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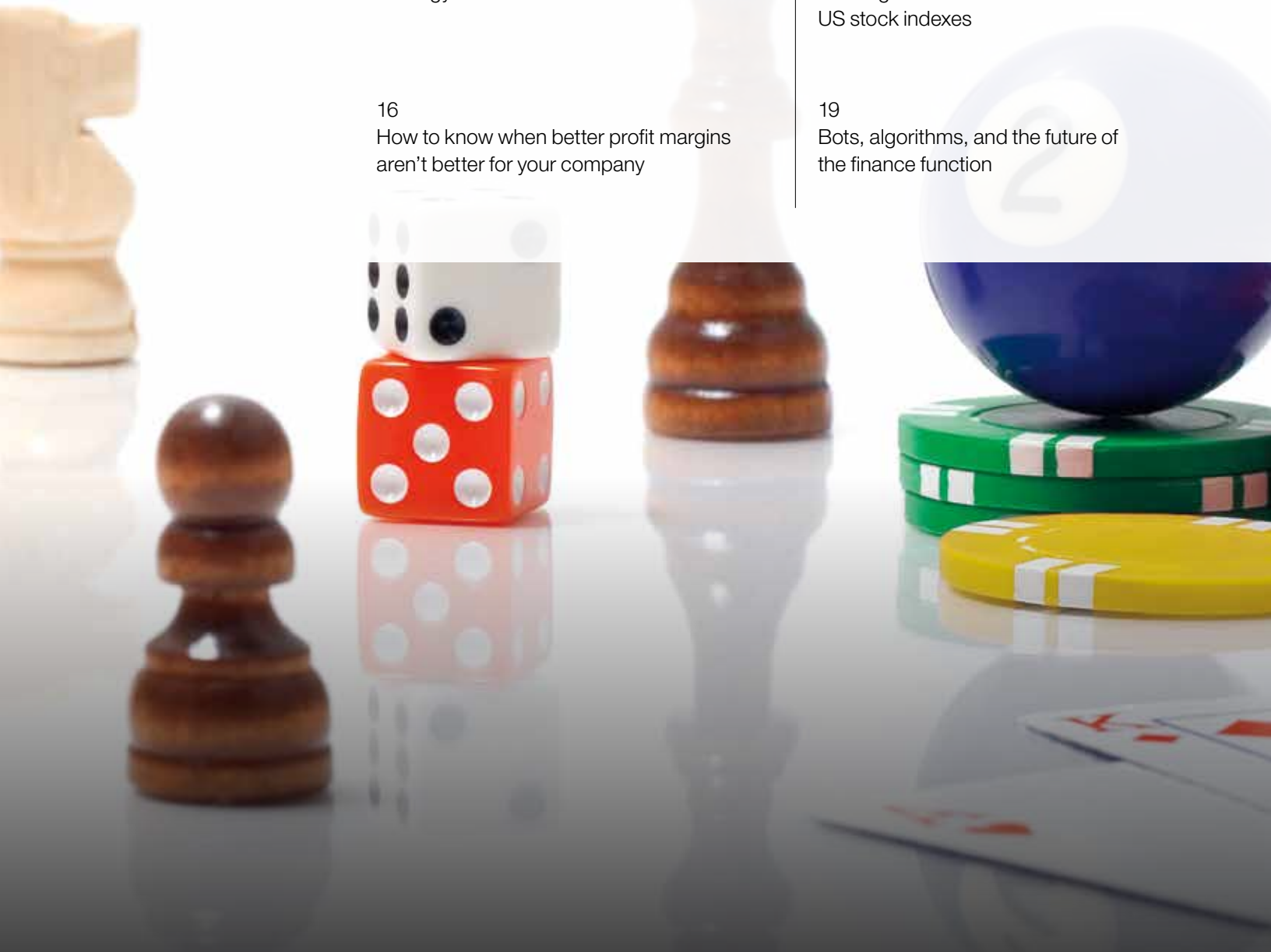

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Strategy to beat the odds

If you internalize the real odds of strategy, you can tame its social side and make big moves.

Chris Bradley, Martin Hirt, and Sven Smit

Several times a year, top management teams enter the strategy room with lofty goals and the best of intentions: they hope to honestly assess their situation and prospects, and mount a decisive, coordinated response toward a common ambition.

Then reality intrudes. By the time they get to the strategy room, they find it is already crowded with egos and competing agendas. Jobs—even careers—are on the line, so caution reigns. The budget process intervenes, too. You may be discussing a five-year strategy, but everyone knows that what really matters is the first-year budget. So, many managers try to secure resources for the coming year while deferring other tough choices as far as possible into the future. One outcome of these dynamics is the hockey-stick projection, confidently showing future success after the all-too-familiar dip in next year's budget. If we had to choose an emblem for strategic planning, this would be it.

In our book, *Strategy Beyond the Hockey Stick* (John Wiley & Sons, February 2018), we set out to help companies unlock the big moves needed to beat the odds. Another strategy framework? No, we already have plenty of those. Rather, we need to address the real problem: the "social side of strategy," arising from corporate politics, individual incentives, and human biases. How? With evidence. We examined publicly available information on dozens of variables for thousands of companies and found a manageable number of levers that explain more than 80 percent of the up-drift and down-drift in corporate performance. That data can help you assess your strategy's odds of success before you leave the strategy room, much less start to execute the plan.

Such an assessment stands in stark contrast to the norms prevailing in most strategy rooms, where discussion focuses on comparisons with last year, on immediate competitors, and on expectations for the year ahead. There is also precious little room for uncertainty, for exploration of the world beyond the experience of the people in the room, or for bold strategies embracing big moves that can deliver a strong performance jolt. The result? Incremental improvements that leave companies merely playing along with the rest of their industries.

Common as that outcome is, it isn't a necessary one. If you understand the social side of strategy, the odds of strategy revealed by our research, and the power of making big moves, you will dramatically increase your chances of success.

The social side of strategy

Nobel laureate Daniel Kahneman described in his book *Thinking, Fast and Slow* (Farrar, Straus and Giroux, 2011) the "inside view" that often emerges when we focus only on the case at hand. This view leads people to extrapolate from their own experiences and data, even when they are attempting something they've never done before. The inside view also is vulnerable to contamination by overconfidence and other cognitive biases, as well as by internal politics.

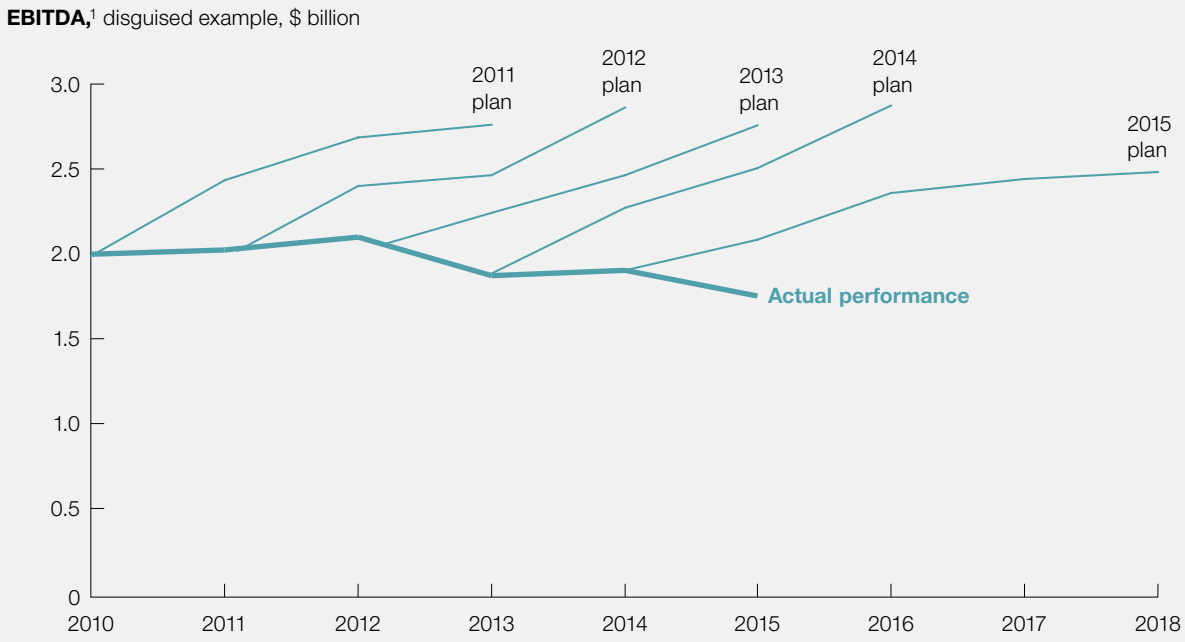
It's well known by now that people are prone to a wide range of biases, such as anchoring, loss aversion, confirmation bias, and attribution error. While these unintentional mental shortcuts help us filter information in our daily lives, they distort the outcomes when we are forced to make big, consequential decisions infrequently and under high uncertainty—exactly the types of decisions we confront in the strategy room. When you bring together people with shared experiences and goals, they wind up telling themselves stories, generally favorable ones. A study found, for instance, that 80 percent of executives believe their product stands out against the competition—but only 8 percent of customers agree.[1]

Then, add agency problems, and the strategy process creates a veritable petri dish for all sorts of dysfunctions to grow.[2] Presenters seeking to get that all-important "yes" to their plans may define market share so it excludes geographies or segments where their business units are weak, or attribute weak performance to one-off events such as weather, restructuring efforts, or a regulatory change. Executives argue for a large resource allotment in the full knowledge that they will get negotiated down to half of that. Egos, careers, bonuses, and status in the organization all depend to a large extent on how convincingly people present their strategies and the prospects of their business.

That's why people often "sandbag" to avoid risky moves and make triple sure they can hit their

If you understand the social side of strategy, the odds of strategy revealed by our research, and the power of making big moves, you will dramatically increase your chances of success.

Exhibit 1 **One thing leads to another: Social dynamics and cognitive biases can lead to successive hockey sticks.**



[1] Earnings before interest, taxes, depreciation, and amortization.

targets. Or they play the short game, focusing on performance in the next couple of years in the knowledge that they likely won't be running their division afterward. Emblematic of these strategy-room dynamics is the hockey-stick presentation. Hockey sticks recur with alarming frequency, as the experience of a multinational company, whose disguised results appear in Exhibit 1, demonstrates. The company planned for a breakout in 2011, only to achieve flat results. Undeterred, the team drew another hockey stick for 2012, then 2013, then 2014, then 2015, even as actual results stayed roughly flat, then trailed off.

To move beyond hockey sticks and the social forces that cause them, the CEO and the board need an objective, external benchmark.

The odds of strategy

The starting point for developing such a benchmark is embracing the fact that business strategy, at its heart, is about beating the market; that is, defying the power of "perfect" markets to push economic surplus to zero. Economic profit—the total profit after the cost of capital is subtracted—measures the success of that defiance by showing what is left after the forces of competition have played out. From 2010 to 2014, the average company in our database of the world's 2,393 largest corporations reported $920 million in annual operating profit. To make this profit, they used $9,300 million of invested capital,[3] which earned a return of 9.9 percent. After investors and lenders took 8 percent to compensate for use of their funds, that left $180 million in economic profit.

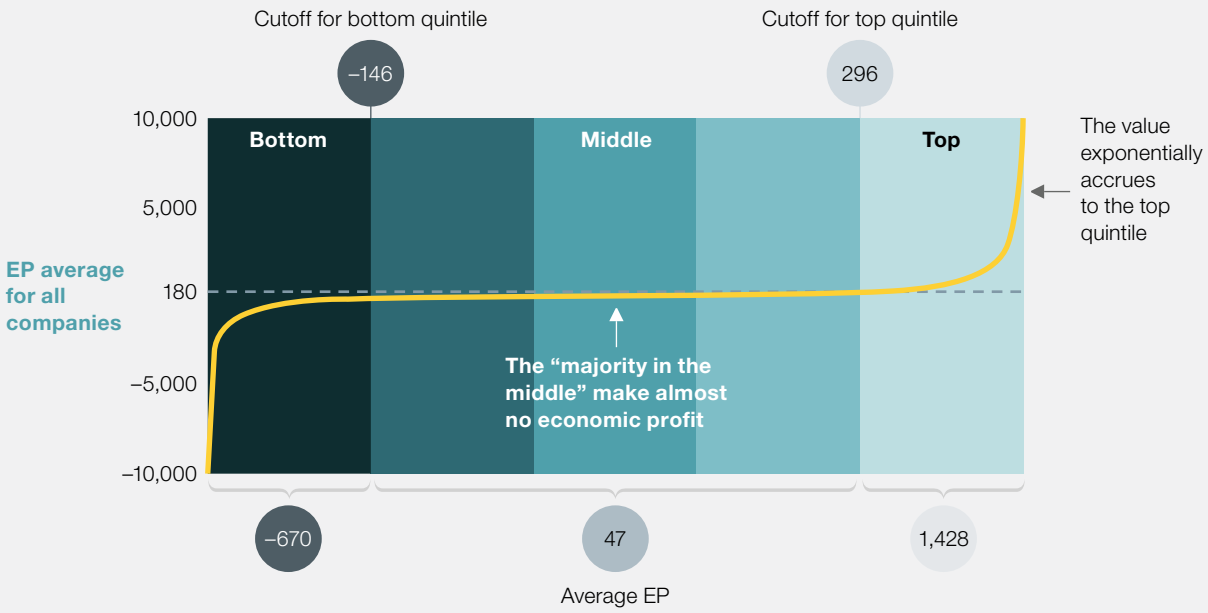
Plotting each company's average economic profit demonstrates a power law—the tails of the curve rise and fall at exponential rates, with long flatlands in the middle (Exhibit 2). The power curve reveals a number of important insights:

- Market forces are pretty efficient. The average company in our sample generates returns that exceed the cost of capital by almost two percentage points, but the market is chipping away at those profits. That brutal competition is why you struggle just to stay in place. For companies in the middle of the power curve, the market takes a heavy toll. Companies in those three quintiles delivered economic profits averaging just $47 million a year.

- The curve is extremely steep at the bookends. Companies in the top quintile capture nearly 90 percent of the economic profit created, averaging $1.4 billion annually. In fact, those in the top quintile average some 30 times as much economic profit as those in the middle three quintiles, while the bottom 20 percent suffer deep economic losses. That unevenness exists within the top quintile, too. The top 2 percent together earn about as much as the next 8 percent combined. At the other end of the curve, the

Exhibit 2 **The power curve of economic profit: The global distribution of economic profit is radically uneven.**

Average annual economic profit (EP) generated per company, 2010–14, $ million, n = 2,393[1]

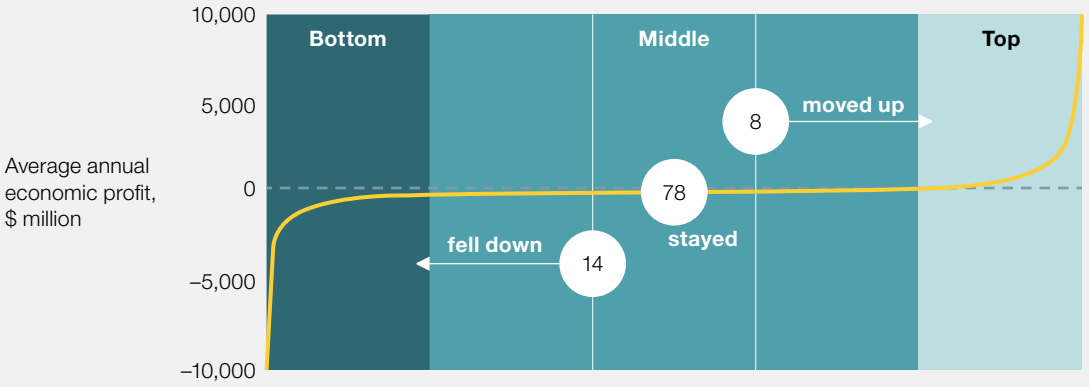


[1] Excluding 7 outliers (companies with economic profit above $10 billion or below –$10 billion).

Source: Corporate Performance Analytics by McKinsey

Exhibit 3 **What are the odds? Companies have an 8 percent chance of jumping from the middle to the top.**

% of companies staying in or moving out of middle 3 quintiles, n = 1,435



Source: Corporate Performance Analytics by McKinsey

undersea canyon of negative economic profit is deep—though not quite as deep as the mountain is high.

- The curve is getting steeper. Back in 2000 to 2004, companies in the top quintile captured a collective $186 billion in economic profit. Fast forward a decade and the top quintile earned $684 billion. A similar pattern emerges in the bottom quintile. Since investors seek out companies that offer market-beating returns, capital tends to flow to the top, no matter the geographic or industry boundaries. Companies that started in the top quintile ten years earlier soaked up 50 cents of every dollar of new capital in the decade up to 2014.

- Size isn't everything, but it isn't nothing, either. Economic profit reflects the strength of a strategy based not only on the power of its economic formula (measured by the spread of its returns over its cost of capital) but also on how scalable that formula is (measured by how much invested capital it could deploy). Compare Walmart, with a moderate 12 percent return on capital but a whopping $136.0 billion of invested capital, with Starbucks, which has a huge 50 percent return on capital but is limited by being in a much less scalable category, deploying only $2.6 billion of invested capital. They both generated enormous value, but the difference in economic profit is substantial: $5.3 billion for Walmart versus $1.1 billion for Starbucks.

- Industry matters, a lot. Our analysis shows that about 50 percent of your position on the curve is driven by your industry—highlighting just how critical the "where to play" choice is in strategy. Industry performance also follows a power curve, with the same hanging tail and high leading peak. There are 12 tobacco companies in our research, and nine are in the top quintile. Yet there are 20 paper companies, and none are in the top quintile. The role of industry in a company's

position on the power curve is so substantial that it's better to be an average company in a great industry than a great company in an average industry.

- Mobility is possible—but rare. Here is a number that's worth mulling: the odds of a company moving from the middle quintiles of the power curve to the top quintile over a ten-year period are 8 percent (Exhibit 3). That means just one in 12 companies makes such a leap. These odds are sobering, but they also encourage you to set a high bar: Is your strategy better than the 92 percent of other strategies?

The power of big moves

What can you do to improve the odds that your company will move up the power curve? The answer is lurking in our data. Consider this analogy: to estimate a person's income, we can start with the global average, or about $15,000 per year. If we know that the person is American, our estimate jumps to the average US per capita income, or $56,000. If we know that the individual is a 55-year-old male, the estimate jumps to $64,500. If that guy works in the IT industry, it jumps to $86,000. And if we know the person is Bill Gates, well, it's a lot more than that.

Adding ever more information similarly helps to zero in on the probabilities of corporate success. Even if you know your overall odds, you need to understand which of your attributes and actions can best help you raise them. We identified ten performance levers and, importantly, how strongly you have to pull them to make a real difference in your strategy's success. We divided these levers into three categories: endowment, trends, and moves. Your endowment is what you start with, and the variables that matter most are your revenue (size), debt level (leverage), and past investment in R&D (innovation). Trends are the winds that are pushing you along, hitting you in the face, or buffeting you from the side. The key variables there are your industry trend and your exposure to growth geographies. In analyzing the odds of moving on the power curve, we found that endowment determines about 30 percent and trends another 25 percent.

The moves that matter

However, it is your moves—what you do with your endowment and how you respond to trends—that make the biggest difference. Our research found that the following five moves, pursued persistently, can get you to where you want to go:

- Programmatic M&A. You need a steady stream of deals every year, each amounting to no more than 30 percent of your market cap but adding over ten years to at least 30 percent of your market cap. Corning, which over the course of a decade moved from the bottom to the top quintile of the power curve, shows the value of disciplined M&A. Corning understands that doing three deals a year means it must maintain a steady pipeline of potential targets, conduct due diligence on 20 companies, and submit about five bids.

- Dynamic reallocation of resources. Winning companies reallocate capital expenditures at a healthy clip, feeding the units that could produce a major move up the power curve while starving those unlikely to surge. The threshold here is reallocating at least 50 percent of capital expenditure among business units over a decade. When Frans van Houten became Koninklijke Philips's CEO in 2011, the company began divesting itself of legacy assets, including its TV and audio businesses. After this portfolio restructuring, Philips succeeded at reinvigorating its growth engine by reallocating resources to more promising businesses (oral care and healthcare were two priorities) and geographies. Philips started, for example, managing performance and resource allocations at the level of more than

Even if you know your overall odds, you need to understand which of your attributes and actions can best help you raise them.

340 business-market combinations, such as power toothbrushes in China and respiratory care in Germany. That led to an acceleration of growth, with the consumer business moving from the company's worst-performing segment to its best-performing one within five years.

- Strong capital expenditure. You meet the bar on this lever if you are among the top 20 percent in your industry in your ratio of capital spending to sales. That typically means spending 1.7 times the industry median. Taiwanese semiconductor manufacturer Taiwan Semiconductor Manufacturing Company (TSMC) pulled this lever when the Internet bubble burst and demand for semiconductors dropped sharply. The company bought mission-critical equipment at the trough and was ready to meet the demand as soon as it came back. TSMC had been in a head-to-head race before the downturn but pulled clear of the competition after it ended because of its investment strategy. That laid the foundation for TSMC to become one of the largest and most successful semiconductor manufacturing pure plays in the world.

- Strength of the productivity program. This means improving productivity at a rate sufficient to put you at least in the top 30 percent of your industry. Global toy and entertainment company Hasbro successfully achieved the top quintile of the power curve with a big move in productivity. Following a series of performance shortfalls, Hasbro consolidated business units and locations, invested in automated processing and customer self-service, reduced head count, and exited loss-making business units. The company's selling, general, and administrative expenses as a proportion of sales fell from an average of 42 percent to 29 percent within ten years. Sales productivity lifted, too—by a lot. Over the decade, Hasbro shed more than a quarter of its workforce yet still grew revenue by 33 percent.

- Improvements in differentiation. For business-model innovation and pricing advantages to raise your chances of moving up the power curve, your gross margin needs to reach the top 30 percent in your industry. German broadcaster ProSieben moved to the top quintile of the power curve by shifting its model for a new era of media. For example, it expanded its addressable client base by using a "media for equity" offering for customers whose business would significantly benefit from mass media but who couldn't afford to pay with cash. Some of ProSieben's innovations were costly, sometimes even cannibalizing existing businesses. But, believing the industry would move anyway, the company decided that experimenting with change was a matter of survival first and profitability second. ProSieben's gross margin expanded from 16 percent to 53 percent during our research period.

Greater than the sum of the parts

Big moves are most effective when done in combination—and the worse your endowment or trends, the more moves you need to make. For companies in

the middle quintiles, pulling one or two of the five levers more than doubles their odds of rising into the top quintile, from 8 percent to 17 percent. Three big moves boost these odds to 47 percent.

To understand the cumulative power of big moves, consider the experience of Precision Castparts Corp. (PCC). In 2004, the manufacturer of complex metal components and products for the aerospace, power, and industrial markets was lumbering along. Its endowment was unimpressive, with revenues and debt levels in the middle of the pack, and the company had not invested heavily in R&D. PCC's geographic exposure was also limited, though the aerospace industry experienced enormous tailwinds over the following ten years, which helped a lot.

Most important, however, PCC made big moves that collectively shifted its odds of reaching the top quintile significantly. The company did so by surpassing the high-performance thresholds on four of the five levers. For mergers, acquisitions, and divestments, it combined a high value and large volume of deals between 2004 and 2014 through a deliberate and regular program of transactions in the aerospace and power markets.

PCC also reallocated 61 percent of its capital spending among its three major divisions, while managing the rare double feat of both productivity and margin improvements—the only aerospace and defense company in our sample to do so. While nearly doubling its labor productivity, PCC managed to reduce its overhead ratio by three percentage points. It lifted its gross profit-to-sales ratio from 27 to 35 percent.

The combination of a positive industry trend and successful execution of multiple moves makes PCC a showcase of a "high odds" strategy and perhaps explains why Berkshire Hathaway agreed in 2015 to buy PCC for $37.2 billion. Could our model have predicted this outcome? Based on the moves PCC made, its odds of rising to the top were 76 percent.

Patterns of movement

You should be mindful of several dynamics when undertaking major strategic moves. First, our research shows that really big moves can "cancel out" the impact of a poor inheritance. Making strong moves with a poor inheritance is about as valuable as making poor moves with a strong inheritance. And even small improvements in odds have a dramatic impact on the expected payoff, owing to the extremely steep rise of the power curve. For example, the probability-weighted expected value of a middle-tier company increasing its odds to 27 percent from the average of 8 percent is $123 million—nearly three times the total average economic profit for midtier companies.

Big moves are also nonlinear, meaning that just pulling a lever does not help; you need to pull it hard enough to make a difference. For instance, productivity improvements that are roughly in line with the improvement rates of your industry won't provide an upward boost. Even if you are improving on all five measures, what matters is how you stack up against your competitors.

And four of the five big moves are asymmetric. In other words, the upside opportunity far outweighs the downside risk. While M&A is often touted as high risk, for example, in reality programmatic M&A not only increases your odds of moving up the curve but simultaneously decreases your odds of sliding down. Capital expenditures is the one exception. By increasing capital expenditures, your chances of going up on the power curve increase, but so do the chances of dropping.

In general, making no bold moves is probably the most dangerous strategy of all. You not only risk

stagnation on the power curve but also miss out on the additional reward of growth capital, which mostly flows to the winners. ■

[1] See Dominic Dodd and Ken Favaro, *The Three Tensions: Winning the Struggle to Perform Without Compromise*, first edition, San Francisco, CA: Jossey-Bass, 2007.

[2] Agency problems emerge when an agent is required to make decisions for another person or group whose information, preferences, and interests may not be aligned with the agent's.

[3] We measure profit as NOPLAT—net operating profit less adjusted taxes. Invested capital comprises operating invested capital of $6,660 million and goodwill and intangibles of $2,602 million. In other words, 28 percent of the capital of a typical company represents additional value over book value paid in acquisitions.

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Looking behind the numbers for US stock indexes

Record-high equity markets are prompting worries that stocks are overpriced. But a closer look finds that the market's current value may not seem so extreme.

Ravi Gupta, Bin Jiang, and Tim Koller

After a series of record-breaking closes for US stocks and the prospect that lower corporate tax rates might continue to boost markets, investors had plenty to be excited about as 2017 drew to a close. But the run-up has also spurred growing concerns of a bubble in overpriced shares. At the time of this writing, the S&P 500 index's one-year-forward price-earnings (P/E) ratio stood at 18.6,[1] higher than in the majority of years over the past five decades.

Yet it bears remembering that the headline number was misleading during the dot-com bubble around the turn of the century. And it may be so again. By digging deeper into what is behind that P/E ratio and putting it into a context that includes the real economy, a picture of market value begins to emerge that doesn't seem so extreme. Executives should focus on the value of their company and their industry, not markets as a whole. That said, additional perspective can help investors and strategic planners alike make better decisions.

Carrying weight

The S&P 500 is a value-weighted index, meaning that each company's contribution to the index is not equal but a reflection of its individual value. While in most years unusually high- or low-value companies will cancel out any distortion to the index overall, that isn't always the case. In 1999, for example, a small number of megacapitalization (megacap) stocks[2] with very high P/E ratios distorted

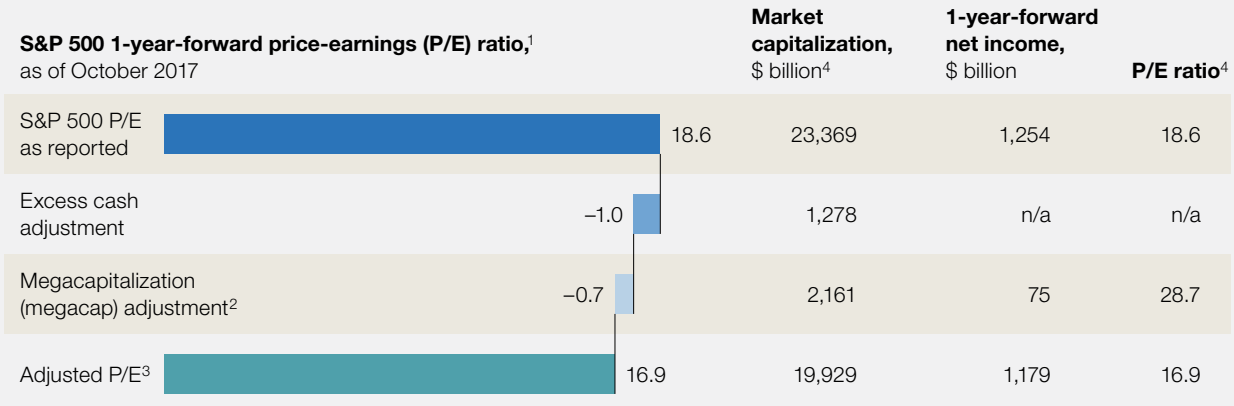
the index. Removing those companies led to a P/E ratio for the rest of the index that was well within normal bands. Something similar happened decades earlier. In 1972, a high-market-capitalization company like Kodak traded at 37 times its forward earnings, and Xerox traded at 39 times.

We find the same situation today. Four megacap companies—Amazon, Facebook, Google (Alphabet), and Microsoft—together valued at more than $2 trillion, account for 10 percent of the index and, as a group, trade at a P/E ratio of 29.[3] Excess cash among the remainder accounts for another $1.2 trillion. (The S&P 500's total market capitalization at the time of this writing in December 2017 was $23.4 trillion.) Excess cash distorts the index because it generates very little in earnings, leading to an implied high P/E multiple.[4] This is the case with the unusually large levels of cash held by a number of companies today. Removing the four companies mentioned above from the calculation and adjusting for the excess cash that companies held as they awaited changes to tax laws before repatriating foreign profits reduces the current P/E ratio to 16.9 (Exhibit 1). This is much closer to the range typical in "normal" economic times such as the mid-1960s, the late 1980s and early 1990s, and the years 2003 and 2004, when the US economy was growing and inflation was under control.

A real test

It is useful to put that number into context by relating it to the real economy.[5] A company's value and the market as a whole (as well as the P/E ratio) are related to its cash-flow generation and its cost of capital. Cash-flow generation, in turn, depends on profit growth and return on capital. Using a discounted cash-flow model, we can reverse engineer the S&P 500's P/E ratio to see what future

Exhibit 1 **Adjusting for excess cash and four megacapitalization companies, the S&P 500's current price-earnings ratio would drop to about 16.9 from 18.6.**



[1] Based on S&P 500 constituents as of Oct 23, 2017.
[2] In this comparison, the megacap companies are Amazon, Facebook, Google (Alphabet), and Microsoft.
[3] 1-year-forward P/E defined as (market capitalization adjusted for excess cash)/1-year-forward net-income estimate.
[4] Numbers may not sum, because of rounding.

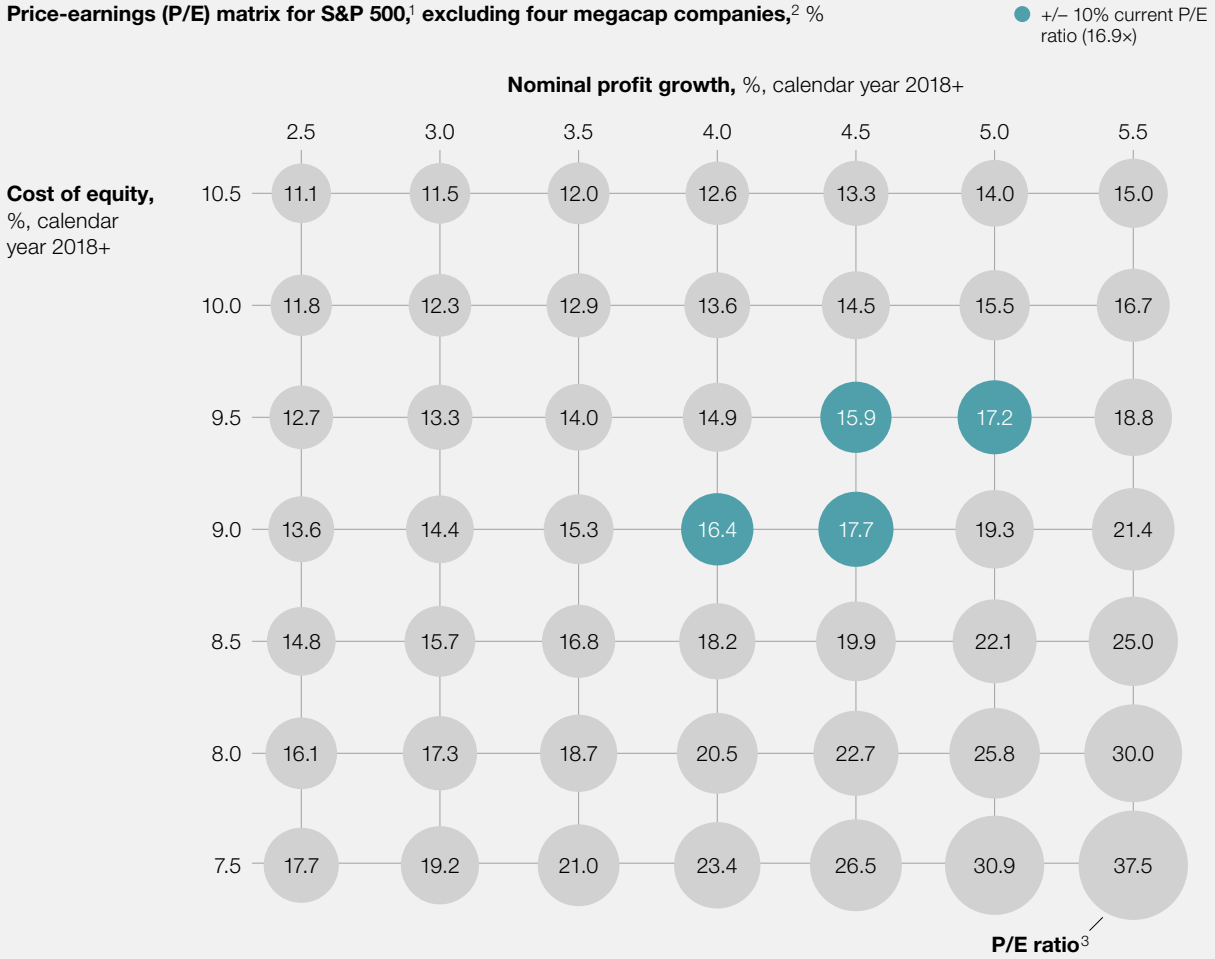
Source: Capital IQ; CPAnalytics; DataStream; McKinsey analysis

performance would be required to justify that P/E ratio. A 16.9 P/E ratio is consistent with a long-term profit growth rate of about 4.5 percent.[6] Subtracting about 2.0 percent for expected inflation leads to a long-term real profit growth of about 2.5 percent. Profit growth is often compared with growth in GDP. That profit growth would be slightly over the 2.3 percent average annual GDP growth over the past 20 years, but below the 50-year rate of 2.8 percent. As for GDP forecasts, some analysts believe that the United States is stuck in a slow-growth environment of less than 2.0 percent real growth, while others believe that potential growth is closer to 2.5 to 3.0 percent.

Care should be taken in comparing profit growth with GDP growth. On the one hand, corporate profits have been growing faster than US GDP and are near all-time highs, relative to GDP. These profit increases have occurred partly because of higher earnings from outside the United States and partly because of a shift in the economy toward higher-profit industries such as technology, pharmaceuticals, and medical devices. For example, the share of profits earned by high P/E industries, including technology, pharmaceuticals, and medical devices, increased from 13 percent in 1989 to 32 percent in 2014.[7] On the other hand, the share of profits from low P/E industries, including automotive, mining, oil, chemicals, paper, and utilities, has declined from 52 to 26 percent during the same period.

Furthermore, some industrial companies, particularly those that provide critical components to other companies, have been able to increase their profit margins. Whether or not profit growth will keep up with GDP growth or slow is subject to debate. Another factor to consider is how the substantial reduction in corporate taxes as part of the US tax-reform effort plays out. Lower taxes could lead to a one-time increase in corporate profits or be eroded by competition, in which case savings would be mostly passed on to customers.

Exhibit 2 **Small changes in assumptions about cost of equity and growth can produce large changes in price-earnings ratios.**



[1] Based on S&P 500 constituents as of Oct 23, 2017.
[2] The 4 megacap companies are Amazon, Facebook, Google (Alphabet), and Microsoft.
[3] Based on an incremental return on equity of 22%.

Source: Capital IQ; CPAnalytics; DataStream; McKinsey analysis

Overly sensitive?

The P/E ratio is very sensitive to small changes in assumptions about future growth and the cost of equity (Exhibit 2). For example, a 16.9 P/E is equivalent to a lower cost of equity of 8.5 percent and a lower nominal growth rate of 3.5 percent, compared with the base case presented above. Our earlier research explained that the cost of equity had not decreased with central-bank policies of quantitative easing that produced unusually low interest rates.[8] Others have argued that low rates are here to stay for a very long time and that the cost of equity should be lower.

The margin of error in interpreting P/E ratios is quite large. In general, a half-percentage-point change in the cost of equity changes the P/E ratio by a whopping two times, or about a 10 percent change in the index (about 260 points at the recent index value of 2,600). Similarly, a half-percentage-point change in the projected growth rate changes the P/E ratio and value by between 5 and 10 percent.

This high level of sensitivity means that investors and executives shouldn't read much into value fluctuations of 10 percent or even 20 percent. While a deep recession will undoubtedly reduce share prices for a period of time, what matters for long-term investors is the long-term trend in corporate profits and returns on capital.

For executives, it bears repeating that there isn't much evidence that the cost of equity has declined significantly, despite low interest rates, so companies probably shouldn't lower their required rates of return for investments. Furthermore, executives should focus on the value of their company and industry, not the market as a whole. They should also not put much weight on stock-market volatility, which will always be present and should not influence strategy. ■

[1] Price-earnings (P/E) ratio is defined as share price/one-year-forward earnings.
[2] We define megacaps as companies that have attained market capitalizations in the hundreds of billions of dollars, with very high P/E ratios.
[3] While Apple has a larger market capitalization than these companies, its P/E ratio (adjusted for its very large cash reserves) is below the average for the S&P 500.
[4] The multiple on cash is high because both its return and cost of capital are very low. Suppose a company earns 1 percent on its cash. Because cash enjoys low risk, its cost of capital is also 1 percent. So, $1 billion of cash would earn about $10 million per year, or a P/E ratio multiple of 100.
[5] Ritesh Jain, Bin Jiang, and Tim Koller, "What's behind this year's buoyant market," *McKinsey on Finance*, October 2014, McKinsey.com.
[6] Assuming a 9.2 percent cost of equity and a 22 percent return on equity.
[7] Tim Koller, "Are share buybacks jeopardizing future growth?," *McKinsey on Finance*, October 2015, McKinsey.com.
[8] Richard Dobbs, Tim Koller, and Susan Lund, "What effect has quantitative easing had on your share price?," *McKinsey on Finance*, Number 49, Winter 2014, McKinsey.com.

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How to know when better profit margins aren't better for your company

At some point, cost cutting and higher prices can hinder growth and destroy value.

Tim Koller and Jack McGinn

Ask CEOs if the ability to increase profit margins year after year would help their companies compete more successfully against peers, and you're likely to hear a resounding yes. After all, if making a profit is a company's raison d'être, cutting costs or increasing prices to improve profit margins are good things, right?

Not necessarily. At some point, cost cutting can be counterproductive, starving a company of new sources of growth and undermining performance over the long term. Managers at one consumer-packaged-goods company, for example, increased its profits at double-digit rates for seven years by emphasizing margin growth—even though revenues grew at only 2 percent a year over that period. Eventually, the company ran out of healthy opportunities to cut costs and began slicing into activities that benefitted its customers and brands. Performance slumped so badly that managers were compelled to acknowledge, in the annual report, that they had underinvested in product development and marketing—and then had to spend considerably more on those functions to reset the business.

Indiscriminate margin-boosting price increases can also be counterproductive. Savvy readers will

recognize the scenario at one large North American company where executives asked few questions of a business unit that regularly hit its earnings targets—until its performance faltered. Later on, they learned that the unit's managers had produced years of strong profit growth largely by increasing prices. That allowed competitors to step in with similar but less expensive products, cutting into the unit's market share.

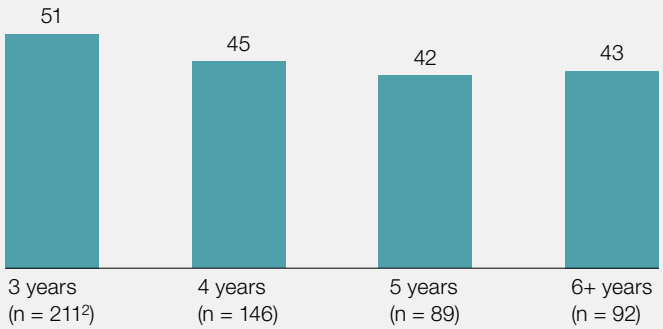
It turns out there are limits to how much—or how long—companies can improve their profit margins. We recently studied the margin performance of 615 of the largest nonfinancial companies from 2001 to 2013. We found that around two-thirds were able to sustain their margin improvements over three consecutive years at least once during the 13-year period. About half were able to sustain a margin increase for four or more years. Since there are thousands of potential four-year sequences across 615 companies and 13 years, the fact that half the companies could sustain such a margin increase just once suggests a low success rate for the total number of potential four-year or longer time periods.

More important, the longer companies increased their profit margins, the more likely they were to fall behind their peers in terms of TRS once their margin growth stalled. Only about half of the companies that sustained margin improvements for three years were able beat their peers' TRS in the years that followed—about the same odds as flipping a coin. Improving margins for four years made subsequent performance even worse, not better (exhibit).

These results are averages and don't apply to all companies. How long a company can increase its margins without undermining its performance

Exhibit **Companies that improve their profit margins for more than three years running are less likely to outperform peers.**

% of companies with 2-year total-shareholder-returns growth[1] higher than their industry medians



[1] Cumulative total-shareholder-returns growth for the 2 years after the final year of profit-margin increase among 615 nonfinancial companies in the S&P 500 from 2001 to 2013.
[2] Total number of companies that delivered 3 consecutive years of profit-margin increases from 2001 to 2013.

depends on the starting point. Underperforming companies with low initial margins or companies in certain phases of the industry cycle, for example, probably have more leeway for increases. But the longer companies increase their profit margins, the more vigilant managers must be to avoid cutting corners.

Fortunately, a few straightforward rules of thumb can help managers avoid taking margin improvements too far. Among them:

Customer focus. Managers seeking to increase margins should cut costs only when it doesn't affect customers negatively. Expediting the closing of the books at the end of each month, streamlining production processes, or introducing sophisticated fulfillment tools can cut administrative, manufacturing, and distribution costs without hurting the quality of the product or the experience of its customer down the road.

Competitor focus. Cost cuts or price increases might boost earnings in the short term. But those that affect a company's ability to market and sell its products or to meet changing customer needs will generally hurt performance in the medium to long term—which can be just a few years. The same can be said of cuts that affect a company's ability to get its marketing and sales message out to customers.

Industry focus. Before raising prices, managers should conduct a thorough review of their industry-, product-, and transaction-level strategies. Finding ways to capture more of the price a company already charges, by examining discounts, allowances, rebates, and other deductions, is probably less risky than outright increases in list prices. Cutting overhead too far can also be detrimental if it leaves managers without the information and analytics they need to understand a company's performance in light of industry and competitive dynamics.

When a narrow focus on next year's profits limits the growth potential of a business, its managers must consider whether they're exercising discipline or inadvertently starving shareholders of the potential for long-term returns. ■

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Bots, algorithms, and the future of the finance function

Automation and artificial intelligence are poised to reshape the finance function. Knowing what to automate and managing the disruption can lead to a new era of productivity and performance.

Frank Plaschke, Ishaan Seth, and Rob Whiteman

For years, a global pharmaceutical company had outsourced its procure-to-pay finance activities, such as processing invoices and paying suppliers. Savings from low-cost labor and improved processes had yielded savings, but managers were eager to explore whether automation could unlock new opportunities. After assessing for themselves how much work could be automatable, estimating the value at stake, and calculating the investment required, they challenged the company's offshore business-process outsourcer (BPO) to show that it could compete with an automated model. In the end, the pharmaco managers decided not to bring the outsourced elements home to automate. But they did renegotiate the company's BPO contract, saving 40 percent or more over the next three years.

Offshoring, outsourcing, and centralization have been the bread and butter of improving the finance function's productivity for decades. As the pharmaco's experience shows, tech-savvy CFOs are now considering automation to propel a new wave of efficiency and performance. By our assessment, the economics of automating many finance activities are already compelling—a resounding success in some areas, even if performance is mixed in others. Today's cheaper, better, and faster technology seems destined to reshape the finance function—and without the multiyear headaches that many CFOs associate with early enterprise-resource-planning (ERP) installations.

As in other business settings where automation has become increasingly viable, its implications in

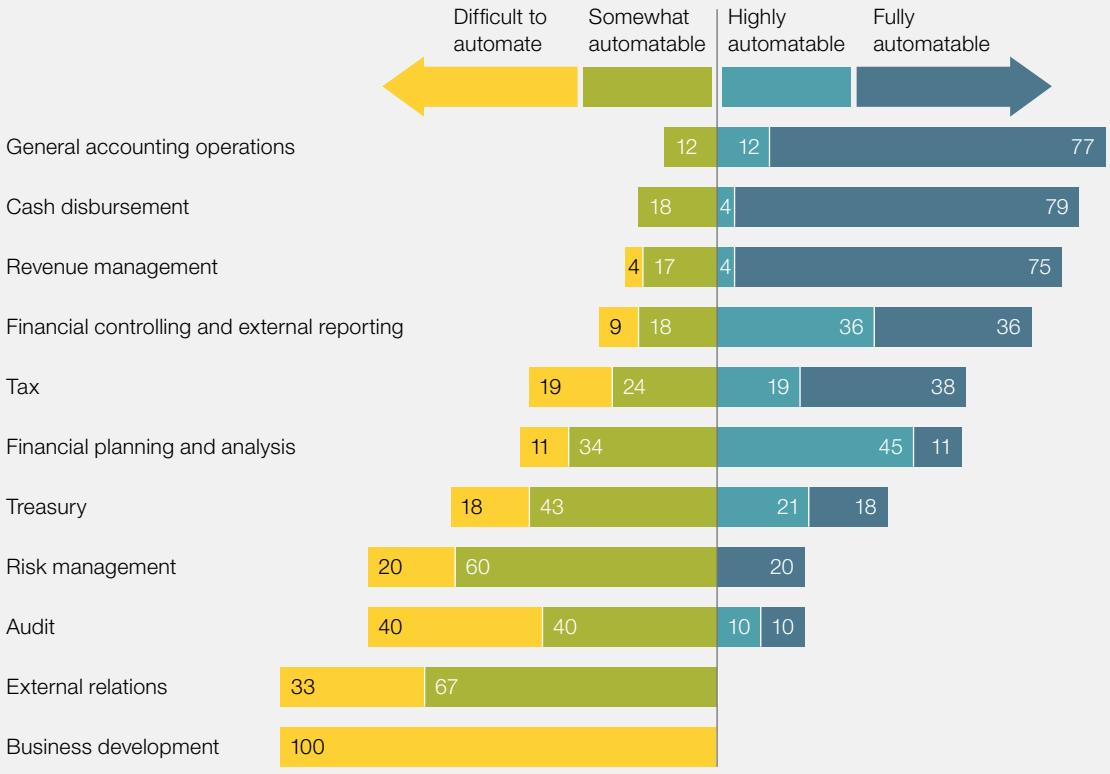
finance look to be disruptive for companies and outsourcers alike. The trend raises issues that executives must consider as they adopt a more automated finance operating model, whether internally or through outsourcing. For starters, automating the finance function may be enticing conceptually, but benefits can be elusive. CFOs will need a clearer understanding of what kinds of activities can be automated. To take full advantage of the opportunity, they'll also need to rethink processes and organizations around the technology in a fundamental way. And they will need to manage the disruption to get through the effort without breaking an already stretched function.

Understand what can be automated

Finance organizations perform a wide range of activities, from collecting basic data to making complex decisions and counseling business leaders. As a result, the potential for improving perfor-

Exhibit 1 **Transactional activities are the most automatable, but opportunities exist across most subfunctions.**

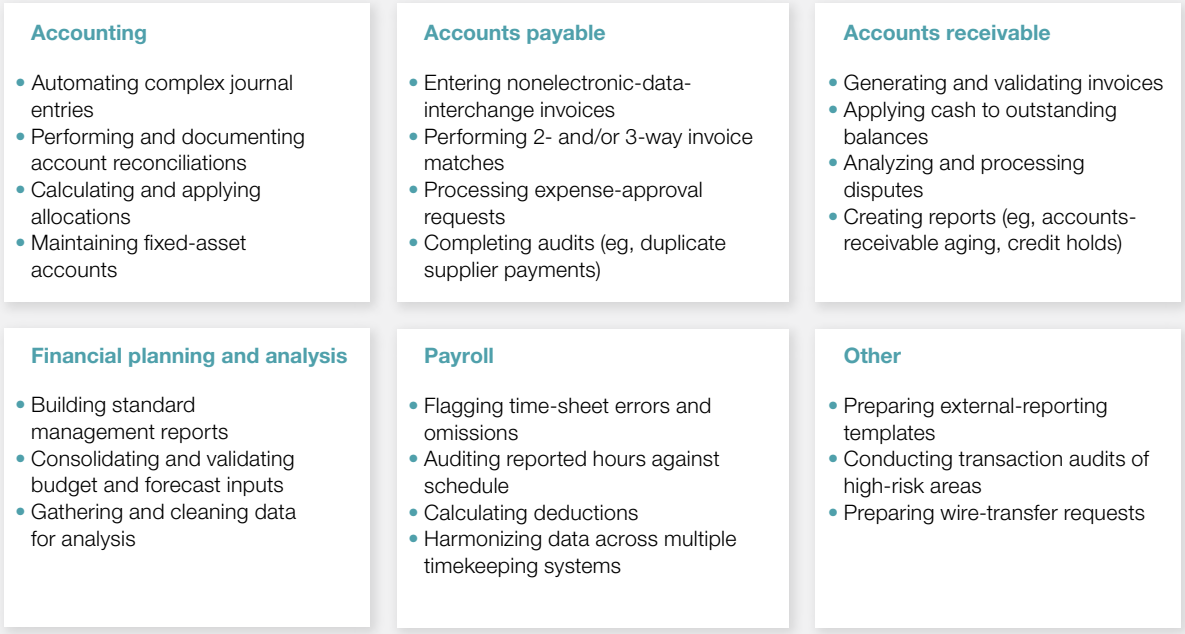
Activities that can be automated using demonstrated technologies, %[1]



[1] Proportion of tasks. May not add to 100%, because of rounding.

Source: McKinsey analysis

Exhibit 2 **Many activities in the finance function can be automated.**



Source: McKinsey analysis

mance through automation varies across sub-functions and requires a portfolio of technologies to unlock the full opportunity. Applying the same methodology outlined in the McKinsey Global Institute's automation research, we found that currently demonstrated technologies can fully automate 42 percent of finance activities and mostly automate a further 19 percent (Exhibit 1).

About a third of the opportunity in finance can be captured using basic task-automation technologies such as robotic process automation (RPA). Working atop existing IT systems, RPA is a class of general-purpose software often referred to as "software robotics"—not to be confused with physical robots. RPA and complementary technologies, like business-process management and optical character-recognition tools, have been applied successfully across a number of activities in finance (Exhibit 2).

Many of the technologies that enable basic task automation, including robotic process automation, have been around for some time—but they've been getting better, faster, and cheaper over the past decade. Moreover, many automation platforms and providers were start-ups a decade ago, when they struggled to survive the scrutiny of IT security reviews. Today, they're well established, with the infrastructure, security, and governance to support enterprise programs. Today's task-automation tools are also easier to deploy and use than first generation technologies. Where a manger once had to wait for

an overtasked IT team to configure a bot, today a finance person can often be trained to develop much of the RPA work flow. We estimate that it makes sense from a cost/benefit perspective to automate about half of the work that can be technically automated using RPA and related task-automation technologies.

Capturing the remainder of the opportunity requires advanced cognitive-automation technologies, like machine-learning algorithms and natural-language tools. Although they are still in their infancy, that doesn't mean finance leaders should wait for them to mature fully. The growth in structured data fueled by ERP systems, combined with the declining cost of computing power, is unlocking new opportunities every day.

One technology company, for example, developed an algorithm that monitors internal and external data to audit expense reports. The algorithm cross-checks them against travel data and personnel data—since travel needs vary by role and rank—to highlight potentially fraudulent activity. In this case, the company uses the output to identify areas where policies may be unclear, not for enforcement. A similar effort enabled the company to audit vacation time continuously: an algorithm compared declared vacation days with data from badge swipes and computer-usage data to confirm whether employees were reporting vacation time accurately. Cases like these represent the beginning, not the end, of what's possible with cognitive-automation technologies.

Rethink people and processes around the technology

Today, processes in the finance function are purposefully designed to harness the collective brain power and knowledge of many people. The temptation for managers as they implement an automation program is to follow that same pattern, retrofitting a particular automation tool into the existing process. Moreover, managers often see automation as a technology initiative that can be led by the IT department. As a result, companies end up with a patchwork of incongruous technology tools that automate separate and distinct parts of the process. This approach is fine for capturing the first 5 percent or so of automation's impact. But unlocking the full potential requires a fundamentally different way of thinking.

To capture that potential, managers must be willing to reengineer their processes completely. At one global financial company, for example, team managers systematically went through each part of the record-to-report process, redesigning the activities and organizational structures around a portfolio of technologies. These managers used task-automation technologies such as robotic process automation for purposes such as preparing journal entries, as well as cognitive-automation technologies such as machine learning to reconcile differences among disparate accounting records. Although they haven't yet begun deploying natural-language tools to produce report commentary,[1] they have not only proved that these technologies work but also designed their processes to adopt them down the road. The result was a road map that these managers expect will unlock 35 percent savings from automation over the next two years.

At a heavy-equipment producer, managers had long used spreadsheets to forecast monthly sales and production. Frustrated with the time consumed and the imprecision of manual forecasts, they tasked a team of four data scientists with developing an algorithm that would automate the entire process. Their initial algorithm used all the original sales and operations data, as well as additional external information (about weather and commodities, for example). In this case, within six months, the company eliminated most of the manual work required for planning and forecasting—with the added benefit that the

algorithm was better at predicting market changes and business-cycle shifts.

Manage the disruption

In theory, finance has many opportunities to redeploy its people. Financial-planning and financial-analysis professionals could be retasked to support the business. Tax specialists could be refocused to maximize after-tax income.

But, especially in transactional functions, the hard reality is that automation—if implemented effectively—will inevitably lead to changes in organizational structures, redefined roles, and layoffs. At one global financial institution, the CFO is on pace to release a quarter of the company's 20,000-person shared-services organization over the next 24 months. That's bound to be disruptive, and there's no point in pretending these realities don't exist or trying to hide an automation program behind closed doors.

The leadership and vision of the CFO, in particular, are paramount, just as with any finance transformation. In our experience, the best approach is to manage automation systematically along these lines:

- Start with the more mundane, transactional tasks, which inherently have higher turnover. Rather than releasing a lot of people, in many cases you just don't fill existing roles as people leave. Also, such roles usually don't require a major organizational redesign to capture automation's benefits. A team that currently requires 20 people could simply reduce its head count to ten by using a fully or partially automated solution. Going after basic tasks first allows the remaining employees to focus on the more professionally rewarding tasks, and early wins create the capacity and funding that help the finance function to fund other parts of the automation journey by itself.

  One institution started by rolling out some 200 bots to automate work at its offshore shared-services centers. That allowed the company to develop a playbook, a governance model, and a workforce-management strategy that could be deployed elsewhere. It also created the foundation needed to consider automating more complex, higher-order processes, such as financial modeling and audit.

- Create a human-resources and placement capability that works in lockstep with the CFO and the finance function. Automating more complex activities, such as a company's controllership and tax functions, often means releasing people, since these areas have less turnover than more transactional work. For many companies, redeploying people has proved a challenge. Most just take the savings or, worse, incur new

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automation costs without a corresponding reduction in labor spending. Thoughtful workforce planning is critical.

Communicating a plan for the affected workers well before automation tools are introduced can help. The necessary steps include designing the future organizational structures, telling people exactly what you'll do to evaluate them fairly, and promising to do your utmost to create opportunities for redeploying personnel. Maintaining a constant lineup of open positions in finance and other parts of the company can further minimize the impact on people. Honesty and transparency are critical.

One North American bank, for example, explicitly mapped the automation solutions it was using to the approximately 200 finance employees affected. Before the organization introduced the technology, it had a plan to redeploy employees in more valuable roles. To date, the company has found ways to redeploy nearly 50 of them to other areas within and outside the finance function.

- Adapt the recruiting and retention profile to get the finance professionals you need. Even if technology intimidates some employees, a willingness—and ability—to learn new tools is important. Future leaders will be quite excited by a function on the leading edge of digitization and automation. And even CFOs of companies that aren't planning an automation program in the next year or two should seek out and recruit people who will be prepared for it when it happens.

  One technology company undertook such an effort by creating an internship program to attract machine-learning talent to the finance function. The company maintains data sets that can be used to automate activities ranging from financial forecasting to internal audit. Each year, two or three students from a local university spend the summer building algorithms and bots. Not all of these efforts succeed, but the company has begun implementing at least half a dozen solutions developed by the interns. Similar programs will be critical to attracting talent that can lead an increasingly automated finance function.

■ ■ ■

Automation is already reshaping the future of work in the finance function, and the opportunity to boost performance will fuel the trend. Adapting to disruption is challenging, but CFOs who build a clear early perspective on the nuances of the automation journey will be well positioned to thrive. ■

[1] As opposed to commentary written by people.

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