WAS THE SECOND THING?

Price. JPMorgan pays over $400 million a year just for Bloombergs. Bank of America pays close to $500 million.

DOES YOUR SYSTEM HAVE A BLOOMBERG-LIKE TERMINAL?

No. We're building a platform. People want to boot up one piece of software that's got everything. We priced it at $150 a month. People did a double take, it was so low. —*Susan Adams*

SAMSUNG

Galaxy S7 edge

Simple wins when your teams start working with a real work phone.

This is the Galaxy S7 edge — the phone that lets everyone work faster and smarter. It has expandable storage so your teams can share monster files, and edge panels that keep your favorite apps just one swipe away. It also comes with IP68 water and dustproof certification, which means you'll see fewer phones die. Just some of the new productivity tools at your fingertips.

SAMSUNG.COM/BUSINESS

*Portion of memory occupied by existing content. Embedded microSD card slot supports microSD cards up to 200GB (sold separately).
**Water-resistant and dustproof based on IP68 rating, which tests submersion in clear water up to 1.5 meters for up to 30 minutes.

Death Watch

Plunging oil prices. Bankruptcy. Litigation. It's all red meat for Reorg Research, the upstart chronicler of corporate distress.

BY DANIEL FISHER

JAMEL TOPPIN FOR FORBES

A COUPLE DOZEN casually dressed workers, most of Millennial vintage, peer intently at their dual screens in a cramped, high-ceilinged industrial space edging New York's Flatiron District, a.k.a. Silicon Alley. But they're not building some new disruptive enterprise; instead, they're tracking the crumbling finances of established companies and, in some cases, governments. (Think Puerto Rico.)

Welcome to Reorg Research, the new-

Reorg Research founder Kent Collier tracks the failure of the old guard from his Silicon Alley base.

est reason that ordinary investors dabble in individual distressed-debt issues at their peril. (For five safer ways they can play, see the table on page 56.)

More than 350 subscribers pay from $50,000 to $150,000 a year (depending on the number of users) to learn what the lawyers, financial analysts and reporters in Reorg's Manhattan, London and San Juan outposts turn up online or by working the phones. Some publicly traded high-yield debt funds subscribe, as do law firms and most of the distressed-debt "vulture" hedge funds that play a growing role in bankruptcy battles. (Hedge funds already own an estimated third of Puerto Rico's debt, according to Height Securities.)

For their money, Reorg subscribers get access to thousands of court and SEC documents, as well as e-mail alerts when crucial new documents are posted, followed by expert analysis of their significance.

"We're playing with microseconds here," says Reorg founder and chief executive Kent Collier, 35. "When a new plan is filed that says bondholders will get 50 cents on the dollar and the bonds are trading at 80, there's huge market implications for that information."

Reorg's savvy diggers are, in part, filling the vacuum left by shrinking distressed-debt research teams at Wall Street banks.

Example: Last November, after acquiring the debt-laden Wise Metals Group, aluminum manufacturer Constellium, formerly known as Alcan, told analysts that all options—including abandoning the unit—were on the table. Then on Dec. 9 it announced it was trying to refinance Wise's $900 million in debt in a deal that wouldn't be guaranteed by Constellium, fueling fears that it might allow Wise to slip into bankruptcy.

End of story? Nope. Reorg's staff combed through SEC filings and bond indentures and reported on Dec. 11 that Constellium, a Dutch company once controlled by Apollo Global Management and Rio Tinto, would be considered in default on its own debt if it put Wise into bankruptcy. Since then, Wise senior bonds, rather than tanking, have gained $70 million in value, as investors called Constellium management's bluff.

Collier didn't start out to be an entrepreneur. After graduating from the University of Virginia with a finance degree, he spent nearly a decade working as a buy-side analyst, focusing mostly on high-yield and distressed debt.

But during that time he became increasingly frustrated by the hours he had to waste trolling through Pacer, the electronic filing system for federal court records, including those of bankruptcy court. In a big bankruptcy case there might be thousands of entries—the Lehman Brothers docket has almost 53,000—most of no interest to investors.

In 2012 Collier hired some programmers to write code to help him sift through Pacer dockets and flag important new filings. He figured the software might also have commer-

SAFETY IN NUMBERS

TEMPTED BY HIGH-YIELD DEBT? THESE MUTUAL FUNDS SPREAD YOUR RISK SO YOU WON'T HAVE TO WORRY ABOUT GETTING THE NEWS AFTER THE PROS DO.

NAME	TICKER	YEAR-TO-DATE TOTAL RETURN	5-YEAR ANNUALIZED RETURN	MORNINGSTAR RATING FOR FUNDS	EXPENSE RATIO
MASSMUTUAL PREMIER HIGH YIELD I	MPHZX	5.21%	6.75%	5	0.55%
EATON VANCE HIGH INCOME OPPORTUNITIES I	EIHIX	5.50	6.05	5	0.65
PRUDENTIAL HIGH-YIELD Z	PHYZX	6.45	5.43	5	0.58
DIAMOND HILL CORPORATE CREDIT I	DHSTX	5.50	5.06	4	0.68
THRIVENT HIGH YIELD S	LBHIX	5.37	5.08	4	0.50

RETURNS AS OF MAY 18. *SOURCE: MORNINGSTAR.*

cial potential—he'd already seen a demand for timely info from the readers of Distressed-Debt-Investing.com, a blog he had started in 2009, during the depths of the financial crisis.

At the end of 2012 Collier took the plunge. He quit his job as a vice president in asset management for insurance company Assurant and started sending key court-document alerts to a handful of hedge funds that subscribed to a beta version of Reorg Research.

Since then he has raised $1 million for Reorg from angel investors. Yet he hasn't gone through even that tiny stash because subscription revenue (now running more than $20 million a year) has funded his expansion to 55 employees. Collier says he's already profitable and is hoarding the investors' cash for the right acquisition or to ramp up hiring if the bond market breeds another few Puerto Ricos.

The quality of Reorg's staff is key: It includes graduates of Harvard, Columbia, New York University and Georgetown law schools; a British solicitor who studied at Oxford Law Institute; and veterans of prestigious law firms like Latham & Watkins and Wachtell Lipton.

Companies typically pop up on Reorg's radar after a triggering event such as a missed debt payment or a forbearance agreement with creditors. But Collier aims to spot trouble even earlier. Two years ago his analysts spent a lot of time eyeing debt-laden private equity deals that might go bad.

Since last fall they've had their eyes trained on oil industry companies, watching SEC filings and court documents for signs an average investor might miss. Example: If a company draws down its credit line, that can be a warning of dismal earnings to come.

"There are ones that really held in there a long time, and now those better-capitalized companies are falling," Collier says, grinning. "Every day we have subscribers asking us to cover more names."

Expensive litigation can also move a company into Reorg's sights. It's been tracking chemicals manufacturer Chemours practically since it was spun out of DuPont with a $4 billion debt load in July 2015. Chemours faces some 3,000 lawsuits over the chemical PFOA in drinking water and suffered a $1.6 million loss in the first trial, in Ohio, last October.

"Not only is this company in a tough business right now with an overloaded balance sheet, they have a significant number of lawsuits where they just lost the first judgment," Collier says. "It's a perfect situation for us."

Sometimes debt troubles even serve as the canary in the equity coal mine. Chesapeake Energy still boasted a $13 billion-plus stock market value in November 2014 when Reorg filed its first report on the company, detailing a legal fight it was having with BNY Mellon over the terms of a debt redemption. Since then, Chesapeake's market cap has plunged to $2.5 billion—likely still too high. After all, some of Chesapeake's debt is changing hands at less than 60 cents on the dollar, meaning bondholders, who get paid before stockholders, think they are at risk of losing a lot of what they're owed.

"When the bond and equity markets are this far apart, one of them is mispriced," Collier says. *

FINAL THOUGHT

* *"There are no disasters, only opportunities. And, indeed, opportunities for fresh disasters."* —**BORIS JOHNSON**

TRENDING

WHAT THE 70 MILLION FORBES.COM USERS ARE TALKING ABOUT. FOR A DEEPER DIVE GO TO **FORBES.COM/INVESTING**

PERSON

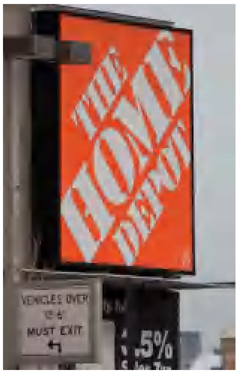
KEITH MEISTER

The hedge-fund investor, a Carl Icahn protégé, wants underperforming Pandora to change its tune and put itself up for sale.

COMPANY

BERKSHIRE HATHAWAY

Warren Buffett's conglomerate has a new $1 billion Apple bet and may finance a bid for Yahoo. Is the Oracle (or his putative successors) finally coming around on tech?



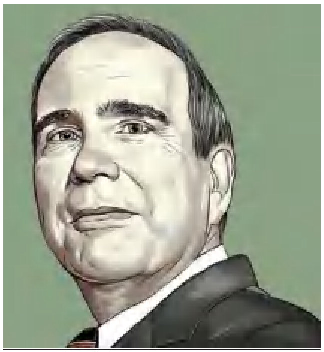
MICHAEL NAGLE/BLOOMBERG

IDEA

DON'T WORRY, BE HAPPY?

Retail looks weak overall, but Home Depot and Amazon are still turning out blockbuster numbers.

RIDE THE INVERTED YIELD CURVE



CURRENT FED AND ECB bank policies are leading to a redefining of capitalism in ways that Karl Marx would have heartily approved. We moved from earning interest for the use of capital to earning nothing, and now to paying government for the privilege of holding its debt. This is all being done in the name of stimulating investment and spending. It hasn't worked so far, but you can bet it will have unintended consequences. Keep an eye on pension plans and insurance companies whose actuarial assumptions are now woefully flawed.

Another recent anomaly is in high-yield bonds, where we now have an inverted yield curve. Yields are said to be inverted when they are higher for short-term maturities than for longer-term bonds. According to the Merrill Lynch high-yield bond indexes, B-rated bonds with two- to three-year maturities yield 9.5% but only 6.1% for those due in nine to ten years. The comparable numbers for CCC-rated bonds were 20.5% and 7.4%. The market believes there may be a wave of junk-bond defaults in the next three years, unless some $82 billion in maturing bonds can be rolled over. I expect a wave of volatility once the defaults start; this will spread down the yield curve to long maturities.

Volatility, of course, is a risk with different degrees of importance. As such, my favorite maxim for bond investors is "Remember why you bought the security—for the income. If it's doing the job, leave it alone; the price will recover." A lot of income is sacrificed by investors and advisors who make panic trades to mitigate volatility. Don't let your emotions get the best of you.

PREFERRED STOCK YIELDS OFFER THE BEST RISK/REWARD RETURNS IN THE FIXED-INCOME MARKETS TODAY

Unfortunately, fixed-income investors who need a reasonable return on their capital in order to maintain their lifestyle can no longer count on government bonds. They need to take more risk either in equities or in lower-rated bonds. In 2015 many chose the stock market and did well, but that choice became much riskier with the end of Fed quantitative easing. This has pushed many into the high-yield bond market. High-yield bonds face not only a heightened default risk but also an increased level of volatility not tied to interest rate moves.

My advice is to avoid the traditional junk-bond market and instead focus on preferred stocks, many of which are essentially junk bonds masquerading as exchange-traded yield stocks. They have the advantage of high liquidity and offer higher yields than comparable large-denomination bonds. When shopping these securities, look for two features that promise low volatility and the best risk/reward combination. For low volatility, look for preferreds callable anytime that trade at or near their call price. Company-specific economics notwithstanding, these will maintain a price near the call price despite market volatility, and they generally never get called. Even if they do, you get unbeatable short-term yield. The second feature you should look for are preferreds with the rating of BB, just below investment grade. These offer the best risk/reward ratio in terms of probability of default. Investment-grade preferreds rated BBB– are more risky because if they get downgraded to BB+ they tend to suffer devastating price drops. Many large institutional investors are not permitted to own below-investment-grade debt.

Here are some preferreds I like:

TELEPHONE & DATA SYSTEMS (TDE, 25), with an adjustable-rate coupon that is currently 7%, is callable anytime and rated BB.

BANK OF AMERICA (BAC L, 1,177) is a $1,000, 7.25% perpetual preferred yielding 6.1%. It's rated BB+ and can't be called until BAC stock quadruples in price, which would take an act of God.

PREFERRED PLUS TRUST CZN-1 (PIY, 25) is an 8.375% preferred created by Merrill Lynch out of a bond issued by Frontier Communications Corp. The issue yields 7.9%, callable anytime, and is rated BB–.

Portfolio management today requires more skill and discipline than ever before because the dangers are greater than ever before. Just hoping for the best won't cut it.

THOMAS KUHLENBECK FOR FORBES

RICHARD LEHMANN IS EDITOR OF THE *FORBES/LEHMANN INCOME SECURITIES INVESTOR* NEWSLETTER AND PRESIDENT OF LEHMANN LIVIAN FRIDSON ADVISORS. FOR MORE INFORMATION FOLLOW HIM AT FORBES.COM/LEHMANN.

GROUNDED GAINS FROM THE CLOUD

CLOUD COMPUTING ENTERED the lexicon of public discourse with a widely aired marketing campaign by Microsoft six years ago. In one spot a bored traveler announces he'll go "to the cloud" to watch a television show mirrored from his home PC. That was cool. Then consumers tried early streaming services and found connections slow, buggy and a turnoff.

The speed and quality of remotely hosted media have since improved so dramatically that most people don't even know they're accessing the cloud when they stream a song licensed from Spotify. The cloud is everywhere and nowhere, amounting to an invisible paradigm shift that has shaken the foundations of entertainment, computing and communications.

It's not just about storage. Shifting computing from devices to the cloud makes possible previously sci-fi efforts like self-driving cars, gene-editing and locks that open with facial recognition instead of keys. The cloud brings supercomputer power to any device. Your smartphone no longer needs to become exponentially more robust.

Yet here's the weird thing: Cloud-focused public companies have mostly fared poorly as investments due to commoditization and stretched expectations. I can identify only two major success stories—Amazon.com and Salesforce.com—and neither are pure plays.

AMAZON IS THE BIG FISH. BUT IF YOU'RE WILLING TO DIG, THERE IS ANOTHER WAY TO PLAY THE CLOUD

The Amazon Web Services unit of the online retailer is the big fish. The business was created out of thin air when Amazon decided to sell its excess storage and computing power. It commands 30% of the surging open-cloud computing market. AWS just reported $2.6 billion in first-quarter 2016 sales and $604 million in profit on 64% growth. That's stunning. Microsoft is running a distant second. Alphabet is third, though gaining ground with its special expertise in machine learning.

For investors willing to dig deeper, there is another way to play. While the cloud sounds ethereal, it is, ironically, firmly rooted to the earth because all the work takes place in commercial real estate known as data centers. Cloud servers occupy bombproof buildings with complex heating and air-conditioning schemes, massive power demands and technical staffs capable of maintaining piles of switches and cable. Data on the cloud is mission-critical, which means customers will pay any price for continuity. Plus, companies that sell media, like Netflix, want their servers as close as possible to firms that sell access, like ISPs, so that "latency," or slowness, is minimized.

These five top cloud real estate plays have performed well and show no signs of slowing.

CORESITE REALTY (COR, 74) has data centers in downtown Los Angeles, Silicon Valley, Chicago, Boston, New York and Miami, and two massive facilities under construction. Specializing in telecom, media and financial services, it has increased sales and earnings dramatically. At a market cap of just $2.3 billion, it is still largely undiscovered by big money managers, and sports a 2.8% yield and a low 18 times forward P/E.

San Francisco's **DIGITAL REALTY TRUST (DLR, 93)** is a seasoned midcap with a 3.8% yield. It services mostly tech, telecom, manufacturing and financial services clients out of 33 data centers in the U.S., Canada, Europe and Asia-Pacific. (Digital Realty recently announced it would buy 8 more centers in Europe.) Earnings have been uneven until recently due to the aggressive build-out of its global footprint, but the forward P/E is a demure 15.6, even though shares have doubled since 2014.

EQUINIX (EQIX, 343) is the industry granddaddy, having gone public in 2000 and survived the tech wreck to now operate in 145 locations and attain a $23.8 billion market cap. The business is far from mature. In the first quarter of 2016 revenue grew 31% year over year. The company is one of just 12 in the S&P 500 to have increased sales for 60 consecutive quarters. Acquisitions in the past year of Telecity in Europe and Bit-isle in Japan have helped.

Two smaller firms, **DUPONT FABROS TECHNOLOGY (DFT, 41)** in Washington, D.C. and **QTS REALTY (QTS, 51)** in Kansas, are important up-and-comers, with market caps of $3.1 billion and $2.4 billion, respectively, and fat yields.

It says something about the current environment that five of the best tech plays are REITs. Yet there are still too few data centers in the world, so growth isn't likely to hit a wall.

THOMAS KUHLENBECK FOR FORBES

JON D. MARKMAN IS PRESIDENT OF MARKMAN CAPITAL INSIGHT, AN INVESTMENT RESEARCH FIRM BASED IN SEATTLE.

PORTS IN THE MARKET STORM

IS IT ANY WONDER THAT stocks tend to perform dismally during the last year of a president's second term? The market hates uncertainty, and the only thing certain in this scenario is that change is coming. I researched stock market returns dating back to 1920 and found that five out of six times the market has declined during the last year of a president's final term. The Trump-Clinton election is especially troubling because even the smart money isn't quite sure what to expect if Trump wins. Add to this a tired economic recovery in U.S., the threat of rising rates, a recession and overseas turmoil, and the result is volatility.

My strategy has always been: When in doubt, ignore the noise and focus on strong, dividend-paying companies that are actively making their shares more valuable by repurchasing them. In other words, buyback stocks. I am by no means alone in this tactic. The top four stocks in Berkshire Hathaway's portfolio are share repurchasers, namely American Express, Coca-Cola, IBM and Wells Fargo. It's simple math: If a company decreases shares outstanding and increases its EPS, price multiples expand. The key according to Warren Buffett is to make sure the buyback company is retiring stock that is selling below its so-called intrinsic value. Here are five stocks that I think fit this criterion.

MICROSOFT (MSFT, 50) shares are down about 8% so far this year.

WHEN IN DOUBT, FOCUS ON STRONG, DIVIDEND-PAYING STOCKS, ACTIVELY REPURCHASING THEIR SHARES

Since 2008 Microsoft has more than tripled its dividend to $1.44 a share, for a yield of 2.9%. Meanwhile shares outstanding have declined about 5% since 2013, and $24 billion remains authorized for additional stock repurchases. The company will shortly have over 200 million users of Windows 10, and its cloud business is building up steam. During the first quarter Microsoft returned $6.4 billion to shareholders in dividends plus stock buybacks—an annual payout rate of 6%.

Believe it or not, **INTERNATIONAL PAPER (IP, 40)** has benefited from the growth of online retailing. It supplies retailers like Amazon with boxes for shipping. IP raised its dividend 10% last year, and it has gone up 75% since 2008. Its current yield is 4.3%, and it has decreased its shares outstanding by almost 12% through buybacks in the last 12 months. Expect more of the same in the future.

APPLE (AAPL, 94) shares have declined 30% since recent alltime highs. Subtract the approximately $10 a share in cash and you get a P/E of about 8.5. While iPhone sales have plateaued for now, the rate of people switching from Android to Apple remains high, and Apple TV is in its infancy. Its dividend has more than quintupled since its introduction—at 38 cents a share in 2012—to $2.28 a share, for a yield of 2.4%. Buyback lover Buffett recently announced he's a bull.

CYPRESS SEMICONDUCTOR (CY, 9) sells a wide range of high-performance digital and mixed-signal integrated circuits. Cypress is committed to returning capital to shareholders through a dividend, currently 4.8%, and stock repurchases, which reduced share count by 6% over the past year. This has not impeded growth. Cypress introduced 12 new products last quarter, mostly in targeted automotive and industrial markets. Sales more than doubled last year to over $1.6 billion.

My last stock isn't a large cap or blue chip, as are most of my other buyback stock recommendations. It's a strong regional bank called **INVESTORS BANCORP (ISBC, 12)**, headquartered in the leafy New York City suburb of Short Hills, N.J. With the recent acquisition of the Bank of Princeton, Investors has 156 branches in the greater New York area and assets over $22 billion. ISBC has an industry-leading EPS growth of 16%, compared with an average growth rate of 5% for 60 comparable regional banks. Since 2008 Investors has acquired eight community banks, adding outposts from Brooklyn to Philadelphia and gaining $4.5 billion in new deposits. Management has reduced shares outstanding by 9.6% in the last 12 months, and the stock pays a 2% dividend. F

THOMAS KUHLENBECK FOR FORBES

DAVID FRIED IS THE LONGTIME EDITOR OF *THE BUYBACK LETTER* AND PRESIDENT OF FRIED ASSET MANAGEMENT, BASED IN SANTA MONICA, CALIF.

Features

JUNE 21, 2016

She's queen of the ultrasmall screen: Susan Wojcicki has run YouTube since 2014, after urging Google to acquire it eight years earlier. The site now has a billion users. Her shares in Alphabet (Google's new corporate parent) land her at No. 40 on our second annual list of America's richest self-made women.

PAGE 88

PHOTOGRAPHED BY CHRISTIAN PEACOCK FOR FORBES

How to Make $1 Billion in Your Spare Time

Practicing dermatologists Katie Rodan and Kathy Fields have built a remarkable $1.1 billion fortune with two hugely successful skin care brands—and a whole lot of cringe-worthy marketing methods.

BY KATE VINTON

CHRISTIAN PEACOCK FOR FORBES

Ten thousand fashionably dressed women are packed into a convention center in Austin, Tex., waiting. Suddenly, the dark room explodes with disco lights as Dr. Kathy Fields and Dr. Katie Rodan emerge. Wearing black leather dresses with sparkling accents, the two hold hands, beaming as they stride to center stage. "Wrinkle warriors!" Rodan shouts, leaning forward and cupping her hands around her mouth. "Are you ready to change the game?" The crowd goes wild as the duo does a little victory dance.

Fields, 58, and Rodan, 60, are rock stars to those who gathered last September at the annual convention for Rodan + Fields, the doctors' line of antiaging skin care products. But this is hardly their first skin care success story—or even their full-time job. More than a decade before starting Rodan + Fields in 2002, the two practicing dermatologists teamed up to create the acne treatment Proactiv. Now two days a week they still trade their glamorous garb for white lab coats to treat patients at their respective Bay Area dermatology practices, where, some say, the wait time to become a new patient can be over two years.

Today Fields and Rodan's skin care company doesn't just bear their names; it presents the women themselves—their bubbly personalities, clear, foundation-free skin, close bond and self-made success—as embodiments of everything Rodan + Fields' 150,000 independent "consultants" aspire to be. The founders believe they are providing their consultants with the chance to emulate their success. "Let's empower the entrepreneur," Rodan says, echoing lessons she learned from her father, a no-nonsense judge. "You have to be able to stand on your own two feet. I feel like we're really delivering that message to a lot of people, especially women, who maybe never saw that opportunity."

The Rodan + Fields pitch is about more than just the allure of antiaging creams. The company's independent reps also sell the dream that any woman can easily achieve financial independence and success by becoming a Rodan + Fields saleswoman. "This is an opportunity for women to have it all," Fields says. But the truth is that the dream is financially out of reach for the vast majority of women who sell Rodan + Fields products. According to data from its 2015 income disclosure, 42% didn't get a single paycheck last year.

That reality hasn't slowed Rodan + Fields' blistering growth. For the past six years revenues have surged an average of 93% a year, growing from $24 million in 2010 to $627 million in 2015. Fields and Rodan are quick to say they are doctors, not businesswomen, but their success at building not one but two lucrative skin care brands

Good friends Fields and Rodan created the acne treatment Proactiv in Rodan's kitchen in the 1990s.

has landed them on FORBES' list of America's Richest Self-Made Women for the second year running; each has an estimated net worth of $550 million. And they're moving quickly to take their part-time empire global.

KATHY FIELDS STEPPED onto Stanford's campus in 1984 for her dermatology residency straight from the University of Miami medical school wearing a white skirt and sky-high, hot-pink pumps. Her classmates wore pleated Dockers and frumpy button-down shirts. The exception was fellow resident Katie Rodan, who had come north from USC School of Medicine in Los Angeles. " 'Rhinestone Rodan' was my name," Rodan says, laughing. "That kind of says it all." The two bonded instantly over their shared fashion sense and solidified their friendship as they studied for their board exams. They stayed friends as they joined separate all-male dermatology practices in the San Francisco Bay Area.

In 1989, after a particularly long day treating patients, Rodan had an idea to create the acne product she wished she could prescribe. The first person she called was Fields. Both doctors were frustrated by the lack of new acne treatments. Drug companies took the view that the market was too small for the research investment it required, which meant that the only options were ineffective spot treatments with strong chemicals. "It would be like a dentist saying, 'Don't brush all your teeth—just brush the tooth with the cavity,' " says Fields. "It didn't make sense to us as dermatologists."

It's one thing to see a gap in the skin care market as a dermatologist. It's a very different thing to create a product to fill that gap—without quitting your day job—and turn that side project into a household name. What the pair had going for them was their dermatological expertise. "We knew this market, and we knew it better than anyone else," Fields adds. As for the rest, they had to learn the hard way.

The pair dragged everyone they knew with business chops to dinner and tapped Rodan's husband, Amnon, who had earned an M.B.A. from Harvard, for advice. (He is now chairman of the company's board.) Once, the doctors took an aesthetician they knew out for sushi, hoping her experience mixing face masks would translate into insights for their acne formula. When she gave them a blank stare, Fields and Rodan realized that what they actually needed was a cosmetic chemist, and they soon hired one as a consultant.

> ***"Does he think we're this cheesy? We're good girls. We went to Stanford, and we're not going to do infomercials."***

In 1990 the two women signed a five-sentence contract declaring themselves "50-50 partners" in a company created to make an acne treatment. The contract, which now hangs in a cheap frame in Rodan's home office, marked the official beginning of their business partnership, built on an already deep friendship. "We shared the dream," Fields says. "It's not how different we are, it's how alike we are." They worked as a team. When Fields was on bed rest during a difficult pregnancy in 1994, Rodan covered for her, handling all the Proactiv business issues. Thirty-two years after they first met, the doctors remain close, laughing at inside jokes and finishing each other's sentences. They share an office at the Rodan + Fields headquarters in San Francisco and always appear together in photos, often in matching white coats.

The founders had each other but lacked capital. One telling line of their contract: "All expenses over $50.00 must be approved by both parties prior to incurring expense." At times, spending $100 on a prototype would have maxed out their diaper budgets. "It really tells you we were broke," says Fields. "We created these formulas just out of our measly checking accounts."

Armed with a formula, Rodan's friend Judy Roffman, a market researcher, helped them test their product. They watched nervously as a group of strangers tried it for the first time. "This had been our most important lives' work since we graduated," Rodan says. The initial reaction wasn't good. The group complained about the smell and feel of the product. So Rodan and Fields started focusing on the consumer, instead of just the medication, creating a product that felt like a high-end beauty cream but contained the acne formula.

"It was like a rat's maze," Fields says. "We kept turning down dark corners, and there was a lot of failure along the road to this ultimate success." Most of the twists and turns happened in Rodan's kitchen on nights and weekends. "That could've been the name of the company—Katie's Kitchen!" Fields says, laughing. Outside of their circle of friends and advisors, they kept quiet about what they were doing for fear that someone would steal their idea and that their reputations as dermatologists would be hurt.

In 1993 the dermatologists showed up at Neutrogena with plastic baggies of their new acne

It's a Woman's World

How Four Female Entrepreneurs Are Redefining American Business

From left: Emily Ley, Founder, The Simplified Planner; Alice Houston, Owner and President, Houston-Johnson, Inc.; Rachel Wixson, Partner, Cumberland Consulting Group; Patricia Stout, Owner and President, Alamo Travel Group

THE DECISION WAS ALREADY MADE. Patricia Stout was going to be a homemaker. At least that's what everyone kept telling her as she grew up in Mexico City in the 1940s and '50s. She was told she needed to learn how to cook and clean. There was only one problem: Stout didn't want to be a homemaker. "People said, 'She's a little girl, she doesn't need to worry about math,' but I liked those subjects," Stout says.

As a girl, Stout preferred the classroom to the kitchen, and she followed that passion to study business in college. Today she runs the Alamo Travel Group, which was barely breaking even when she took over the company in 1990. Now it is one of the largest privately held travel agencies in San Antonio, Texas, with a high-powered client list that includes major corporations and governmental agencies like the U.S. Department of Defense.

Stout insists she isn't the sort of woman who would gloat or say 'I told you so,' but she doesn't need to. Having joined the growing ranks of self-made businesswomen across the country, her accomplishments do the talking for her. She isn't alone.

Indeed, when it comes to American entrepreneurship, it's not a man's world anymore. Women are opening businesses at a rate nearly four times higher than men, according to a recent study conducted by the National Women's Business Council[1], and pioneering businesswomen like Stout have helped pave the way by refusing to accept limitations and succeeding on their own terms.

Alice Houston, who has owned and operated her logistics and warehousing business since 1994, calls the meteoric rise in female entrepreneurship "a sea change," and one of which she is thrilled to be a part. "There are more women at the table," she says, "and

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The State of Women Business Owners

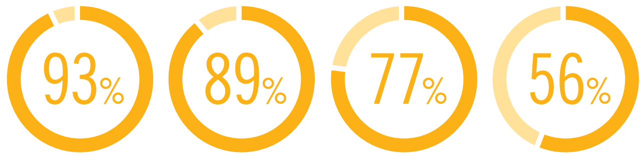
Five-year growth rate for new businesses by gender:[1]

Female owned:
26.8%
Male owned:
6.8%

While today's women are starting businesses at a much higher rate than men, there is still room for growth. Women own less than half of privately held businesses in the U.S.

Women employ **15%** of all people who work for privately held businesses in the U.S. and generate about **12%** of private business revenue.[1]

What's the appeal? The top influential reasons women start businesses:[2]



Opportunity to do something they're passionate about

Ability to be their own boss

Potential for higher earning power

Flexibility to care for their families

Personal financial planning can lead to confidence in future financial success.

80% of women believe that financial success is determined by their own actions.[3]

83% of women who have written a financial plan believe it will help them achieve financial success.[3]

we're collaborating. We're helping each other expand the pie."

At this rate, they might need more pie. While veteran entrepreneurs like Stout and Houston begin to think about transitioning into retirement and passing along the torch of their businesses through thoughtful succession planning, the next generation of businesswomen is ready to make its mark, inspired by those who came before them.

Take Rachel Wixson, a Northwestern Mutual client like Stout and Houston. Six years ago, at the age of 30, Wixson left a corporate job to start a healthcare IT consulting firm called Cipe, one of the first of its kind. It was a terrifying decision, naturally, but after working with her financial advisor, Wixson felt confident in taking the leap. "I've always been diligent about financial planning, and having a strong foundation gave me the confidence to go out on my own," says Wixson, who quickly turned Cipe into a multimillion-dollar business before selling the company to Cumberland Consulting Group, where she is currently a partner.

Emily Ley, another Northwestern Mutual client, followed a corporate career path before leaving to pursue her love for graphic design. With a newborn son at home, she built a stationery business on Etsy that later grew into The Simplified Planner, a day-planner business designed to help other busy women stay organized. "It was slow at first," admits Ley, "but we celebrated every little sale. Just because you start slow doesn't mean it's not going to turn into something incredible."

That is an important lesson to remember, since not every venture is an out-of-the-gate sensation. As it turns out, most female entrepreneurs are upbeat about their businesses. A 2015 survey by the National Association of Women Business Owners and Web.com found that 93% of women are optimistic about their companies' overall performance.[2]

"Be persistent. That's my favorite phrase, not only in business but in learning and developing as well. Always keep walking forward," Stout advises.

Stout will be happy to hear that Wixson and Ley have no intention of slowing down or ever standing still. "Women are doing what they love, whatever sets their heart on fire," says Ley.

"It is such an exciting time," says Wixson. "I'm excited for my daughter. She's going to grow up thinking she can do anything."

And thanks to women like these, she can.

[1] National Women's Business Council Analysis of U.S. Census Bureau 2012 Survey of Business Owners [2] 2015 National Association of Women Business Owners/Web.com State of Women-Owned Businesses Report [3] Northwestern Mututal's 2015 Elements of Success Study

Wrinkle warriors: Rodan and Fields rev up the 10,000 consultants at their 2015 convention.

product, Proactiv, to pitch the giant beauty brand. Nearly a year later, in 1994, Neutrogena president Allan Kurtzman told them that infomercials would be the way to go to market should Neutrogena acquire the brand. They were both horrified. "Does he think we're this cheesy? We're good girls. We went to Stanford, and we're not going to do infomercials," Rodan remembers thinking. Adds Fields: "They were icky."

Soon after, Neutrogena turned them down. "It's over. Those $50 checks we spent are down the drain. Now what are we going to do?" Rodan remembers telling Fields in tears. Adds Fields: "It was our only hope because we're not businesswomen, we're doctors."

But Neutrogena had actually given them something: a "cheesy"—but powerful—marketing plan. Not long after, at a conference, Rodan's mother met an aunt of the cofounder of infomercial company Guthy-Renker. She provided an introduction, and talks began. In 1995 Fields and Rodan licensed their product to Guthy-Renker; they had spent $30,000 of their own funds over five years, taking no outside investment. Guthy-Renker marketed and distributed the product, paying the doctors an estimated 15% in royalties from Proactiv sales. "We gave them our intellectual property and the name Proactiv. We were there as advisors," Fields says. It was the right product at the right time. A 1984 ruling by the Federal Communications Commission eliminated certain regulations on television content, creating a boom in infomercials and enabling the growth of companies like Guthy-Renker.

Proactiv quickly became one of Guthy-Renker's most successful products, responsible for approximately half of the company's sales. The acne treatment brought in a reported $1 billion in sales in 2015, thanks to celebrity endorsements from the likes of Justin Bieber and Vanessa Williams. Guthy-Renker continues to sell the treatment on a subscription basis online and in mall kiosks across the U.S. In March Guthy-Renker entered into a joint venture with Nestlé to expand Proactiv's international sales; as part of the deal, Fields and Rodan sold their remaining rights to Proactiv royalties, getting a lump sum that FORBES estimates to be more than $50 million.

AFTER INKING THE initial Proactiv deal, Fields and Rodan could have gone back to just practicing dermatology. But they continued to heed advice they had received back in residency: "Get a hobby, or you'll be doomed to treating acne and warts." The pair felt driven to solve people's skin care problems. "Our motivation was solely for that need," Fields says. "We didn't dream of a business and an office."

Both Fields and Rodan started noticing that younger and younger people were coming into their offices complaining about wrinkles. Their contract with Guthy-Renker allowed them to make other products as long as they didn't market them on TV, so the pair set their sights on another market: antiaging. They went back to the kitchen at night, mixing chemicals for new products.

In 2002 they launched the Rodan + Fields line, which they sold in department stores. The following year cosmetics giant Estée Lauder bought the brand for an undisclosed sum. But over time it became clear to the doctors that Estée Lauder's priority was its larger legacy brands. Rodan + Fields wasn't getting the marketing push it needed. Frustrated, Fields and Rodan studied direct-selling firms like Nu Skin and tested that format by holding a Rodan + Fields party. A Los Angeles TV station covered the party and interviewed the doctors for a late-night news segment on direct selling. The station was flooded with calls from people wanting to get involved. So the doctors decided to buy back their brand in August 2007. "We knew we had products that worked and changed lives," Fields says. "We were compelled to continue."

Rodan + Fields has had a multilevel marketing structure ever since: Consultants are paid a commission for their own sales and for the sales of people they recruit. But unlike Avon and Mary Kay in their early days, this is multilevel marketing for the digital age; Fields and Rodan like to call it "community commerce." Salespeople don't stock inventory. They work their online social networks to spread the word about Rodan + Fields. Instead of traditional parties, salespeople often hold virtual Facebook events and promote the products over the live-video streaming app Periscope.

Consultants sell lines of pricey antiaging products that address four different problem areas: adult acne, wrinkles, sun damage and sensitive skin. Each regimen retails for $160 to $190 for a two-month supply and comes in a multistep process—including cleanser, toner and skin cream—much like Proactiv. Because Rodan + Fields products are available over the counter, like Proactiv, they don't need approval from the Food & Drug Administration, but the company says it complies with FDA guidelines for over-the-counter products.

While Fields and Rodan own the majority of the company, they don't run it day to day; they leave that task to CEO Diane Dietz. As members of the board, the doctors are free to focus on being the public face of the company and on guiding product creation. They once frustrated everyone at Rodan + Fields by vetoing a product that was close to launch because it didn't meet their standards.

Consumer advocates decry multilevel marketing as one step away from a pyramid scheme. "Multilevel marketing has evolved to this point where it's not illegal, but it's unethical," says marketing expert D. Anthony Miles, pointing out that sellers at the top of teams build their success

Zapping Zits With Star Power

THE DOCTORS TURNED TO INFOMERCIAL FIRM GUTHY-RENKER TO MARKET THE ACNE TREATMENT PROACTIV. IT HAS STRUCK GOLD TAPPING CELEBRITIES AS SPOKESPEOPLE, INCLUDING (CLOCKWISE FROM TOP LEFT) JULIANNE HOUGH, AVRIL LAVIGNE, MANDY MOORE AND KATY PERRY.

on the backs of those at the bottom, who have little chance of achieving the same level of opportunity.

Fields and Rodan try to differentiate themselves from a model that's far ickier than infomercials. They claim their digital focus and emphasis on creating a close-knit consultant community set it apart from other direct-selling companies. They believe they offer the same opportunity to be independent entrepreneurs to a crowd of highly educated women across the country, many of whom have had successful corporate careers and wouldn't normally be attracted to multilevel marketing. Successful consultants revere the doctors and believe that their story of entrepreneurial success legitimizes the business model.

The fact is most consultants aren't making much money. Take Robin Gravlin, 53, of Granite Bay, Calif., who was a consultant from 2009 to 2011. A stay-at-home mom, Gravlin was looking for a part-time job that was worth her while. She says she worked about 20 hours a week and pulled in revenue of about $100 a month. After two years she had lost some $3,000 because of the costs she incurred: marketing materials, traveling and buying samples for promotional events. "They do have good products. Would I recommend someone selling it? No," Gravlin says. "I think there are probably a lot more people who fail than succeed. ... They make it sound easy, but it's definitely not."

There's nothing wrong with joining a business with these odds, as long as you're aware of them. When pushed, Fields and Rodan quickly stress that it's not easy to be a consultant and that very few become wildly successful. In practice, however, those financial realities are often obscured, as consultants market the business opportunities online and in presentations. One popular marketing tactic is a virtual Facebook event, during which consultants post their pitches for Rodan + Fields in the event invitation while attendees refresh the page. In an April event called "Rodan + Fields All In," one slide highlighted Rodan + Fields' purported simplicity: "We wash our face, talk about it, and get paid. That SIMPLE!" Another slide said, "As mentioned, many people are making full-time incomes." Not mentioned: the fact that only 2% of active consultants make the minimum wage or more on an annualized basis.

RODAN + FIELDS ISN'T much different in that regard from other multilevel marketing companies. FORBES studied the income disclosures of 16 others, including AdvoCare and Nu Skin. On average, only the top 3% of consultants got paid more than the minimum wage in annual gross income. At some companies nearly 90% of consultants made nothing at all. The disclosures show that the only way to make a lot of money is to build a huge team in order to earn commissions off the sales of those you recruit.

> ***Rodan + Fields' blistering growth relies on multilevel marketing for the digital age. The founders call it "community commerce."***

Bridget Cavanaugh of Bozeman, Mont. is one of those very rare power sellers. Cavanaugh, a former public relations executive, starting selling Rodan + Fields products in 2009. She says her 5,000-person team includes consultants in every U.S. state and every Canadian province. As a top-level seller Cavanaugh has been qualifying for trips with the doctors to places like Napa Valley, Maui, Paris and Bangkok since 2010, sometimes accompanied by her husband and kids. "This is really a family affair for us," she says, gushing. "To be an entrepreneur every day while my children watch is rewarding beyond belief."

Probably because of the hyperpositive marketing, more and more salespeople are signing up with Rodan + Fields each year. In 2008, after relaunching as a multilevel marketing company, Rodan + Fields had just 1,350 consultants; today it has 150,000.

But this kind of growth isn't that unusual for multilevel marketing companies—until they saturate the market for those willing to enlist in what is almost always a futile effort to make a living.

The one cure for this saturation: international expansion. The mother of multilevel marketing, Amway, is in more than 100 countries: over 90% of its revenue is estimated to come from outside the U.S. And that's what Rodan + Fields is doing now, though it says there's still room to grow at home. The company launched in Canada in February 2015 and says it achieved 300% of its profit forecast for 2015. Australia will be next, in 2017, and after that the company is setting its sights on the giant Asian skin care market.

Sitting side by side, as is their wont, discussing their company's future global expansion, Fields and Rodan clearly have no plans to slow down. In addition to seeing patients, they are both adjunct professors at the Stanford School of Medicine. "We have so much more we need to do," Rodan says. "We're not going to sit on the beach, because it's bad for your skin." F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War of Words

***Liz Elting** founded one of America's leading translation companies with her boyfriend from business school. But nearly 20 years after calling off their engagement, the ex-lovers are waging an ugly battle for control that's landed them in corporate divorce court and may cost them what could be a billion-dollar baby.*

BY KATIA SAVCHUK

FOR SOMEONE WHO has made a fortune trading in words, Liz Elting can be remarkably tight-lipped. But the 50-year-old cofounder of TransPerfect, one of the world's largest translation firms, is acting under lawyers' orders. Her attorneys don't want her saying much about the messy corporate divorce she's been embroiled in with her co-CEO and onetime fiancé, Phil Shawe. Nor do they want reporters at TransPerfect's Park Avenue headquarters, where she shares a floor with Shawe, the day before she's due to face him in a Delaware court over the future of their company.

That's why, on a Tuesday morning in late April, Elting is perched on a leather chair in her all-white living room on Manhattan's Upper East Side. A trim brunette in a navy-blue skirt suit, she has the energy of a slight, skittish bird.

HAN KOZOWYK FOR FORBES
HAIR AND MAKEUP: SUZANA HALLILI FOR TART COSMETICS

"TransPerfect is my brainchild, my baby," she says. "I'd like to own this company and be part of its future."

Elting and Shawe built the company from a dorm-room startup to a global leader with $505 million in sales. But tensions between them flared up five years ago, spilling into legal battles in two states with mortifying episodes of infighting. There was Shawe charging the petite Elting with battery by high heel, his breaking into her office and stealing her confidential e-mails with attorneys, and F-bombs galore. Despite an astonishingly acrimonious relationship, the ex-lovers have thrived as business partners, and out of their dysfunction has grown a company that has, ironically, solved one of the world's biggest problems—how to communicate better.

Elting, who owns half of TransPerfect, has an estimated net worth of $390 million, landing her on FORBES' list of America's Richest Self-Made Women for the second time. But TransPerfect's unbroken two-decade growth streak could all come undone if the two are forced to sell the company in a saga that has careened from bedroom to boardroom to courtroom.

THE IDEA OF TRANSPERFECT was born 24 years ago, after Elting received an M.B.A. at the Stern School of Business at New York University. She had always been a linguaphile. By high school she'd lived in three countries and had studied French, Portuguese, Spanish and Latin. Her parents, a teacher and an advertising executive, urged her to work from age 10. She babysat, delivered newspapers and manned a dry-cleaning shop. At Trinity College, where she majored in modern languages and literature, Elting cleared dining hall trays and worked overnight security.

After graduating in 1987 and jetting to Caracas for a finance internship, Elting joined Euramerica (which later became part of Berlitz), then the best-known translation firm in an industry of mom-and-pop shops. With the personal computing revolution and economic globalization taking off, demand was booming. "It looked to me like they were going to change the world," Elting says.

After three years she thought she could be the one to do that. Clients wanted things done faster, more professionally and in more formats. She envisioned a company with offices around the world and the service level of a top-tier bank or law firm. "I can be a pioneer in this industry," she thought.

Elting enrolled in business school to hone her entrepreneurial skills. In her second year she started dating Shawe, a round-faced 22-year-old with a mop of black hair. He was a year behind her at Stern, and she moved into his dorm room after graduating.

Believing she needed more business

Splitting Headaches

A HEARTFELT GUIDE TO CORPORATE MARRIAGES—AND DIVORCES

Tory and Chris Burch

FOUNDED: Tory Burch (2004)

SPLIT: After the pair raised six children together, the fashion designer filed for divorce in 2006.

HAPPILY EVER AFTER? In 2011 Chris opened C. Wonder, which his ex-wife deemed a Tory Burch copycat, igniting a series of lawsuits the presiding judge called a "drunken WASP fest." Both ended up winners: After he sold his 28% stake in Tory Burch for an estimated $550 million in 2013, each emerged briefly as a billionaire.

Roxanne Quimby and Burt Shavitz

FOUNDED: Burt's Bees (1984)

SPLIT: They met when he picked her up hitchhiking and divorced a decade later, after she discovered his affair with a younger employee.

HAPPILY EVER AFTER? Quimby got the company in exchange for buying Shavitz a home in Maine, where he lived without electricity until he died in 2015. She paid him another $4 million when she sold her stake to a private equity firm in 2003 for $141 million.

Sandy Lerner and Leonard Bosack

FOUNDED: Cisco Systems (1984)

SPLIT: The pair were reportedly separated by the time they were pushed out in 1990 from the company they launched in their living room.

HAPPILY EVER AFTER? The couple stayed close and launched a charitable foundation together to support animal welfare and science education. Lerner also helped found Urban Decay Cosmetics in 1996 and sold it to LVMH four years later.

PMC/SIPA/NEWSCOM; ROBERT F. BUKATY/AP; SILICON VALLEY HISTORICAL ASSOCIATION;

experience, Elting joined the proprietary trading division of a French bank, where she was one of the few women. She quit after six weeks. "I was putting numbers in a spreadsheet, and whenever the phone rang, everyone would yell across the office, 'Liz, phone!' My heart wasn't it in it," she says.

Unemployed at 26, Elting decided she had nothing to lose. In 1992 she took out $5,000 she had saved, got a $5,000 credit card advance and asked Shawe to start a company with her. (Shawe says he ran up $80,000 in credit card debt to fund the business, which Elting disputes.) "I thought it would be nice to do it with a partner. And he was my boyfriend, so that was a factor," she says.

The sweethearts agreed to split the business 50-50 (although Shawe later transferred 1% to his mother, Shirley). They didn't set an exit strategy. With a fax machine, a phone and a rented computer, the couple made and wrote hundreds of calls and letters daily, offering anything businesses needed in a foreign language faster and better than competitors. Their first job was translating a legal document from English to Slovak. From the beginning, Elting and Shawe outsourced the language work to highly specialized freelancers, while putting in 100-hour weeks running the company from Shawe's dorm room.

Their personalities were complementary—he was the risk-taker, she the analytical one. But, as couples do, they also bickered. "Day in and day out, there were all kinds of things we disagreed on," Elting says. "There are times when it's been better than others."

After seven months in business, the pair moved to an office suite. A year later they hired their first employee and reeled in their first million-dollar client, J.C. Penney. By 1996 they had opened TransPerfect's current New York headquarters, along with offices in San Francisco, Atlanta and Washington, D.C.

They also got engaged, but Elting broke it off a year later. Shawe didn't take the split well. At one point, in anger, he even hid under her bed, Elting later told a Delaware court. Elting also testified that he did the same thing several years later when he surprised her in her hotel room in Argentina on a business trip. Elting also claimed Shawe came uninvited (with his mother) to her 1999 wedding in Jamaica to Michael Burlant, a lawyer turned real estate broker whom she had first dated after college (and with whom she now has two teenage children). Shawe didn't deny the actions in court, according to an August 2015 opinion from Delaware Chancery Court Chancellor Andre Bouchard. (Through a spokesman, Shawe told FORBES that he has never crawled under a bed, was not in Argentina at the same time as Elting and was invited to her wedding.)

Despite their breakup, Elting and Shawe kept working together. "The company was like a child," she says. "Neither of us wanted to walk away."

TRANSPERFECT GREW UP FAST. In 1998 the firm hit $10 million in sales and started opening offices abroad. The following year the company launched Translations.com with several million dollars in outside investment to meet demand for software and website translations. Shawe oversaw the digital business while Elting ran TransPerfect until 2004, when they bought out investors and merged the companies. By then revenues were $50 million.

The company went on to open a handful of offices a year and aggressively added services, including litigation support, remote interpreting and general staffing. The firm invested early in digital translation tools that improved efficiency and in high-growth specialties, such as law, finance and life sciences. They created an enticing compensation model for salespeople, with commissions that never sunset.

Christel and Jon DeHaan

FOUNDED: Resort Condominiums International (1974)

SPLIT: She had run the company for eight years by their 1987 divorce, which awarded her half of the timeshare pioneer.

HAPPILY EVER AFTER? After buying out her ex for nearly $68 million, she increased revenues at the company to nearly $480 million before selling it to a division of HFS for $825 million in 1996.

DOLCE AND GABBANA: LUCA BRUNO/AP

Domenico Dolce and Stefano Gabbana

FOUNDED: Dolce & Gabanna (1985)

SPLIT: The fashion designers parted ways romantically in 2005 after 23 years.

HAPPILY EVER AFTER? The exes continue working together at their luxury fashion house. "The truth is, everything is exactly the same," Gabbana has told reporters. "But no sex!"

Recently a key factor driving growth has been TransPerfect's GlobalLink technology, a platform that plugs into the back end of clients' content systems and works with any language-services provider. Ninety percent of growth was organic, but TransPerfect also acquired more than 20 companies, mostly for talent or technology. Eventually it added capabilities in 170 languages through a network of 15,000 freelancers, many of whom are translators. Today it has about 4,000 full-time employees in more than 90 cities.

LIZ ELTING AND PHIL SHAWE never drew up a buy-sell agreement or cemented their roles on paper, and their duties have shifted over the years. Recently she has led the divisions that oversee document translation and interpreting, while he handles website and software localization. Staff in accounting, operations, HR and other "shared services" report to both.

The co-CEOs agreed they didn't want to go public or entertain the calls of private equity firms. "We liked the freedom, being able to focus on the long-term vision and the lack of other decision makers," Elting says.

By 2011 the firm had $300 million in revenues and 2,000 employees around the world. But at the top the relationship was turning ugly. Early in the year Elting got upset with Shawe for what she considered "self-indulgent" expenses, including using corporate frequent-flier miles for a plane ticket for his fiancée, according to the Delaware opinion. "Your priorities are all wrong now, and we're not meant to be business partners," she wrote in an e-mail. "[Let me know] how much you want to buy me out for—I'd like to make this amicable."

Instead, what ensued was a series of events that Bouchard, the Delaware court chancellor, called "temper tantrums" over hires, new offices and management strategies. In early 2012 Elting poured a bottle of water on Shawe when he wouldn't leave her office, according to an affidavit from CFO Steve Tondera in a separate dispute. (Elting says the account "is not accurate.") When Elting questioned whether a new office in France made sense, Shawe responded via e-mail: "Relent…or I will dismantle this place starting today."

By late 2012 Elting and Shawe were

Shawe's ploys reached new heights when Elting boarded a red-eye to Paris and discovered he was sitting across the aisle.

fighting almost daily. Bouchard's opinion details a litany of bad behavior: Each started holding up approvals for matters such as raises, profit distributions and acquisitions unless their own proposals got a green light. Shawe especially bristled at "dual approvals," which he claimed was a new policy Elting instated in December 2012, requiring both to sign off on routine decisions. "I will simply create constant pain until we go back to the old way of doing things," he wrote in an e-mail to a senior executive. After Shawe held a meeting of top managers on a date Elting couldn't make, she announced a blanket freeze on acquisitions.

Things got even nastier after Shawe learned that Elting had lawyered up. He started intercepting her mail and tracking her phone calls. On New Year's Eve 2013 he broke into Elting's locked office and mirrored her hard drive, then accessed her computer remotely at least 20 times. This allowed him to capture 19,000 of Elting's personal e-mails, including 12,000 privileged communications with her attorneys. In 2014 Shawe co-opted the firm's outside counsel to represent him personally, unilaterally hired at least ten employees for shared divisions by falsifying records and put through raises without Elting's approval, the court opinion said.

By early 2014 Shawe had had enough. He offered Elting $150 million for her stake in the company, she testified, $100 million of which would be in cash; Elting responded with a $300 million all-cash offer, with a letter from Goldman Sachs saying it was "highly interested" in financing the deal. Neither bit.

In May 2014 the drama finally reached the courtroom. Elting sued Shawe in New York State Supreme Court, seeking to remove him as director, and in Chancery Court in Delaware, where TransPerfect's parent company is incorporated, asking to have the company dissolved and a custodian appointed. Shawe sued Elting in Delaware for waste, breach of fiduciary duty, unjust enrichment and other claims.

But the personal drama continued. In June of that year, Shawe came to Elting's office to confront her about a tax distribution he said was unauthorized. He refused to leave and blocked the door with his shoe, so she "tried to move it with [my] foot," Elting wrote to colleagues the next day. Shawe filed a police report about a "domestic" assault, but her lawyers intervened to prevent her arrest; no charges were filed, and the case was later closed. He then filed a civil suit, accusing her of assault and battery by shoving him and kicking him twice on the leg with "dress shoes that were pointed at the toe."

"It's heartbreaking and surreal.

[Shawe's] retaliating big time because I had to pursue legal action and I want out," Elting wrote to a friend. (In court she claimed that she wanted only to break off the relationship with Shawe, not get out of the company.) Elting called his accusations "a work of pure fiction" in a July 2014 affidavit, and she has countersued for defamation and assault. (The case remains open.)

In August 2014 a New York State Supreme Court judge ruled against Elting, declining to remove Shawe as director because he didn't see material harm. "It is not clear who drew first blood," the judge wrote. The following month Shawe issued a company press release without Elting's approval, dubbing her a "minority shareholder," calling the ruling a "major victory" and falsely quoting her as "extremely pleased." (Bouchard eventually issued a temporary restraining order preventing Shawe from speaking for TransPerfect without Elting's consent.)

In December 2014 Shawe's ploys reached new heights. Elting boarded a red-eye to Paris—and discovered Shawe sitting across the aisle. He claimed to be surprised but in court admitted it was no accident after it emerged that he had texted colleagues: "Was next to Liz on the plane to Paris and she switched seats ;)." In his opinion, Bouchard noted that "the smiley-face emoticon at the end of his text message suggests he was amused by yet another opportunity to harass Elting."

In March 2015 the court appointed corporate attorney Robert Pincus to mediate. Shawe made new offers of up to $280 million for Elting's stake, and a group led by four senior managers bid $170 million for half of the company, but talks failed. Five months later, citing "irretrievable deadlocks" and "complete and utter dysfunction," Bouchard made a decision that was unusual for a growing enterprise: He ordered Pincus to oversee a sale that would keep the company intact and maximize value for shareholders. He deemed it unfair to leave Elting with no choice but to sell her stake since Shawe's actions made it less likely that an outsider would pay a fair price: "What rational person would want to step into Elting's shoes to partner with someone willing to 'cause constant pain' and 'go the distance' to get his way?" Bouchard wrote in his decision, which also dismissed Shawe's claims against Elting.

Shawe disagrees with the Delaware court's conclusion that their disputes were irreparable. "We're just passionate people, and this is the way we make decisions all the time. Nothing changed at the company—the deadlock and dysfunction are manufactured," he says. "It's basically a government takeover." Former New York mayor Rudy Giuliani, an ex-U.S. Attorney, seemed to agree when he recently weighed in on the TransPerfect saga, telling a local paper that the decision was "a very intrusive ruling in terms of the free market."

> ***"What rational person would want to step into Elting's shoes to partner with someone willing to 'cause constant pain'?"***

IN LATE APRIL the courtroom scene in Wilmington, Del. felt like a grim version of the wedding Elting and Shawe never had. Each side filled the rows with more than a dozen lawyers, with Shawe's mother, a polished blonde who looks like Faye Dunaway, in the front. Shawe wore a gray pinstripe suit and baby-blue tie; Elting wore black. Her lawyers spent the first half of the day arguing that Shawe should pay all her attorney fees because of his behavior during trial, including deleting files from his computer after a discovery order, having his phone thrown out after a curious incident involving a Coke and a rat, and lying in "every known form of testimony." ("Liz's lawyers often take things out of context and twist them for their own purposes," Shawe's attorney Martin Russo said of the perjury allegation.) At the hearing, Shawe's lawyers claimed he'd deleted files to protect personal information and backed them up, and that no relevant evidence was lost.

After lunch Jennifer Voss, the attorney for mediator Robert Pincus, laid out his plan for selling the company: a modified auction allowing bids from both the owners and third parties. To avoid conflicts of interest, Pincus offered to take charge of the sale side. He wanted broad discretion to determine who could bid, which advisors to retain and, most controversially, whether to impose noncompete agreements. Pincus, who has a square jaw and perennial smirk, sat behind Elting.

John Hardiman, one of Shawe's attorneys, repeated claims that Shawe had made elsewhere: "Ms. Elting, it appears, would prefer to sell ... [for] a headline price." He went on: "Mr. Shawe has been more active in managing this business and keeping this employment team together than Ms. Elting has." She rolled her eyes.

Bouchard closed with a reflection. "Most of these cases settle because at some point most businesspeople get rational," he said. "I'd hope that you have one more productive exercise at trying to reach an acceptable resolution. I realize there's less than a 0.01% chance that'll happen."

Yet Shawe says he took those comments to heart. A week after the hearing he offered Elting $300 million for her stake in the company. "I never wanted to be a buyer or seller of this business—I just wanted to keep running it and running it well," he says. "Settlement is always better than a government-imposed solution."

Elting says she's not interested: "I've let the custodian know that I would pay more."

She insists she's not looking to cash in and get out, despite asking to be bought out in the past. She says she will bid for Shawe's stake, likely with backing from a private equity firm, and notes that she has outbid him in the past. "I've always wanted to stay and own this company, but I wouldn't be a rational person if I didn't look at being both a buyer and a seller," she says. "I'd love to own this company and take it to the next level."

As for her contributions to TransPerfect, at trial Elting pointed out that divisions she oversaw grew by $55 million in 2014, while Shawe's grew by $14 million, and that hers were more profitable. Russo counters that Shawe oversaw some major projects in Elting's division that year.

If Elting gains sole control of TransPerfect, she could face steep challenges. Several senior managers told FORBES they adamantly oppose her taking over the company. According to the Delaware opinion, Elting wants to terminate four top executives because they followed only Shawe's orders. More than 100 employees, many of whom reported to Shawe, also signed affidavits supporting him in Elting's New York suit (CTO Mark Hagerty called him TransPerfect's "Steve Jobs"). Numerous employees testified on Shawe's behalf in the Delaware suit, and 610 signed a letter to Bouchard opposing a forced sale and management change. Several managers have said they thought the conflict was already hurting morale and causing employees to jump ship, according to court records.

"The clear leader for me is Phil," says Martha Geller, vice president of strategic accounts at TransPerfect's digital business, who reports to Shawe and was Elting's supervisor at Euramerica. "It's sort of who deserves to be more of a parent: the one that nurtured you and bandaged your knee, or the biological one? I don't see her participation as much."

Kyle Osborne, who was vice president of sales at TransPerfect's legal division from 2004 to 2012 and reported to both cofounders, disagrees. "Liz was definitely as big a part of the company as he was, and she had to give her blessing for everything," he says.

Elting claims that employees haven't sung her praises publicly because she's tried to keep them out of the conflict. "The company will be in a great place if I own it, and I'm not worried about any valuable employees leaving." Shawe denies lobbying employees to align with him. (Bouchard wrote in his opinion that at least two senior managers "expressed seemingly genuine concern" that Shawe would impose monetary fines on them if they brought up the fact that the conflict posed a problem for the business.) Some employees believe Shawe may be more familiar to the staff because he has a more outgoing management style and spends much more time traveling to various offices.

Even though it's not unusual in any company sale, multiple high-level departures could put off outside bidders. "That would definitely be a deal-breaker for us," says Andrew Brode, executive chairman of U.K.-based RWS Group, one of TransPerfect's main competitors. He says RWS Group would "look closely" at bidding for TransPerfect if the standout profits it reports—Ebitda near $80 million in 2015—hold up when audited financials appear later this year.

IF IT WENT TO AUCTION, TransPerfect could bring between $800 million and $1.2 billion, based on court testimony from financial experts. Martin Russo, Shawe's lawyer, calls that range "rosy and high," but Don DePalma, who tracks the translation industry for Common Sense Advisory, believes it's realistic. "We could end up with a barbarians-at-the-gate scenario, with things being bet up enormously," he says.

DePalma says private equity firms and other investors have increasingly salivated over the translation industry, which he estimates is worth $38 billion and will grow to $50 billion by 2019. TransPerfect is an attractive buy—no debt, plenty of cash and 11,000 clients, including Google, Merck and Wal-Mart. It has increased revenues at an average of 22% annually in the past decade despite recession, litigation and no acquisitions since 2013. (By comparison, Lionbridge, the only language-services provider bigger than TransPerfect, grew an average of 11% a year over that same period.) If the trend continues, TransPerfect will cross the $1 billion revenue mark by 2019 and eventually become the industry's biggest player.

"I have a level of disbelief," DePalma says of TransPerfect's recent performance. "The market has given them a pass."

Not completely. Major clients, including Bank of America, Procter & Gamble and Shell Oil, have expressed concerns, and Lionbridge solicited TransPerfect's clients, according to the Delaware opinion. Elting has claimed Johnson & Johnson declined to increase its business with TransPerfect because of the feud. (Russo disputes this.)

Many clients seem unfazed by the turmoil. As Rocio Haskell, a multicultural marketing manager for Dentegra, a dental insurance company that has worked with TransPerfect for three years, notes, "What happens at the senior level didn't affect the service I received or my day-to-day working relationship with my account manager."

Meanwhile, business goes on. Weeks before the April hearing, Elting and Shawe shared a stage in Barcelona handing out awards to top TransPerfect employees. They attend many of the same meetings with managers. Lately, with Pincus acting as a third director, things have actually been fairly civil. "We're not out there bowling," Shawe says.

If Bouchard finalizes his forced-sale ruling or imposes substantial sanctions against Shawe in June, he says he will likely appeal, a process that could extend through the end of the year. If an auction proceeds, Shawe says he'll make an offer.

Whatever the outcome, Elting prefers it to the uncivil war. "It's time for a change," she says, sounding like a weary parent. "Our child has grown up." F

Fashionista Moneyball

Stitch Fix CEO Katrina Lake has turned her startup into a profitable $250 million retail disruptor by layering big data on high style.

BY RYAN MAC

KATRINA LAKE STRAINS while rocking back and forth, heel to toe, in the middle of a professional football stadium. It's a Monday night in Santa Clara, Calif., and the CEO of the high-flying online retailer Stitch Fix stares up at a seven-story screen projecting a Godzilla-size image of Beyoncé. The singer is performing a mere 50 yards in front of her field-level seats, but at 5 foot 5 in heels, Lake can't see much on the stage and, instead, holds her iPhone high above her head with the hope of capturing the diva in all her glory.

After shooting shaky smartphone concert footage for 15 seconds, Lake relaxes her posture, drops her arms and shimmies her shoulders, dancing a bit more conservatively than many of the 45,000 others in the "Beyhive." It's been a hectic week that included stops in Chicago and New York, ahead of a flight to Las Vegas the next morning—and she's five months pregnant.

"Who run the world? Girls," Beyoncé sings. "Who run this motha? Girls." For one of the too few woman CEOs in Silicon Valley, it rings true. Stitch Fix markets itself to busy working women—and Lake walks the walk. In less than six years her San Francisco-based startup has developed a service that shops for women,

JAMEL TOPPIN FOR FORBES

matching clients with boutique-brand clothes, shoes and accessories on recommendations powered by a combination of data science and human stylists. For a woman with little time to shop, Stitch Fix can find that blazer for her job interview or that blouse for a first date. Customers pay a $20 "styling fee" to receive a box of five personally curated items either on demand or by subscription at regular intervals. They try on the clothes at home, keep what they want and return what they don't. Clients pay the full retail price of any clothes they hold on to, less the $20 fee, which is applied as a credit.

"The concept has always been personalization," says the 33-year-old Lake. "There are millions and millions of products out there. You can look at eBay and Amazon. You can look at every product on the planet, but trying to figure out which one is best for you is really the challenge."

Online personal shopping has become a highly valuable and rapidly growing business proposition. FORBES estimates that Stitch Fix brought in $250 million of revenue in 2015; that number is predicted to jump by 50% this year. To accommodate this scale, Stitch Fix has nearly tripled its head count over the past two years and now has 2,800 mostly part-time stylists, many working from home, and more than 1,000 warehouse workers across five locations. This isn't heedless growth. While the private company keeps its finances close to the vest, two insiders say it's profitable. They also point to the fact that in its lifetime Stitch Fix has raised less than $50 million in an industry where fellow startups have burned through hundreds of millions on poor inventory decisions and unsustainable promotions. (In Stitch Fix's field, former unicorns Fab and Gilt Groupe fell into this trap.)

With the company presumably cash-flow-positive, Lake is in a position to expand it organically. And not take any more dilution. Her last round of funding—more than $25 million in mid-2014 from Benchmark, Lightspeed Venture Partners and Baseline Ventures—valued the company at around $300 million, according to VC Experts. At least one investor has already marked that up to $730 million. Depending on which valuation you accept, Lake is worth between $50 million and $120 million, making her an up-and-comer poised to crack FORBES' list of richest self-made women.

Lake tries to shrug off the wealth she's creating, perhaps because she's seen other meteors crash to Earth after missing the basics of her field. "There are a lot of people who have thought of themselves as a tech company or thought of themselves as an e-commerce company and thought they were different from a traditional retailer," Lake says. "Many people at Stitch Fix came from retail, and many people at Stitch Fix know what drives a great retail business."

That declaration comes with a caveat: "There are some things from a traditional retailer you can throw out the window," she says. As stalwarts like Nordstrom and Gap continue to lay off employees and shutter stores in the face of increased competition from online players, Stitch Fix, whose name refers to the supposedly addictive quality of its deliveries, may now be a double entendre. If you are to believe Lake, fashion retail is broken, and the fix lies in data science.

STITCH FIX'S OFFICE in San Francisco's Financial District is only a five-minute walk from Union Square, the city's shopping hub. There, retailers

Women to Watch

HERE THEY COME. LAKE AND THESE SEVEN OTHER UP-AND-COMERS HAVE BOLDLY BROKEN RULES AND UPENDED INDUSTRIES ON THEIR WAY TO FAME AND FORTUNE. AND THEY ARE JUST GETTING STARTED. EXPECT TO SEE THEM IN OUR SELF-MADE WOMEN RANKS IN THE YEARS TO COME.

SIMPSON

Jessica Simpson

$170 MILLION
AGE: **35**
RESIDENCE: **LOS ANGELES**

Former teen pop singer turned reality TV star, Simpson reinvented herself in 2005 with the launch of the Jessica Simpson Collection, her range of midpriced clothes, shoes and accessories sold at Macy's, Dillard's and the like. Last year she sold a 62.5% stake in the now $1 billion (annual retail sales) licensing business for $120 million. She chalks up her brand's appeal to her relatable image: "I have been every size on the planet. ... I understand Middle America and their mind-set."

Serena Williams

$150 MILLION
AGE: **34** RESIDENCE: **PALM BEACH GARDENS, FLA.**

During her two-decade tennis career, Williams has earned $76.5 million in prize money, twice as much as any other female athlete. She's banked more than twice as much off the court from appearance fees and endorsements with brands like Nike, Wilson, Gatorade, Chase and IBM. Williams also has equity deals with the Home Shopping Network and Mission Athletecare, and a small stake in the NFL's Miami Dolphins.

like Banana Republic and Macy's see hundreds of customers walk through their doors each day and never learn much about them. Without sales associates to interact with customers, those businesses won't know a person's pants size, her purchase history or what she's looking to buy. "Let's say out of every 100 customers that come in, 25 buy something," says Marka Hansen, the former president of Gap North America, who sits on Stitch Fix's board. "So 75 had intent to buy, but we don't have any idea why we didn't satisfy them."

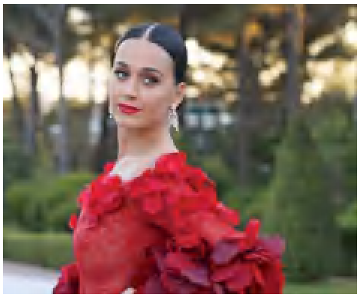
In contrast, Stitch Fix knows that anyone paying the $20 styling fee wants to buy something and is willing to fork over personal data to ensure that her experience is as good as possible. She happily gives her weight, bra size and a link to her Pinterest profile, all part of the more than 50 pieces of information the startup collects from its users. For any given item from the more than 200 brands it carries, Stitch Fix logs 100 to 150 data points, ranging from sleeve length to color.

That's all necessary, Lake says, because the client is relying completely on Stitch Fix. According to her, at Amazon 35% of purchases are driven by recommendations while 50% of LinkedIn connections are made through suggested matches. Lake stresses: "One hundred percent of things that are bought on Stitch Fix are recommended." Even returns are treated as valuable data points, with Stitch Fix's stylists absorbing the negative feedback in a customer's comments to better calibrate the customer's style or an item's description.

With a team of 80 data scientists—among them astrophysicists and computational neurologists (with 49 Ph.D.s)—Stitch Fix believes that computers, with the help of humans, can pick your clothes better than you can. The company's algorithms use a customer's data to predict how likely she is to keep a given item based on parameters that range from the woman's style to her occupation to her Zip code (which is used to predict weather). A stylist then reviews the information, ultimately picking out five items to include in a customer's "fix." Gone are the days when a woman has to try on 20 pairs of jeans to find one that she likes, and Stitch Fix believes that if it keeps getting it right, customers will keep coming back.

"It's about the experience and relevancy, the 'Huh—they get me,

WILLIAMS



PERRY

KADAKIA

HERRIN

FLEISS AND HYMAN

Jessica Herrin

$135 MILLION
AGE: **43** RESIDENCE: **HILLSBOROUGH, CALIF.**

Herrin dropped out of Stanford business school at age 24 to found a wedding-gift registry site, which later merged with WeddingChannel.com. She then started Stella & Dot, which now sells $300 million a year in trendy jewelry through direct sales. The firm says it has paid some $300 million in commissions to more than 50,000 jewelry "stylists."

Katy Perry

$125 MILLION
AGE: **31**
RESIDENCE: **LOS ANGELES**

First put on the map by her surprise hit "I Kissed a Girl" in 2008, Perry has pulled in more than $350 million pretax in the past seven years. From June 2014 to June 2015, she earned $135 million, playing 124 concerts in 27 countries. Up next: a film career? Perry made a cameo in this year's Ben Stiller flick *Zoolander 2*.

Jennifer Fleiss

$80 MILLION
AGE: **32**
RESIDENCE: **NEW YORK CITY**

Jennifer Hyman

$80 MILLION
AGE: **35**
RESIDENCE: **NEW YORK CITY**

Harvard Business School grads cofounded Rent the Runway in 2009. This year it's set to cross $100 million in revenues thanks to its new Unlimited subscription. Members can rent as many of its 100,000-plus pieces of clothing, bags and jewelry as they want for just under $1,700 a year. The startup is also now the nation's biggest dry cleaner, with a 160,000-square-foot facility. Hyman is CEO, and Fleiss heads up business development. The firm was valued at $600 million in 2014; each owns 13%.

Payal Kadakia

$50 MILLION
AGE: **33**
RESIDENCE: **NEW YORK CITY**

Classically trained Indian dancer and MIT grad wasted hours searching online for the right New York City dance class in 2010 and realized she had an idea for a startup. The original company folded, but ClassPass, a monthly membership service that gives subscribers access to a wide range of fitness classes for a flat rate, is growing quickly across the U.S. and overseas and has estimated sales of $60 million. In November 2015 ClassPass raised $30 million in a deal that valued the business at some $400 million.

ALO CEBALLOS/GC IMAGES; ALBERTO E. RODRIGUEZ/GETTY IMAGES; TIFFANY ROSE/GETTY IMAGES; ANDREAS RENTZ/GETTY IMAGES; JAMEL TOPPIN; VIVIEN KILLILEA/GETTY IMAGES and I keep keeping things they send me,'" says Eric Colson, the former vice president of data science at Netflix, who holds a very data-driven C-suite title at Stitch Fix: chief algorithms officer. "The clothes are not exclusive. We don't price them better than anyone else. We don't do fast shipping. We've just got to be more relevant."

GROWING UP IN San Francisco, Lake was "never the kid with the lemonade stand." Her parents, a teacher of Japanese and a public-university doctor, own a city property on which she says they haven't raised the rent since 1997. "They're not supercapitalists, so I never really imagined myself as a businessperson."

Lake was admittedly not a good student entering high school. As her teen years took hold in the late 1990s, she snuck out of her house to visit the burgeoning, and often illegal, Bay Area warehouse rave scene. Those nightlife rituals—and her falling grades—terrified her parents, who decided to move their three kids to Minneapolis, in part to reverse the trajectory of their eldest child. At 15 Lake found herself in a new town with no friends and no semblance of her old life.

"On the first day of school I wore a black camisole and these huge green cargo pants that tucked into these black Skechers boots and a bunch of neon raver beads," she remembers. "If there was an implicit uniform, this probably wasn't part of it."

Seeing that college was her only way back to the West Coast, Lake hit the books. In 2001 she got into Stanford, intending to become a doctor like her father, but she lost interest and wound up at a consultancy, the Parthenon Group, where she advised restaurants and retailers such as IHOP and Kohl's. There she saw firsthand how brick-and-mortar businesses lacked or were unable to use data to understand their customers. She decided to go to business school, hoping to use this insight to upend the retail status quo.

"Male programmers and engineers have brought technology to poker, Little League baseball and price comparison shopping engines for electronics, but with historically fewer women having technical backgrounds, traditionally 'female' spaces and hobbies have benefited less from technology," she wrote in an application essay. "My goal is to be CEO of a retail company and lead the industry in technology and innovation."

While at Harvard Business School, Lake came up with a few business concepts to pursue after graduation, including a flash sales site for hunters and fishers she researched by driving across New Hampshire. ("The guys there were like, 'Who is this girl from California who doesn't know anything about this category?'" she recalls.)

With a team of 80 data scientists, Stitch Fix believes that computers, with the help of stylists, can pick your clothes better than you can.

The idea for Stitch Fix emerged when Lake began thinking about the bad shopping experiences she was having. Around that same time, Chicago-based Trunk Club had raised funding for an online service that connected men to personal stylists, with the idea that men hated to shop but still wanted to look good. The service sent customers handpicked clothes, and they kept what they liked and returned what they didn't. There was nothing really like it for women.

Still at business school, Lake joined Erin Morrison Flynn (the wife of an old Stanford classmate and a former merchant at J. Crew who worked with its famous CEO, Mickey Drexler) to create what was initially known as Rack Habit. They signed up friends of friends in the Boston area, gathered their style preferences using online survey forms and logged basic style profiles in an Excel spreadsheet. The pair also visited boutiques to buy inventory, constantly maxing out Lake's $6,000-limit credit card for skirts, blouses and other items that were delivered to customers in boxes. Buying goods at full retail, Rack Habit made no money, but its quick traction was validation. After raising $750,000 in seed funding in 2011 from Baseline Venture's Steve Anderson—who had been actively combing his network for the "Trunk Club for women"—the company moved west and changed its name.

By the next year Stitch Fix was rapidly outgrowing its office on San Francisco's Market Street, which was soon overrun with inventory. With the funding, Lake was able to hire Walmart.com COO Mike Smith, who had been looking to join a bare-bones startup, and later Colson, who had been mentored by Netflix CEO Reed Hastings. Results, however, weren't always up and to the right. Seeking another round of funding, Lake was rebuffed by some 20 venture firms, including Valley stalwarts Andreessen Horowitz, Sequoia Capital and Accel Partners. Some couldn't get past her lack of technical background or coding ability, despite her analytical mind and willingness to work with data. Other decisions likely came down to the "implicit biases" of an industry where "94% of VCs are male," Lake says. "As men are deciding what companies to get passionate about, the deck is a little stacked against you when you're in a business that caters to women." With the company eight weeks from not making payroll, Anderson bankrolled the business again, leading a $2 million bridge round of financing that kept it afloat.

Internally all was not calm either. In late 2012 Lake allegedly forced Morrison out of the company after a dispute over her compensation and ownership stake. Morrison sued Lake and Stitch Fix, alleging that her co-founder was attempting to take her shares away to distribute to new hires. Lake denied this, and the lawsuit was settled for undisclosed terms in February 2014. (Both parties declined to comment to FORBES about the lawsuit.)

By early 2013 Lake was on her own, and Stitch Fix was on its way to shipping its 100,000th fix. The performance caught the attention of Benchmark's Bill Gurley, who noticed that his assistant, Amie Fineberg, was spending all her discretionary income on Uber and an unknown personal styling service. Curious, he asked for a meeting with Lake, who stunned him by presenting an Excel spreadsheet with a three-year forward cash flow and income statement. "That's never happened in the history of my venture career," says Gurley, an Uber investor who says his decision to invest in Stitch Fix was his fastest ever. He spent the next eight months lobbying Lake, who didn't need money right then, to let him invest. He adds: "I think of it as the moneyballing of women's fashion."

PAMELA RADGOWSKI, a 34-year-old former p.r. executive who "hates shopping" and has spent more than $500 at Stitch Fix over the past 18 months, falls right into the company's sweet spot. Its core customer is a woman between 25 and 45, comfortable at prices of $55 and up.

"I'm not a bargain shopper. If I like it, I'm just going to buy it, because my time is worth that," she says. "There's also the element of surprise and the fact that you may get something you wouldn't pick out at a store."

Lake says there are a lot of Radgowskis out there: She estimates the company's potential market represents a $40 billion chunk of the annual $371 billion (sales) U.S. footware and apparel market, according to Kantar Retail.

Skeptics doubt Stitch Fix will get anywhere close. Forrester analyst Sucharita Mulpuru places the company in the category of subscription-box services like Birchbox. In a 2015 Forrester survey that polled 4,667 shoppers in the U.S., only 3% had signed up for a subscription program for clothing, shoes or accessories. Some 59% indicated they were not interested at all.

"We know that subscription services have a significant amount of churn," Mulpuru says, noting that often it's heavy discounts or marketing promotions that attract new customers. "People will try something because they're intrigued ... but then realize, 'This isn't something I need on a regular basis.' Then they either opt out entirely or put the account on hold."

Tiffany Hogan, an analyst at Kantar Retail, adds that there's a "natural ceiling" to the business. "The idea of personalization is hard to mass-produce," she says.

Points taken. For all her data and algorithms, Lake refuses to share customer numbers, other than vague references to "millions of fixes" that have been shipped across the country. Tellingly, she does talk about how much they can wring out of current customers, 39% of whom, she says, spend more than half their annual apparel budget at Stitch Fix.

This indeed is a key number. With a ceiling on new customers lower than Lake would care to admit (Stitch Fix has recently turned to paid channels to supplement its organic signups), she needs to get current ones to keep coming back. Customers can help by making requests, for instance, for an outfit for a cocktail party. About 80% of people who order one box order a second within 90 days. (The company won't say how many come back for a third.) Lake also must ensure they like what Stitch Fix sends them. To turn a profit, the company needs customers to keep at least two of the five items in each shipment.

One challenge she's turning to her advantage is managing inventory while selling so many disparate pieces. Whereas a traditional retailer has to largely guess how many pairs of jeans it'll sell at the start of a season and place an order, Stitch Fix can be more reactive, limiting inventory risk. The algorithms help in that regard. Stitch Fix, for instance, can make predictions based on how many customers are purchasing pants and tell manufacturers to produce particular styles, colors or patterns when ordering.

The company is also building up its private labels, with six lines that deal primarily with basic goods like a pencil skirt or fitted cardigan that tend to be ordered by large swaths of its customer base. That, too, is being fed by data. Lake says that the data science is so strong that Colson's team can create mockup designs for items they think will do well but are not on the market.

Stitch Fix also plans to unveil a service for men, taking on its spiritual brother, Trunk Club, now owned by Nordstrom, which entered the women's category earlier this year. (By FORBES' count, there are now more than a half-dozen personal styling companies.)

With so much going on, Lake's been on call nonstop, though that will change when she has her baby in September. She plans to take advantage of the company's 16-week maternity leave policy, entrusting most of the day-to-day operations to former Sephora chief marketing officer Julie Bornstein, now the chief operating officer (the company is 70% women, and its executive team is majority female as well).

Lake waited until early May to tell her employees she was pregnant (with a boy). She treated it as business as usual, burying the details in the regular companywide Friday e-mail.

One of the first to know outside Lake's family? Her Stitch Fix stylist. She needed something more fitting for that baby bump. F

1. Diane Hendricks

$4.9 BILLION ▲
AGE: **69** RESIDENCE: **AFTON, WIS.**

"We brought distribution to the nation, to every roofer out there—not just the big guy but the little guy, the guys in between, the girls in between," Hendricks says of ABC Supply, the roofing company she cofounded with her husband, Kenneth, in 1982. The distributor grew rapidly, fueled by a string of acquisitions. When Ken died in 2007, Diane soldiered on and rejected offers of buyouts, weathering the storm of the financial crisis before buying rival Bradco Supply in 2010. Sales more than doubled in the past decade to nearly $6 billion in 2015. With over 600 stores and 9,600 employees, the company, based in Beloit, Wis., is aiming to increase sales by up to another billion this year. The daughter of dairy farmers, she still goes to the office every day ("All my friends work here") and is an ardent supporter of blue-collar causes, such as technical education for high school students.

JAMEL TOPPIN FOR FORBES

America's Richest Self-Made Women

THESE 60 TRAILBLAZERS HAVE CRASHED CEILINGS THROUGH INVENTION AND INNOVATION. OUR DEFINITIVE TALLY OF THE WEALTHIEST SELF-MADE WOMEN INCLUDES 13 NEW FACES—AND A SHAKE-UP IN THE RANKS: LAST YEAR'S NO. 1, ELIZABETH HOLMES, MISSES THE CUT.

2. Oprah Winfrey

$3.1 BILLION ▲
AGE: **62** RESIDENCE: **MONTECITO, CALIF.**

Winfrey's magic has rubbed off on Weight Watchers. Since the media mogul bought a 10% stake in the diet empire in October 2015, its stock is up some 90%. The long-reigning queen of daytime TV has also proven she can thrive without a talk show. Her cable network, OWN, delivered its most-watched year in 2015, following four years of double-digit viewership growth, according to Nielsen. Next up: miniseries *Queen Sugar*, coproduced with *Selma* collaborator Ava DuVernay, and TV drama *Greenleaf*, about a Tennessee megachurch.

5. Johnelle Hunt

$2.3 BILLION ▼
AGE: **84** RESIDENCE: **FAYETTEVILLE, ARK.**

Hunt and her high school sweetheart, J.B. (d. 2006), sold their home to kickstart a rice-hull packaging business in 1961; eight years later the Hunts bought five used trucks and seven trailers. Today J.B. Hunt Transport Services boasts $6.2 billion in sales and employs nearly 16,000 drivers.

3. Doris Fisher

$2.4 BILLION ▼
AGE: **84** RESIDENCE:
SAN FRANCISCO

Iconic retailer Gap ($16 billion net sales) might have been called "Pants and Discs" if not for Fisher. She and husband Donald (d. 2009) settled on that name until she came up with "Gap"—shorthand for "generation gap." She was its merchandiser until 2003 and a board member until 2009. She stills owns about 8% of Gap Inc., plus a valuable art collection.

ILLUSTRATIONS BY FILIP PERAIC FOR FORBES

3. Judy Faulkner

$2.4 BILLION ▼
AGE: **72** RESIDENCE: **MADISON, WIS.**

Computer programmer founded Epic Systems in Wisconsin in 1979. She remains CEO of the $2 billion (2015 sales) company, whose software stores medical information for more than half of the U.S. population; doctors exchange over one million Epic patient records daily. Among its customers are some of the nation's biggest medical centers, including Mayo Clinic and Johns Hopkins. This fall Epic plans to provide patients with the ability to access their medical information from multiple health care providers on a single page.

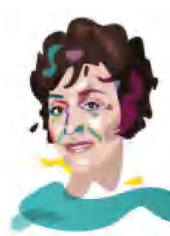
6. Marian Ilitch

$2.1 BILLION ▼
AGE: **83** RESIDENCE: **BINGHAM FARMS, MICH.**

She and her husband, Mike, opened their first Little Caesars pizza restaurant outside Detroit in 1959. He was the marketing guy; she had the financial sense, famously stopping him from giving away free meals in the beginning. Today Little Caesars is one of the nation's largest pizza chains, with estimated 2015 revenues of $4.2 billion. Together they also own the NHL's Detroit Red Wings. She also owns Detroit's MotorCity Casino.

8. Lynda Resnick

$2 BILLION ▶
AGE: **72** RESIDENCE: **BEVERLY HILLS**



Co-owns thousands of acres of almond, pistachio, orange and pomegranate orchards in California, Texas and Mexico with husband Stewart. The two also run Fiji Water and POM Wonderful pomegranate juice. Lynda, who once owned her own ad agency, is the marketing mastermind while Stewart is the numbers chief. Marketing, at least in one case, went too far: In May the Supreme Court rejected the Resnicks' appeal to review a case upholding an FTC ruling that some ads touting POM Wonderful's health benefits were misleading.

WEALTH STATUS: **UP ▲ DOWN ▼ UNCHANGED ▶ NEW ★**

9. Jin Sook Chang

$1.9 BILLION ▼
AGE: **53** RESIDENCE: **BEVERLY HILLS**

Chief merchandising officer of $4.4 billion (sales) Forever 21 appears to be experiencing some setbacks. After years of growth and ambitious expansions, her fast-fashion darling closed a few stores, and there have been reports it was late to pay some vendors. The company, which she owns with her husband, Do Won, denies any financial difficulties, saying it "cut costs where appropriate" and that business is solid. It also noted that it is opening 67 stores this year, including ones in eight new markets, mostly in eastern Europe.

9. Judy Love

$1.9 BILLION ▼
AGE: **78** RESIDENCE: **OKLAHOMA CITY, OKLA.**

Sales of Love's Travel Stops & Country Stores, which she and husband Tom founded in 1964 with $5,000 gift from her parents, fell by 36% in 2015 (due to lower gas prices) to $14.2 billion.

12. Peggy Cherng

$1.5 BILLION ▶
AGE: **68** RESIDENCE: **LAS VEGAS**

Burmese immigrant gave up career as electrical engineer to help husband Andrew build Chinese fast-food chain Panda Express. Cherng, who is co-CEO, customized the restaurant's operating systems. Today Panda Express has $2.5 billion in sales from nearly 2,000 locations. Daughter Andrea is chief marketing officer and oversees menu and concept innovation.

12. Elaine Wynn

$1.5 BILLION ▼
AGE: **74** RESIDENCE: **LAS VEGAS**

Cofounded Wynn Resorts with ex-husband Steve Wynn (whom she divorced twice) in 2002. She served on its board for more than 12 years, earning her the nickname "Queen of Las Vegas." Her reign ended in April 2015 when she was ousted after a bitter proxy battle. She's still locked in a legal fight with Steve over her ability to sell her 9% stake in Wynn Resorts. She is president of the Nevada State Board of Education, cochair of the Los Angeles County Museum of Art and board member of the Kennedy Center for the Performing Arts.

14. Sheryl Sandberg

$1.4 BILLION ▲
AGE: **46** RESIDENCE: **ATHERTON, CALIF.**

A year after Sandberg's husband, SurveyMonkey CEO Dave Goldberg, died unexpectedly at age 47, she admitted in a May Facebook post that she hadn't written enough about single mothers in her bestselling book, *Lean In*. In November she donated $31 million in Facebook stock to a charitable fund, the majority of which will go to Lean In, her nonprofit that supports women in the workplace and women's empowerment groups. The Harvard M.B.A., who was once chief of staff to then Treasury Secretary Larry Summers, has helped boost revenues at Facebook 66-fold since becoming COO in 2008.

15. Thai Lee

$1.2 BILLION ▲
AGE: **57** RESIDENCE: **LEBANON, N.J.**

CEO of SHI International since 1989, she has expanded it from a $1 million reseller that she and her then husband bought to a $6.8 billion (2015 sales) IT provider whose big customers include Boeing and AT&T. It's apparently the largest woman-owned business, by sales, in the U.S.

16. Neerja Sethi

$1.1 BILLION ▶
AGE: **61** RESIDENCE: **FISHER ISLAND, FLA.**

Sethi and husband Bharat Desai started Syntel, an IT consulting and outsourcing firm, in their Troy, Mich. apartment with $2,000. Today it employs more than 25,000 people and boasts a recent market cap of $3.6 billion. Neerja is the longtime treasurer of the firm; Sethi is vice president and board member.

17. Sara Blakely

$1 BILLION ▶
AGE: **45** RESIDENCE: **ATLANTA**

Blakely took back the reins as CEO of Spanx in March for the first time in 14 years. She replaced former Nike exec Jan Singer, who helped expand the brand into athleisure wear but lasted less than two years in the job. The shapewear brand has always been Blakely's baby. A one-time door-to-door fax salesperson, she founded the company at age 29, when she invested her $5,000 savings to come up with something to wear under white slacks. She still owns 100% of the $400 million (est. sales) company, which remains private despite persistent IPO rumors. In 2015 she became part-owner of the Atlanta Hawks basketball team.

11. Gail Miller

$1.6 BILLION ★
AGE: **72** RESIDENCE: **SALT LAKE CITY**

Miller and her husband, Larry (d. 2009), bought their first Toyota dealership in Utah in 1979. Just seven years later they plunked down $22 million to buy the Utah Jazz. Miller still owns the Jazz (now worth $875 million), 55 car dealerships and 17 movie theaters.

18. Christel DeHaan

$900 MILLION ▶
AGE: **73** RESIDENCE: **INDIANAPOLIS**

German immigrant cofounded Resort Condominiums International in 1974 with then husband Jon. She was awarded half the company after their 1987 divorce and bought her ex-husband's stake in 1989. A decade later she sold RCI for $825 million. She has since given away $220 million, mostly through her Christel Houses, which supplies goods and services for children in India, Mexico, South Africa and South America.

WEALTH STATUS: **UP ▲ DOWN ▼ UNCHANGED ▶ NEW ★**

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6. Meg Whitman

$2.1 BILLION ▶
AGE: **59** RESIDENCE: **ATHERTON, CALIF.**

CEO of Hewlett Packard for four years, she oversaw its historic split in two in November and now heads up $52 billion (sales) Hewlett Packard Enterprise, which sells servers, software and more. A former Hasbro and Walt Disney executive, she is still best known for leading online auction site eBay from $5 million in revenues in 1998 to $8 billion at the time of her departure in 2008; eBay is also by far the biggest source of her fortune. Whitman, who was cochairman of the national finance committee for Chris Christie's presidential campaign, parted ways with him over his endorsement of Donald Trump, calling Trump "unfit to be president." She joined Sheryl Sandberg (No. 14) on SurveyMonkey's board in September 2015 and is a director of Procter & Gamble.

JAMEL TOPPIN FOR FORBES

19. Eren Ozmen

$750 MILLION ▼
AGE: **57** RESIDENCE: **RENO, NEV.**

Ozmen's Sierra Nevada Corp. was awarded a NASA contract in January for cargo missions via its Dream Chaser spacecraft, whose folding wings allow it to land on airport runways. It will join SpaceX and Orbital ATK in servicing and resupplying the International Space Station starting in 2019. Ozmen owns and runs SNC with her husband, Fatih—she as president and CFO, he as CEO. SNC also builds satellites and propulsion systems and is a key supplier of technologies to the aerospace and defense industries. The couple, who both emigrated from Turkey and got master's degrees in Nevada, bought the company, for which Fatih worked, in 1994.

19. Tory Burch

$750 MILLION ▼
AGE: **49** RESIDENCE: **NEW YORK CITY**

Fashion designer known for her signature preppy-chic aesthetic debuted a stand-alone activewear line called Tory Sport, selling $145 Bermuda shorts, $185 tennis dresses and the like in fall 2015. The New York-based mogul now has more than 160 stores in 30 countries, including 21 in China. Her Tory Burch Foundation Capital Program, a joint venture with Bank of America, has loaned $10 million to early-stage women entrepreneurs since 2014 to help them expand their businesses.

21. Sheila Johnson

$710 MILLION ▲
AGE: **67** RESIDENCE: **THE PLAINS, VA.**

Cofounder of cable TV channel Black Entertainment Network, which was sold to Viacom for $2.4 billion in 2001, told FORBES in 2015 that she was disappointed with what BET has become: "I really believe the African-Americans have lost their voice. ... BET was supposed to be that voice." Johnson, who divorced BET cofounder Robert Johnson a year after the sale, now has investments in hotels and a charter private jet service. She's also the only black woman to own stakes in three professional sports teams: the WNBA Mystics, the NBA Wizards and the NHL Capitals.

22. Carolyn Rafaelian

$700 MILLION ★
AGE: **49** RESIDENCE: **PROVIDENCE, R.I.**

The daughter of a jewelry factory owner, Rafaelian started her New Age, celestial-chic bangle company, Alex and Ani—named after two of her daughters—in 2004. She remains its CEO and chief creative officer. To keep costs low, she uses mainly recycled materials, including scrap metals. Thanks to explosive growth, the company—known for its $28 zodiac-themed charm bracelets—now brings in an estimated $500 million in sales and has 65 stores. Rafaelian also owns Sakonnet Vineyards and 40,000-square-foot Belcourt Castle, near Newport, R.I.

24. Weili Dai

$570 MILLION ▼
AGE: **54** RESIDENCE: **LOS ALTOS HILLS, CALIF.**

The Queen of America's semiconductor industry may have lost her crown. Dai, who founded Marvell Technology with husband Sehat Sutardja in 1995, was fired as president in April following an internal investigation into accounting issues. Sutardja also got the boot as CEO. The pair allegedly put "significant pressure on sales and finance personnel to meet revenue targets" and encouraged the recognition of revenues prematurely. Investors apparently applauded their departure, boosting shares 13% on the day the news was announced; the stock is still down for the year. The couple remains on Marvell's board.

23. Alice Schwartz

$620 MILLION ▼
AGE: **89** RESIDENCE: **EL CERRITO, CALIF.**

Cofounder of $2 billion (sales) biotechnology firm Bio-Rad Laboratories, now run by son Norman, who is chairman and CEO. The company, which she and her late husband founded with $720 in 1952, sells 10,000 different life-science research and clinical diagnostics products to more than 100,000 research and health care industry customers. Among its latest: a screening kit for cancerous genetic mutations and an HIV test that analyzes antibodies and antigens for early virus detection.

25. Madonna

$560 MILLION ▲
AGE: **57** RESIDENCE: **NEW YORK CITY**

The Material Girl's recently wrapped Rebel Heart tour grossed $170 million, contributing to her career total of an estimated $1.4 billion on the road alone. The latest cash infusion adds to a fortune already rich with royalties and real estate, including a town house on Manhattan's Upper East Side apparently purchased at the bottom of the market and an art collection reportedly featuring the likes of Picasso, Kahlo and Man Ray.

26. Kathy Fields

$550 MILLION ▲
AGE: **58** RESIDENCE: **SAN FRANCISCO**

26. Katie Rodan

$550 MILLION ▲
AGE: **60** RESIDENCE: **SAN FRANCISCO**

Dermatologists (who met at Stanford) made first fortune creating Proactiv acne treatment. Next they moved to antiaging products via Rodan + Fields, which they sold to Estée Lauder and then bought back *(see p. 64)*.

29. Mary West

$500 MILLION ▼
AGE: **70** RESIDENCE: **SAN DIEGO**

With husband Gary has contributed over $350 million to improve health care for senior citizens, including a May donation to fund a new geriatric emergency department at UC San Diego Health. Longtime racing fans, the couple also reportedly own more than 100 horses at their Kentucky stable. Source of fortune: West Corp., which they cofounded in 1986. Couple cashed out $1.4 billion in 2006, but Mary still holds a 10% stake.

28. Safra Catz

$510 MILLION ▼
AGE: **54** RESIDENCE: **REDWOOD CITY, CALIF.**

Oracle co-CEO traveled to India in February 2016 to meet with Indian Prime Minister Modi, announcing plans to invest $400 million to build Oracle's second-largest campus outside the U.S. A 17-year Oracle veteran, Catz has served as CEO since September 2014 and is one of the world's highest-paid female executives, earning $53.2 million in 2015. She is credited with spearheading its aggressive acquisition strategy, helping close more than 85 acquisitions over the past five years.

30. Jayshree Ullal

$470 MILLION ▶
AGE: **55** RESIDENCE: **SARATOGA, CALIF.**

Ullal's former employer, Cisco, is suing her current one, Arista Networks, for alleged patent and copyright infringement; Arista is countersuing. She spent 15 years at Cisco before leaving in 2008 to join former colleagues David Cheriton and Andreas von Bechtolsheim at Arista, their new cloud computing company. As CEO she has increased sales from zero in 2008 to $838 million last year.

31. Lynn Tilton

$450 MILLION ▼
AGE: **57** RESIDENCE: **RUMSON, N.J.**

Diva of distress has faced an avalanche of lawsuits, including allegations from the SEC that her Patriarch Partners improperly valued assets in its Zohar debt funds and extracted about $200 million in excess fees from investors. (Tilton denies the allegations and believes she will prevail in court.) The private equity firm recently stepped down from managing Zohar and downsized to a family office. A Wall Street veteran, she worked at Morgan Stanley, Goldman Sachs and Merrill Lynch.

WEALTH STATUS: **UP ▲ DOWN ▼ UNCHANGED ▶ NEW ★**

31. Donna Karan

$450 MILLION ▶
AGE: **67** RESIDENCE: **NEW YORK CITY**

Stepped down in June 2015 as chief designer of her namesake brand to focus on her Urban Zen luxury lifestyle company and foundation. Karan, who became head designer at Anne Klein at age 25, made most of her fortune from selling her company and trademarks to LVMH in 2000.

33. Marissa Mayer

$430 MILLION ▲
AGE: **41** RESIDENCE: **PALO ALTO, CALIF.**

Four years after taking the helm at Yahoo, Mayer is overseeing a sale of the embattled tech pioneer's core business amid falling traffic and ad revenues. In late 2015 the company backed away from plans to spin off its most valuable asset, a 15% stake in Chinese e-commerce giant Alibaba, currently valued at $30 billion. Much of Mayer's personal fortune comes from her 13-year stint at Google, where she was one of its first employees. Now called Alphabet, that stock's surge lifted her fortunes this year.

34. Janice Bryant Howroyd

$420 MILLION ▼
AGE: **63** RESIDENCE: **LAS VEGAS**

Net revenues of her staffing and human resources firm, Act-1, have topped $1 billion, up 9% versus a year ago, solidifying her position as head of one of the biggest woman- and minority-owned businesses in America; the firm has 12,000 clients and 2,600 employees in 19 countries. Howroyd has served on presidential commissions for the past two Presidents. She started her first employment agency with $1,500.

53. Sophia Amoruso

$280 MILLION ★
AGE: **32** RESIDENCE: **LOS ANGELES**

The only Millennial newcomer to the list outside the entertainment industry, Amoruso made her fortune with e-commerce retailer Nasty Gal, the rock 'n' roll fashion company she started at age 22, when it sold mostly vintage gear to a trendy young crowd. A decade in, Nasty Gal competes with the likes of H&M and ASOS; FORBES estimates revenues of $300 million, up from $100 million in 2012. "Growth has been explosive," Amoruso said. In 2015 she handed over the CEO role to an outsider. She remains heavily involved in day-to-day operations, including the rollout of brick-and-mortar stores, starting with two in L.A. "I'm executive chair and own most of the company," she said. "Everyone knows Nasty Gal requires me." Now she oversees a growing brand based on her bestselling memoir, *#Girlboss,* including a new podcast, #Girlboss Radio. Her first guest? Actress Charlize Theron, who's also producing an upcoming Netflix comedy based on Amoruso's life. As for Nasty Gal, she's weighing options for its future, including an IPO if the time feels right. "It's crazy to think that after a decade of building the business, we're finding our footing," she said. "We're putting our big-girl shoes on."

JAMEL TOPPIN FOR FORBES

34. Vera Wang

$420 MILLION ▲
AGE: **66** RESIDENCE: **NEW YORK CITY**

Twenty-six years after opening her first bridal boutique in The Carlyle hotel, the designer is arguably the most famous name in modern bridal wear. Her evening gowns, also prized, continue to be worn by notable names, including Michelle Obama, Oprah Winfrey and Selena Gomez. The bulk of her fortune comes from licensing deals with Zales, Kohl's and David's Bridal. Wang works with the New York-Presbyterian Youth Anxiety Center to address anxiety disorders in teens and young adults.

36. Liz Elting

$390 MILLION ▲
AGE: **50** RESIDENCE: **NEW YORK CITY**

Cofounder of TransPerfect, a translation firm with 11,000 clients, including AT&T, Google and Wal-Mart *(see p. 74)*.

37. Celine Dion

$380 MILLION ★
AGE: **48** RESIDENCE: **LAS VEGAS**

Canadian-born songstress has netted some $260 million from her Las Vegas residencies since 2003, when her show, *A New Day*, opened. After a hiatus to care for her ailing husband (who died in January) Dion has resumed those gigs and is on schedule to perform her thousandth show in Vegas by year's end. She has also earned money from tours and from selling more than 220 million records.

38. Barbra Streisand

$370 MILLION ★
AGE: **74** RESIDENCE: **MALIBU, CALIF.**

Pick just about any award, and Streisand has won it: Oscar, Tony, Grammy, Emmy, National Medal of Arts. She's the only act to have a No. 1 album six decades in a row, and now has ten in all, more than any other female musician in history. And she's grossed hundreds of millions of dollars from her live shows. Streisand lives well too: Her Malibu compound, which has a mall in the basement, may be worth close to $100 million, five times what she paid for it.

39. Kathy Ireland

$360 MILLION ▼
AGE: **53** RESIDENCE: **SANTA BARBARA, CALIF.**

Model turned mogul built a licensing empire by lending her name, taste and marketing prowess to more than 17,000 products. Recent shills: a line of handbags available at T.J. Maxx, tableware sold on the Home Shopping Network and an array of branded office furniture. Such unglamorous wares sell big—an estimated $2.6 billion at retail. Scouted by Elite modeling agency at age 16, she graced *Sports Illustrated's* Swimsuit Issue for 13 consecutive years. She got her start in business by launching a line of socks with Kmart in 1993.

40. Susan Wojcicki

$350 MILLION ▲
AGE: **47** RESIDENCE: **LOS ALTOS, CALIF.**

Made a name for herself as consigliere for Google's ads. Now as YouTube CEO she's experimenting with an ad-free subscription model, called YouTube Red, which launched in October 2015. Wojcicki started her first business—making spice ropes (braided yarn with spices attached)—at age 11; it was soon profitable. She joined Google as employee No. 16 in 1998; the startup initially used her Menlo Park garage as its headquarters. Her sister Anne is cofounder of personal-genomics company 23andme.

40. Sonia Gardner

$350 MILLION ▼
AGE: **54** RESIDENCE: **NEW YORK CITY**

Cofounded investment firm Avenue Capital in 1995 with brother Marc Lasry. More than three decades later the still-close siblings run the firm side by side; he is the extroverted public face who handles the investments, and Gardner, who shies away from the limelight, manages the global firm's daily affairs. (Her college best friend is married to Lasry.) Avenue's assets under management are $11.6 billion, down from $13.3 billion a year ago.

42. Nora Roberts

$340 MILLION ▶
AGE: **65** RESIDENCE: **BOONSBORO, MD.**

Pens an average of five or more manuscripts a year with titles such as *Luring a Lady* and *Seduction in Death*. She turned to writing when snowed in during a 1979 blizzard and has since published 219 books under her name as well as a crime-novel pen name, J.D. Robb. The resulting page turners have spent nearly 1,100 weeks atop the *New York Times* bestsellers list; nine of her books have been made into Lifetime movies, including *Northern Lights* and *Blue Smoke*.

42. Jessica Alba

$340 MILLION ★
AGE: **35** RESIDENCE: **LOS ANGELES**

Actress turned entrepreneur's net worth got a boost in August 2015 when the Honest Co., the nontoxic-household-goods startup she cofounded in 2011, raised $100 million at a $1.7 billion valuation. The business began largely as an e-commerce subscription service for diapers and baby wipes but now sells some 100 items. Not everyone is a fan: There were complaints that Honest's sunscreen didn't work and that its detergent wasn't quite as chemical-free as advertised. She has defended the products vigorously and keeps adding categories: Last fall she launched Honest Beauty, an 80-piece makeup and skin care line with a transparent ingredient list.

42. Diane von Furstenberg

$340 MILLION ▼
AGE: **69** RESIDENCE: **NEW YORK CITY**

Brussels-born designer became a household name in 1974 when her body-hugging wrap dress hit the market. More than one million were sold by 1976. She took a 12-year break from fashion but returned in 1997 to introduce her famous dress to a new generation. In May 2016 she handed the reins at DVF (estimated sales: $500 million) to new chief creative officer, Jonathan Saunders. Von Furstenberg will remain chair. Her husband, media billionaire Barry Diller, has his own stake in the business.

45. Kit Crawford

$330 MILLION ▼
AGE: **57** RESIDENCE: **ST. HELENA, CALIF.**

With husband Gary Erickson, owns 80% of Clif Bar, maker of the organic snack bar, now sold in 14 countries. When the co-chief visionary officer is not charting the brand's future, Crawford is advising Lunafest, a festival of short films by and about women, to raise funds for breast cancer prevention. She and her husband also run a venture firm, White Road Investments, and the Clif Family Winery.

46. Nancy Zimmerman

$320 MILLION ★
AGE: **52** RESIDENCE: **BOSTON**

Zimmerman is co-managing partner at Boston-based hedge fund Bracebridge Capital. With more than $10 billion in assets under management, it is one of the world's largest hedge funds with a woman at the top. She got her start buying currency options on the floor of the Chicago Mercantile Exchange. She cofounded Bracebridge in 1994 after running the interest rate options group at Goldman Sachs. Zimmerman serves as a trustee at Brown University, her alma mater.

46. Jane Hsiao

$320 MILLION ▼
AGE: **69** RESIDENCE: **DAVIE, FLA.**

Chief technical officer and vice chairman of Opko Health, which she cofounded in 2007 with business partner and biotech billionaire Phillip Frost. Opko has developed and acquired such products as Varubi, for chemotherapy-induced nausea; 4Kscore, a prostate cancer test; and Rayaldee, a treatment for vitamin D deficiencies in patients with kidney disease. Shares of the firm peaked last June just after it submitted Rayaldee for FDA approval (it was rejected in March) and before it announced it would acquire the nation's third-largest clinical diagnostic laboratory, Bio-Reference Laboratories. The company, which has yet to make a profit, is trading well below its highs.

WEALTH STATUS: UP ▲ DOWN ▼ UNCHANGED ▶ NEW ★

57. Toni Ko

$260 MILLION ★
AGE: **43** RESIDENCE: **LOS ANGELES**

Ko, who moved to the U.S. from Korea at age 13, worked after school for her parents' beauty supply business. In 1999, at age 25, she noticed a gap in the market for department-store-quality makeup at a drugstore price. "I bought drugstore makeup that was so bad, I had to burn the tip of my eyeliner," she said. Armed with connections in the wholesale industry and seed money from her family, Ko launched NYX Cosmetics, selling colorful, high-end makeup at bargain prices (a top seller: $3.50 lip pencils in bold pinks and purples). In her first year Ko did $4 million in retail sales. "I wore every single hat," she said. After 15 years of growth, Ko sold the venture-backed brand to L'Oréal in 2014 in a transaction valued at $500 million. Her initial plan to retire was short-lived. "I wanted to sit by a beach and drink a margarita but thought that'd be super boring," she said. In spring 2016 Ko launched Perverse Sunglasses, selling sexy, stylish "sunnies" for between $30 and $60 a pair. Its first store opened in Los Angeles in May. "I studied the industry and realized it was a dinosaur," she said. "I want to bring color to the world of black and beige."

JAMEL TOPPIN FOR FORBES

48. Danielle Steel

$310 MILLION ★
AGE: **68** RESIDENCE:
SAN FRANCISCO

Romance author has published 129 books, which she writes on a 1946 Olympia typewriter, and sold 650 million copies. Her own life, including five high-profile marriages and nine children, has been rich fodder for her novels. Today she works with her two foundations, which raise money for preventing child abuse and mental illness.

49. Patricia Miller

$300 MILLION ★
AGE: **77** RESIDENCE:
FORT WAYNE, IND.

Miller and good friend Barbara Baekgaard (No. 54) were catching a flight in Atlanta in 1982 when they noticed how drab women's travel bags looked. Each borrowed $250 from her husband and went to work in Baekgaard's basement in Fort Wayne making handbags out of floral quilted cotton. Except for a brief absence to work for the state of Indiana, Miller ran the firm as a co-president until 2010, when it went public, and retired in 2012; she and her husband, Michael, who shares the fortune, sit on board.

49. Pleasant Rowland

$300 MILLION ▶
AGE: **75** RESIDENCE: **MADISON, WIS.**

Creator of American Girl dolls sold the brand to Mattel for $700 million in 1998. Former elementary school teacher and textbook author now has a foundation dedicated to helping children read by providing best-practices materials, teacher training and guidance to educators and parents.

49. Adi Tatarko

$300 MILLION ▶
AGE: **43** RESIDENCE:
PALO ALTO, CALIF.

CEO of home-remodeling site Houzz has been looking abroad, expanding the platform to seven new countries in the last year, including Singapore, Spain and Sweden. Forty million users check the site for renovation ideas each month, connecting with more than a million home-design gurus. A native of Israel, Tatarko launched the Palo Alto startup with husband Alon Cohen in 2009.

52. Judy Sheindlin

$290 MILLION ▲
AGE: **73** RESIDENCE:
NAPLES, FLA.

Chief justice of daytime TV still rules over the courtroom that made her a centimillionaire. Despite getting a late start—she first appeared on camera at age 52—her *Judge Judy* show has been on the air for 20 seasons and is watched by an average of 10 million viewers a day; she won her second daytime Emmy in 2016. Since 2012 she has banked $47 million pretax annually from her hosting gig. The straight talker is also the author of seven books, including *Don't Pee on My Leg and Tell Me It's Raining*.

54. Dorothy Hermann

$270 MILLION ★
AGE: **63** RESIDENCE: **NEW YORK CITY**

Richest self-made woman in American real estate is co-owner of New York's elite brokerage firm Douglas Elliman, which sells $22 billion worth of homes a year, netting $600 million in sales. The firm has over 6,000 agents in 85 offices. She and partner Howard Lorber bought it for $72 million in 2003. It hasn't been an easy journey for her. A car crash killed her mother, left her father disabled and brought on seizures for then 10-year-old "Dottie," who was thrown from the car. She became a mom at age 19. She started working as a real estate broker at Merrill Lynch on Long Island in the 1980s. It was soon bought by Prudential Long Island, and in 1990, she bought the majority of that brokerage firm.

54. Barbara Bradley Baekgaard

$270 MILLION ★
AGE: **77** RESIDENCE:
FORT WAYNE, IND.

Cofounder and chief creative officer of Vera Bradley, which sells half a billion dollars' worth of handbags, luggage and other accessories a year through 154 company-owned stores and 3,220 other locations. Baekgaard, who was co-president until 2010 and is still involved in the design process of the colorful bags, named the business after her mother, a former Elizabeth Arden model. As part of estate planning, Baekgaard has put most of her shares in trusts for her family.

56. Beyonce Knowles

$265 MILLION ▲
AGE: **34** RESIDENCE:
LOS ANGELES

The prolific songstress has already pulled in more than $500 million in gross earnings as a solo artist. With husband Jay Z (net worth: $610 million), she has also cashed in on joint tours, multimillion-dollar endorsement deals with companies like H&M and Pepsi, and investments in companies like Tidal, the music-streaming service she and her husband co-own with Madonna (No. 25) and others. Beyoncé launched her latest album, *Lemonade*, exclusively on Tidal in April. It was her sixth studio album to debut at No. 1.

57. Lynda Weinman

$260 MILLION ▼
AGE: **61** RESIDENCE:
SANTA BARBARA, CALIF.

Stepped down as executive chairman of online-learning platform Lynda.com in June 2015, one month after selling it to LinkedIn for $1.5 billion. Weinman, who published one of the first Web-design textbooks in 1996, started the business at age 40 with her husband, Bruce. More than half of the top 50 largest publicly traded companies, like CVS and Microsoft, use Lynda.com's online courses and video tutorials to keep employees up to speed. About 40% of all U.S. colleges and universities also subscribe to the platform.

WEALTH STATUS: **UP ▲ DOWN ▼ UNCHANGED ▶ NEW ★**

57. Kathy Lehne

$260 MILLION ▼
AGE: **54** RESIDENCE:
HOUSTON

Plunging gasoline prices took their toll on wholesale fuel marketer and distributor Sun Coast Resources, one of the largest woman-owned businesses in Texas. Lehne founded the company at age 23, and today it has a fleet of over 700 trucks and more than 1,300 drivers. Lehne reportedly plays high-stakes poker in her free time.

60. Taylor Swift

$250 MILLION ★
AGE: **26** RESIDENCE:
NASHVILLE

The onetime country music starlet has transformed herself into arguably the world's biggest pop star. Her 1989 World Tour grossed a quarter of a billion dollars, making it last year's richest. She has also become an advocate for musicians' rights to fair royalty rates as the industry adjusts to the streaming model, pulling her music from Spotify and penning a letter to Apple that many believe caused the company to change its tune last year. Ever the savvy businessperson, Swift subsequently appeared in a commercial for the tech giant.

JAMEL TOPPIN FOR FORBES

From Hero **to Zero**

Last year we listed Elizabeth Holmes as the world's youngest self-made woman billionaire, worth an estimated $4.5 billion. But Theranos, the blood-testing company she founded in 2003 and owns 50% of, has been hit with allegations that its products don't work as advertised and is being investigated by an alphabet soup of federal agencies. That, plus new information indicating Theranos' revenues are less than $100 million, has led us to revise our estimate of her net worth. To zero.

FORBES spoke to a dozen venture capitalists, analysts and industry experts and concluded that a more realistic value for Theranos is $800 million, rather than the $9 billion indicated by its last funding round. That gives the company credit for its intellectual property and the $724 million it has raised according to VC Experts, a consulting firm, even though some of that has already been spent on building labs and on research. It also represents a generous multiple on the company's sales.

Theranos' investors have preferred shares, which means that at FORBES' current estimated valuation they'll get their money back before Holmes, who owns common shares, gets a cent. Theranos had no comment. —*Matthew Herper*

To compile net worths, we valued private companies by speaking with an array of outside experts and conservatively comparing the companies with public competitors. In cases in which women started businesses with, and still share with, their husbands, we've assigned them half of that combined wealth. We calculated the stakes in public companies using stock prices from May 13. For entertainers, we based our estimates on net lifetime earnings. Real estate, art and other assets were also factored in where applicable. To be eligible for this list, women had to have substantially made their own fortunes and be U.S. citizens or longtime residents. We attempted to vet these numbers with all list entrants. Many cooperated; some didn't.

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THE LATEST SALVO IN THE WAR FOR THE FUTURE OF MONEY: PERSON-TO-PERSON CURRENCY TRANSFERS. SILICON VALLEY'S HEAVYWEIGHTS ARE BETTING THAT A $1 BILLION STARTUP CALLED TRANSFERWISE CAN PULL OFF THE TRICK RIGHT NOW.

SKYPE MEETS CASH

BY SAMANTHA SHARF

TransferWise cofounder Kristo Käärmann is late for dinner. His Uber driver took the long route from his offices to Art Priori, a trendy restaurant set amid the winding medieval-era cobblestone streets of Estonia's capital, Tallinn. The driver had recognized Käärmann and wanted time to pitch an idea he had for a new app. Waiting patiently for him at the restaurant, Taavet Hinrikus, his cofounder and CEO, responds to his tardy partner's explanation with a knowing grin. "Estonia is a small country, so it's natural that people know TransferWise," he says. "There's some downside, like Uber drivers lying in wait." He, too, has been subject to long, pitch-filled rides from local taxi drivers.

So it goes when your tiny Baltic country of 1.3 million people has bet its national future on becoming a tech incubator and you've founded a unicorn startup. Käärmann and Hinrikus may as well be Mark Zuckerberg and Jeff Bezos here, and they have the A-list investors to back up the local hype. Peter Thiel invested early in TransferWise. So did Richard Branson. A $58 million infusion from Andreessen Horowitz last year has allowed Käärmann and Hinrikus to expand the staff to 600 people.

They'll need all that manpower and all that money: In pushing a peer-to-peer platform for moving money—think Skype for currency—they're taking on pretty much every global bank, along with entrenched giants like Western Union.

"You have this conceptual argument that it shouldn't cost that much to move money," says Käärmann. "That it is really just electrons that you are moving around."

It's a billion-dollar theory, as measured by TransferWise's current valuation. If proven correct, it has the potential to make the two founders, with roughly a 20% stake apiece, fabulously wealthy. It could legitimize Estonia's digital gambit. And it could, most powerfully, upend the oligopoly that controls $3 trillion of consumer currency flow around the world.

NESTLED IN THE ELBOW separating Latvia and Lithuania from Russia, Estonia owes its status as the Silicon Valley of the Baltics to its former Soviet oppressors. During the Cold War the Kremlin sought to snuff out a blossoming independence movement by restricting the ability of Estonian universities to teach philosophy and social sciences. Instead, students would focus on computers and information technology. Eventually, Estonian software developers were at the center of the Soviet space program and KGB spying efforts.

LEVON BISS FOR FORBES

Kristo Käärmann and Taavet Hinrikus, cofounders of TransferWise: peer-to-peering into the future of money.

Then, in 1989, the Berlin Wall came down. Estonia gained its independence two years later. And Netscape's Internet browser followed three years after that. Freed of the Soviet bureaucracy, its resourceful natives, who speak a Uralic language close to Finnish, set out to create an entrepreneurial e-republic leapfrogging the restrictions of conventional infrastructure.

In Estonia nearly everything is digital and decentralized, so one rarely has to visit a governmental office. Pretty much the entire landscape has access to broadband Wi-Fi—and has for more than a decade. Estonians have been voting online and using their mobile phones as identification since 2007 and paying for parking spaces via text messages since 2000. With programming entrenched in the national curriculum and more startups per capita than any other country in Europe, little Estonia has already brought the world Skype as well as once popular peer-to-peer music service Kazaa.

This environment—and a belief that no system is sacred or unchangeable—nurtured Hinrikus and Käärmann, both 35, and TransferWise's staff; while the company's sales office and headquarters are now in London, two-thirds of its employees, including most developers, live in Tallinn.

As a local computer science student, Käärmann gained notice building a Baltic and Scandinavian version of Yahoo Finance. That eventually led to a consulting gig focused on banking and finance for Deloitte in London.

There he met his countryman Hinrikus, a fellow programmer who had spent so much time building websites as an undergraduate that he stopped attending classes, started working with Skype's founders and got kicked out of school. Hinrikus was the first employee hired at Skype.

Their epiphany came in 2007 as expats in London, when Hinrikus, by then Skype's director of strategy and technically based back in Estonia—and thus paid in euros—needed pounds to fund his life, while Käärmann, who was paid in pounds, needed euros for student loans and the mortgage on his flat back in Tallinn.

Since banks charge transaction fees and bake in markups to exchange rates, the duo's frequent currency transfers were costing them a small fortune. One year Käärmann thought HSBC had lost some of his Christmas bonus because 500 euros less than expected arrived in his account.

"The bank will take 10% or even 12% of the money transferred. Seeing that firsthand is what made me start to think: Is there a better way?" Hinrikus recalls. "We realized there is actually no need to move the money. No need to make an international transfer because the money already exists where it needs to."

The Estonian software engineers devised a simple solution: Hinrikus would transfer euros from his Estonian bank account into Käärmann's Estonian account, while Käärmann would transfer pounds from his British HSBC account to Hinrikus' at Lloyds. This would save them on international transfer fees, as well as on currency drag since they used the real exchange rate, known as the midmarket rate. Soon they had a Skype chat going with other Estonians who wanted to exchange money this way. Eventually this Skype-linked money exchange forum morphed into TransferWise. In 2011 the pair quit their jobs and self-funded for a year before landing a seed funding round amounting to $1.3 million. A year later Thiel led another round for $6 million, and in 2014 billionaire Branson invested in a $26 million funding. To date, TransferWise has raised $91 million in VC money.

"As we saw more and more adoption, there was a gradual growth in confidence that we are solving a real problem," says Käärmann, who reasoned that sending money digitally should be as easy as sending an e-mail. "That problem is huge, and it doesn't get solved if we don't solve it."

So how does TransferWise work? Prior to visiting Estonia, I set out to convert money using the startup's app, sending almost $300 via TransferWise to convert it to euros. TransferWise uses a system not unlike the ones big financial institutions use to "cross-trade" securities, without incurring costs or commissions, by internally matching buyers and sellers. In this case the official midmarket price offers clarity—neither side is speculating—so it's simply a balancing process, as TransferWise's computers simultaneously verify that both sides have the money ready to swap. Indeed, its matching system means funds rarely cross international borders. (The startup has these clear "peer-to-peer currency routes" operational for 30 country combinations.) And *voilà*, 90 minutes later 250 euros showed up in a European account. There was no spread, just a $3 fee. (The fee goes up, depending on the amount transferred; $100,000 would cost $710.)

My $300 or so was a tiny sliver of the $750 million that TransferWise is now moving each month, with one million people already sending or receiving money in some 60 countries, leading to about 500 different possible transactions. (Polish zloty to Bangladeshi taka, anyone?) Those small fees slowly add up: The company is now producing roughly $5 million in revenue a month versus about $1 million per month a year ago.

THE FOUNDERS WERE NURTURED IN ESTONIA, WHERE NO SYSTEM IS SACRED OR UNCHANGEABLE AND WHERE TODAY NEARLY EVERYTHING IS DIGITAL AND DECENTRALIZED.

IN A COUNTRY WHERE summer means temperatures in the 60s and where cold, snowy winters offer maybe six hours of sunlight, TransferWise's glass, concrete and steel space in Tallinn goes overboard with the startup-fun clichés. There is a Gymboree-vibe, including bright color-coded floors with lots of comfy seating areas, Razor Scooters for zipping around the office, a ping-pong table, a sauna and the Amazeballs room on the sixth floor—a ball pit with hundreds of clear plastic spheres reminiscent of bubbles. There's also a unicorn room, decorated with stuffed My Little Pony unicorns, complete with a giant rainbow sculpted on the wall.

Such tongue-in-cheekiness aside, the levity underscores a key point: TransferWise may play in the sandbox of the big banks, but the ultimate customer is the individual consumer. A bank wire might be ten times more expensive than TransferWise, but it's still a rounding error on big transactions, and it's a proven method that's generally safe. For now most banks, which use the troubled SWIFT network to move money, are ignoring TransferWise. Of the $150 trillion in currency-transfer volume annually, the consumer portion amounts to an estimated $3 trillion.

Still, that's a decent-size market, with the revenue generated from it exceeding $45 billion. And with the global workforce increasingly employed across borders, it's growing (230 million people worldwide now live in a different country from the one where they were born).

TransferWise's customers predominantly use the service to move money between their own bank accounts to cover obligations back home—a mortgage, a cellphone bill, a charitable gift. Others do what the TransferWise team calls "use a friend as an ATM." When I converted dollars to euros for use in Estonia, for example, I used the app to send money to a local's bank account, since I didn't have a euro account.

The real competitors in the short term are Western Union and MoneyGram. Western Union is already doing $300 million in revenue from transfers through its website and app, and it's bolstered mightily by its 600,000 physical stores and kiosks worldwide. To compete successfully, TransferWise must prevail on interface (and, indeed, I found it easier to send money via the startup than via Western Union's app) and on price.

Hinrikus and Käärmann are fanatical about the latter. Signs on the office walls declare "Charge as little as possible" or "Customer > team > ego." In an effort to scale, product teams look to charge 80% less than local banks. A new partnership in India, for example, lowered TransferWise's costs on U.S.-to-India transfers—and Hinrikus used most of that savings to reduce fees on that route from 1.5% to 0.9%. "At the bank we would have high-fived for more profit," says TransferWise operating chief Wade Stokes, a former executive with Swedbank.

Longer term, TransferWise faces a more existential threat. Its core peer-to-peer technology dates to the 1990s. Blockchain, the type of technology that powers Bitcoin, is far more sophisticated, with the potential to disrupt both business and personal transactions. Wedbush Securities analyst Gil Luria expects that, within a decade, 20% of international person-to-person money transfers will happen via blockchain, which employs a series of public ledgers. Blockchain would eliminate third-party intermediaries and should result in nearly instantaneous money transfers. To Luria, TransferWise's application is "an intermediate step."

Ben Horowitz of Andreessen Horowitz, TransferWise's big backer, counters that its relatively small niche will keep it safe. "I'm of the opinion that human-to-human payments in the first world are not a big enough problem at this point to implement Bitcoin to solve it. We find blockchain to be a really, really important new technology that will have a gigantic set of applications, but I think the ones that are going to happen first are the ones you literally can't do today."

Adds Hinrikus: "For moving money internationally, blockchain is, at this point, a theoretical discussion. I can point you to a very practical version of it, at a very practical firm called TransferWise, which is doing this every day."

True enough. But if it starts making real money, then the big banks will stop ignoring it and a host of other startups, including WorldRemit and Xoom (owned by PayPal).

That means the Estonians need to step up fast. Hinrikus and Käärmann are striving for a future in which their technology can result in instant payment. They can complete a transfer between the U.K. and the euro zone in as little as 17 seconds. Moving money from the U.S. takes longer because the Dodd-Frank Act requires that customers be given 30 minutes to cancel.

Still, the founders don't seem concerned. The earlier Estonian darling Skype carved out a healthy 30% of the international voice-call market without posing an existential threat to big telecoms like Verizon and AT&T. Says Hinrikus, "What we are doing is not the most exciting thing, moving money from A to B. But we have been able to do this in a way that brings our customers joy in a place they are not expecting it." F

SEAN PAVONE/GETTY IMAGES

Cutting the Pound of Flesh

DON'T BE FOOLED BY LOW ADVERTISED FEES. MONEY TRANSFER PROVIDERS PROFIT IN TWO WAYS: FEES AND A SPREAD BUILT INTO THE EXCHANGE RATE. SO HOW MUCH DOES IT REALLY COST TO SEND 1,000 EUROS TO A COUNTRY LIKE ESTONIA?

	NET COST	TURNAROUND TIME
BANK OF AMERICA	$100.14	2 DAYS
MONEYGRAM	51.43	SAME OR NEXT DAY
TRANSFERWISE	11.18	1-4 DAYS
WESTERN UNION	44.12	UP TO 5 DAYS
WORLDREMIT[1]	18.81	1-3 DAYS
XOOM	55.61	2 DAYS

EXCHANGE RATES AS OF 05/19/16. [1]COST OF TRANSFER TO NEIGHBORING LATVIA; WORLDREMIT DOES NOT SUPPORT ESTONIA.

San Francisco's New Masterpiece

Thanks to a handshake deal between billionaire Charles Schwab and Gap founder Donald Fisher, SFMOMA is the envy of the art world.

BY JONATHON KEATS

Size mattered: After a three-year, $610 million expansion, SFMOMA opened in May with a dramatic new building designed by the Norwegian architectural firm Snøhetta.

In 2007 Gap founder Donald Fisher offered his enormous contemporary art collection to the city of San Francisco, proposing to build a 100,000-square-foot museum in the historic Presidio. Featuring more than a thousand major paintings and sculptures by blue-chip artists, including Andy Warhol, Ellsworth Kelly and Richard Serra, the collection was highly admired and coveted by art experts who had visited Gap's San Francisco headquarters. But local preservationists were loath to see a boxy modern museum amid the Presidio's 19th-century Army barracks and waged war with Fisher for two long years.

The philanthropist finally surrendered. He withdrew his offer, provoking rumors that his art might go to Oakland, or even St. Paul, Minn. But billionaire investor Charles Schwab had other ideas. A close friend and business associate of Fisher's, Schwab was also chairman of the San Francisco Museum of Modern Art. "I started having many conversations with Don, to convince him to bring his collection to SFMOMA," Schwab recalls. The conversations took on greater urgency as Fisher was coping with terminal cancer. A handshake deal was made just days before his death in September 2009.

Nearly seven years later, as a vastly expanded and reimagined SFMOMA—now the largest modern art museum in the U.S.—reopens its doors, Schwab's intervention is viewed as a masterstroke. "Don trusted Chuck," says SFMOMA director Neal Benezra. "I'm quite certain that Don's knowing that Chuck was committed to the Fisher collection and the growth of the museum allowed him to have confidence at the end of his life that his collection would be in great hands at SFMOMA."

Schwab's commitment to the San Francisco Museum of Modern Art dates back to the 1960s, when he was just getting started in business and the fledgling museum occupied rented space in the War Memorial Veterans Building. "I started visiting with my children," he says. "Growing up where I did [in Santa Barbara], I hadn't had much access." Following his $55 million sale of Charles Schwab & Co. to Bank of America in 1983, Schwab had the financial resources to support the museum more directly, and his commitment only became stronger after he orchestrated a management buyback and IPO of his eponymous corporation in 1987. He soon went to work raising funds for a new SFMOMA building, teaming up with Don Fisher (who was already a museum trustee).

Designed by the Swiss architect Mario Botta and located in the emerging South of Market district, the 225,000-square-foot


Just because you can't see it doesn't mean it's not there.
Although it's more common in older women, ovarian cancer affects women of all ages, even in their 20s. There is no early detection test, and symptoms can be subtle. But while you can't see it, you can take steps to get ahead of it by knowing your risk factors. Family history of cancer and presence of gene mutations like BRCA are risk factors, so talk to your family and your doctor. This information makes you less likely to ignore vague signs that could indicate disease.
Meanwhile, promising collaborative research will continue to shed light on new advances in diagnosis and treatment of ovarian cancer.
To learn more about symptoms, risk factors and research go to SU2C.org/ovarian
Minnie Driver
Stand Up To Cancer Ambassador
Photo by Martin Schoeller
STAND UP TO CANCER
Ovarian Cancer Research Fund Alliance
nocc
NATIONAL OVARIAN CANCER COALITION
Stand Up To Cancer is a program of the Entertainment Industry Foundation, a 501(c)(3) non-profit organization.

museum opened in 1995. Almost immediately, Schwab and Fisher set out to find great art to fill it. As entrepreneurs the two men had a natural rapport, which they had bolstered by serving on each other's corporate boards. "Our shared quest for contemporary art was an important part of the relationship," Schwab says. Adventures together included a jaunt to Japan. "We went to buy art from a Japanese bank that had a vault full of art that had been securing debt," he recalls. "A lot of the art we collected on that trip would eventually go to the museum."

Of course, landing the entire Fisher collection for SFMOMA was a deal of a different order. By agreement with the Fisher family, the museum will hold the collection in trust for at least the next century and must fulfill a number of requirements, such as a dedicated exhibition every decade. As Schwab explains, "Don had two very clear things he wanted

Talk to Chuck: Schwab (with wife Helen at the SFMOMA ball) landed Gap founder Don Fisher's art collection for the museum for a century. Right: Richard Serra's "Sequence."

to accomplish with his collection: to show the art regularly and to keep the collection together."

And 225,000 square feet weren't going to suffice—the scale of Fisher's collection alone warranted more space. Together with Benezra, Schwab started interviewing architects about expanding SFMOMA.

They talked to nearly 40 firms—including Diller Scofidio + Renfro and Foster + Partners—before settling on the relatively obscure Norwegian firm Snøhetta (then best known for designing the Oslo Opera House).

"Snøhetta had an approach that I appreciated," Schwab explains. "We became convinced that they weren't about a signature look but would listen and try to establish a building that would accomplish our goals—to be more open, more accessible."

The architects came up with a design that featured multiple entrances, free public exhibition spaces and visibility of art from the street, enfolding the postmodern Botta building within a sleek new ten-story edifice. With a model packed in Benezra's trunk, he and Schwab, along with museum president Robert Fisher (one of Don's sons), began making house calls to philanthropists and business leaders, seeking to raise $610 million. Schwab was tireless—and highly persuasive. "People have so much respect for Chuck that it's really hard to say no to him," Benezra notes.

The deep wells of support were spectacularly on view in early May at the SFMOMA Modern Ball celebrating the museum's reopening. Among the attendees were tech royalty such as Twitter cofounder Evan Williams, Instagram cofounder Mike Krieger, Zynga cofounder Mark Pincus and Yahoo CEO Marissa Mayer. They cavorted through galleries filled with newly unveiled paintings by Jackson Pollock, Francis Bacon, Jasper Johns and Brice Marden, and contributed an additional $2.5 million to the museum's education program.

For Schwab, who attended the ball with his wife, Helen, the strong tech world support for the new SFMOMA seems only natural, given that contemporary art is so much about innovation. In fact, the interest of Silicon Valley's titans mirrors his own passion for contemporary art. "It is similar to how I think about business," he says. "They're both the art of the possible." *

FINAL THOUGHT

* *"How does one measure the success of a museum?"* —**J. PAUL GETTY**

TRENDING

WHAT THE 70 MILLION FORBES.COM USERS ARE TALKING ABOUT. FOR A DEEPER DIVE GO TO **FORBESLIFE.COM**

PERSON

MAX VERSTAPPEN

The 18-year-old Dutch driver became the youngest winner in F1 history in May with a victory at the Spanish Grand Prix and could soon find himself among the highest-paid athletes in the world.

COMPANY

WAVERLY LABS

The tech company's Pilot earpiece (projected to cost between $249 and $299) aims to be a real-life version of *Star Trek*'s Universal Translator: The device can translate English, Spanish, Italian and French conversations in—*voilà!*—real time.

IDEA

THE POWER OF PENMANSHIP

A new study revealed that writing longhand unleashes creativity—and other neural activity—in ways similar to meditation.

DREW ALTIZER (SCHWABS); BERNARD ASSET/SIPA USA/NEWSCOM

KEN FISHER
– Founder, CEO and Co-Chief Investment Officer
– *Forbes* "Portfolio Strategy" columnist for 30 years
– Author of more than 10 financial books, including 4 *New York Times* bestsellers

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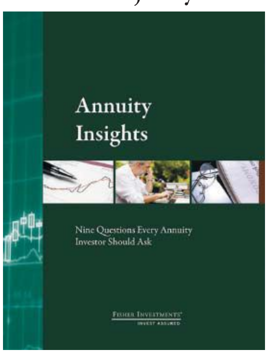

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On Women and Power

"I'm not a member of the weaker sex."

—LAUREN BACALL

"I want to walk through life instead of being dragged through it."

—ALANIS MORISSETTE

"I do not wish [women] to have power over men, but over themselves."

—MARY WOLLSTONECRAFT

"DISGUISE OUR BONDAGE AS WE WILL, 'TIS WOMAN, WOMAN, RULES US STILL."

—THOMAS MOORE

"Women are the only exploited group in history to have been idealized into powerlessness."

—ERICA JONG

"So here I stand, one girl among many. I speak not for myself, but so those without a voice can be heard."

—MALALA YOUSAFZAI

"The vote, I thought, means nothing to women. We should be armed."

—EDNA O'BRIEN

"IT TAKES A WOMAN 20 YEARS TO MAKE A MAN OF HER SON, AND ANOTHER WOMAN 20 MINUTES TO MAKE A FOOL OF HIM."

—HELEN ROWLAND

"One day, an army of gray-haired women may quietly take over the earth."

—GLORIA STEINEM

"THE MAN SAID, 'THE WOMAN YOU PUT HERE WITH ME—SHE GAVE ME SOME FRUIT FROM THE TREE, AND I ATE IT.' "

—GENESIS 3:12

"You turn if you want to. The lady's not for turning."

—MARGARET THATCHER

"WE HOLD THESE TRUTHS TO BE SELF-EVIDENT, THAT ALL MEN AND WOMEN ARE CREATED EQUAL."

—ELIZABETH CADY STANTON

"If women understand by emancipation the adoption of the masculine role then we are lost indeed."

—GERMAINE GREER

FINAL THOUGHT

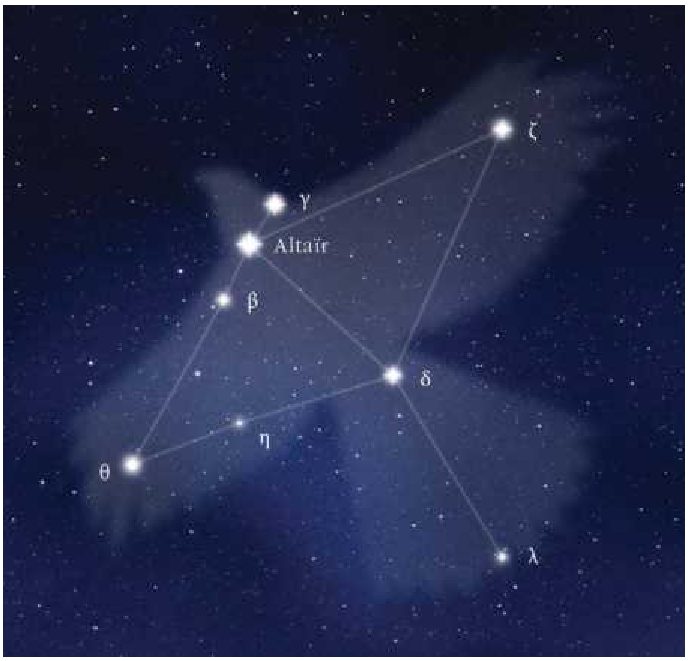
"Women now figure so prominently in business and industrial life that steps should be taken to bring the order of things into harmony therewith."

—B.C. FORBES

CLOCKWISE FROM TOP LEFT: SILVER SCREEN COLLECTION/GETTY IMAGES; SPLASH NEWS/NEWSCOM; EXPRESS/GETTY IMAGES; DENNIS VAN TINE/ZUMA/NEWSCOM; ULF ANDERSEN/GETTY IMAGES; EAMONN MCCABE/GETTY IMAGES

SOURCES: CLASSIC FILM GUIDE, BY SIMON ROSE; THE TIMES BOOK OF QUOTATIONS; MISCELLANEOUS POEMS, BY THOMAS MOORE; REFLECTIONS OF A BACHELOR GIRL, BY HELEN ROWLAND; OUTRAGEOUS ACTS AND EVERYDAY REBELLIONS, BY GLORIA STEINEM; THE FEMALE EUNUCH, BY GERMAINE GREER; A VINDICATION OF THE RIGHTS OF WOMAN, BY MARY WOLLSTONECRAFT.


Photo : Pictoresq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