# THE 2017 VALUE CREATORS REPORT DISRUPTION AND REINVENTION IN VALUE CREATION



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#### THE 2017 VALUE CREATORS REPORT

# DISRUPTION AND REINVENTION IN VALUE CREATION

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## **PREFACE**

ISRUPTION AND REINVENTION IN VALUE CREATION is the 19th annual report in the Value Creators series published by The Boston Consulting Group. Each year, we offer commentary on trends in the global economy and the world's capital markets, share BCG's latest research and thinking on value creation, and publish detailed empirical rankings of the world's top value creators.

This year's report addresses two related themes. The first is how companies can create value in times of disruption by adjusting their strategies and business models on the fly. The second theme is how value creation leaders can outperform both in the near term and consistently over time by adjusting the levers that deliver TSR. The report includes three articles that were published during 2017. It also includes the rankings of the top ten value creators worldwide and in 32 industries for the five-year period from 2012 through 2016.

## VALUE CREATION AND CORPORATE REINVENTION

N THE FACE OF industry disruption, company owners focus on two questions: How will the company navigate the changes taking place? And what should business look like on the far side of the storm? Disruption upends not only markets and models but also the paradigms within which companies operate. Traditional goals for stable times, such as near-term EPS growth, are rendered irrelevant. Management teams need to shift gears, think like owners, and apply the fundamental tools of value creation with a reinvention mindset.

## When Disruption Your Way Comes

There are plenty of causes of disruption today-market shifts, technology advances, regulatory changes, and fluid trade policies, for example—and few industries are immune. Digital technology alone has upended multiple industries in recent years, and its impact is only beginning to be felt in others. Newer technologies such as artificial intelligence, augmented and virtual reality, and blockchain are gaining traction. According to CB Insights, some 215 "unicorns" (startups valued at \$1 billion or more) are active in more than 20 industries today. More and more publicly held insurgents have surpassed incumbents in value and are appearing regularly at the top of our value creator rankings. The advent of fast-moving and powerfully backed

insurgents is a strong signal for incumbents to take a hard look at the likely future of their current models and portfolios.

To continue to outperform in disruptive times, leaders must change their strategies, portfolios, and sometimes their business models. But radical reinvention—revamping portfolios and rethinking how companies compete and how they create value for their shareholders—is a tall order. Most companies are not used to reinventing their business models. And because established organizations are often hardwired to deny the need for disruptive change, they resist business models that upset the status quo.

As a result of these "reinvention barriers," the odds against successful transformation in the face of disruption are really long—only about one in three companies emerges successfully. More important, though, is that the companies that do make the transition often create even more value than they did previously—an average of 14 additional percentage points of annual TSR than their peers.

## The Rules of Value Creation Still Apply

The same best-practice value creation tools that have been successful in stable times can be even more important in disruptive circumstances. They provide invaluable focus and insights into how to navigate the changes taking place. They can also guide priority setting, from a long-term investor's point of view, for the reinvention program.

In relatively stable business environments. sustaining value creators do four things to consistently deliver superior results. First, they focus explicitly on the goal of TSR relative to their peers (rTSR) over a period longer than the current year (usually three to five years). Second, they make use of all the financial drivers of TSR—revenue growth, maintenance or expansion of profit margins, generation and allocation of free cash flow, and the management-controlled factors affecting their P/E multiple—and they reassess the priority assigned to each as times change. (See Exhibit 1.)

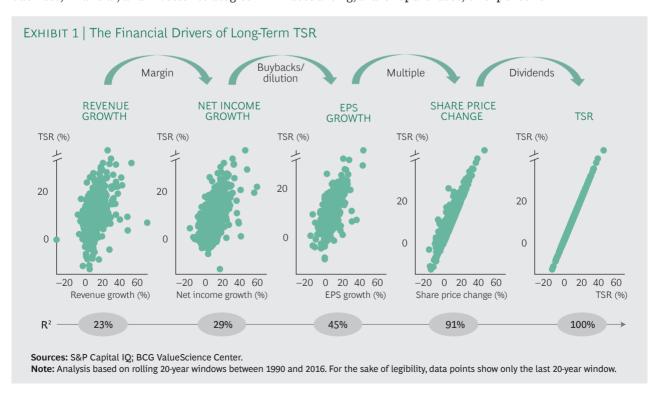
Third, they avoid using simplistic proxies for TSR success, such as managing quarterly or annual EPS growth, which in fact do not correlate strongly with TSR, even over longer time frames, and can be subject to manipulation or gaming. (See Exhibit 2 and the sidebar, "The Rules of Best-Practice TSR Management.")

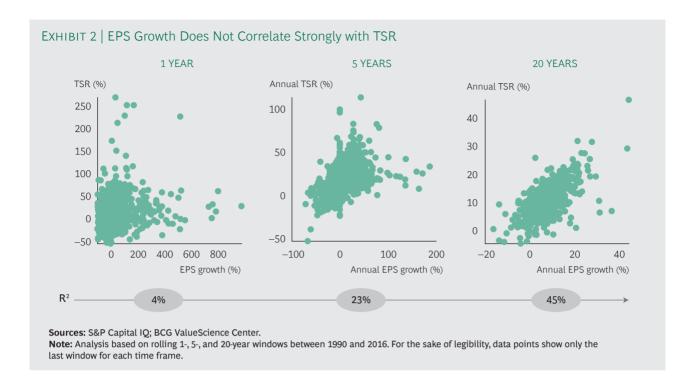
Fourth, they recognize the need to continually reexamine and periodically realign their business, financial, and investor strategies

and priorities as part of the ongoing corporate strategy process.

In times of actual or potential disruption, companies need a governance objective to guide their reinvention toward a winning outcome and provide the discipline to stay the course, since disruption is by definition distracting. The rTSR metric, both relative to the market and relative to peers, provides such a goal. The rTSR best-practice management tools described above will provide a leg up in both navigating disruption and delivering ongoing superior value creation relative to peers. More traditional objectives, such as steady EPS growth, an increasing dividend, or revenue growth at a "served-market plus" rate, are likely to be no longer relevant—or even feasible—at least in the short term. All that counts in disruptive times—and all that executives can fully manage—is rTSR compared with the peers that are subject to the same disruptive challenges or opportunities.

One of the biggest drivers of rTSR success is likely to be what happens to each company's P/E multiple given how investors perceive who the future winner(s) will be. Managing cash flow will also be more critical than trying to prop up EPS growth through creative accounting, share repurchases, or expense re-





duction when the underlying people or capabilities may be needed to meet the disruption challenge.

The experience of two tech companies-Adobe and Microsoft—illustrates the power of a focus on rTSR during disruptions. Adobe is one of only nine companies to have consistently outperformed over the past 20 years, with an annualized TSR of 16.8% from 1996 through 2016, compared with a median of about 10% for all the companies in BCG's value creation database and 11.5% for the tech sector. And during that period, it undertook a major transformation of its business model.

Over the past five years, Adobe has posted an annualized TSR of 29.5% (number 11 among all large-cap companies), compared with 16.1% for the overall database and 18.4% for the tech sector. Microsoft, which has also undergone significant business model transformation, isn't far behind, with 22.4% annual TSR over the past five years. The key reason for both companies' strong TSR performance is the much-improved quality of their earnings, rather than their quantity, which highlights the benefits of their transformations. Adobe's EPS has grown by only 6.7% a year over the past five years, compared with 8.2% on average for tech companies. Microsoft's EPS even contracted by 5% a year over the

same period. At the same time, both companies' trailing P/E multiples have expanded by more than 20% a year (from as low as 9.3x to 28.8x for Microsoft and from 16.7x to 43.8x for Adobe), reflecting investors' positive reaction to the moves both management teams are making.

Companies facing disruption will also need to rethink the alignment of their business, financial, and investor strategy priorities. Legacy capital allocation priorities can be either strained by disruption, become barriers to confronting disruption, or both. But while rethinking the business strategy is an obvious high priority, it can't be divorced from developing and communicating a clear value proposition to the kind of investors who will support management—and the company's P/E—during the disruption period or from developing a revised set of financial policies that reduce risk, preserve flexibility, and provide confidence to the market that the changes underway will work.

When disruption is not occurring but the cloud is on the horizon, the rTSR metric provides an early-warning signal that can help top management mobilize its organizations and boards. Companies should monitor the rTSR of their peer group versus the overall market as a routine exercise. When the peer

#### THE RULES OF BEST-PRACTICE TSR MANAGEMENT

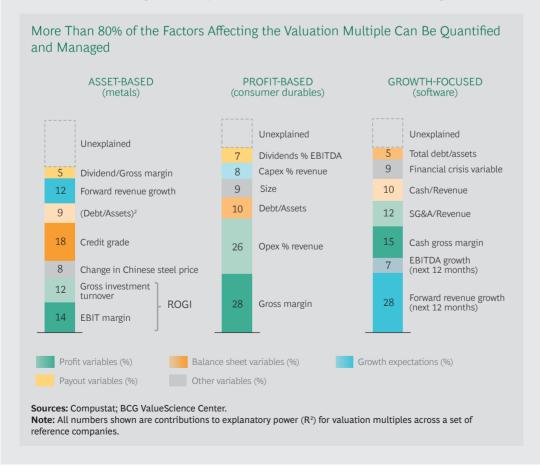
The right governance focus in both stable and disruptive times is rTSR success. There are four reasons.

First, rTSR is objective. The P/E multiple component puts the market in charge. Investors can evaluate not only earnings growth and earnings performance versus expectations but also the quality of the earnings and whether the underlying cash flow is sustainable. That said, our research in multiple sectors has shown that 80% of the factors that drive a company's multiple relative to its peers (which is what counts from an rTSR perspective) are largely under management's control. (See the exhibit "More Than 80% of the Factors Affecting the Valuation Multiple Can Be Quantified and Managed.")

Second, the market is efficient. It has proven itself very good at reflecting all the known factors affecting a company and its performance in the company's stock price. Investors collectively do not leave value on the table. This creates a level playing field for all companies to compete in delivering superior rTSR looking forward—no one is advantaged or disadvantaged owing to past performance. It's all about future performance improvements and/or continuing to beat the fade that is baked into market expectations for most companies.

Third, rTSR corrects for macroeconomic and broad industry trends and events that are beyond management's control. In this way, the metric reflects the value that management, through strategy, planning, and execution, adds to (or subtracts from) the enterprise.

Finally, rTSR is the only thing that matters to the investors that own a company. They may have different priorities for how superior rTSR is achieved (a growth focus

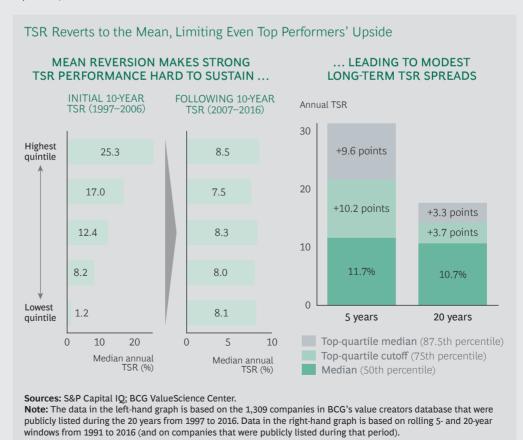


## THE RULES OF BEST-PRACTICE TSR MANAGEMENT (continued)

versus a cash generation and payout focus), but in the end, rTSR success is what will keep them invested and supportive of management's agenda.

An explicit rTSR governance focus needs to be based on a clear understanding of just how difficult it is to continuously win the rTSR competition with a company's peers. Our analysis of the S&P 500, as well as of many specific industry sectors, shows that the odds of delivering above-average rTSR year in and year out are similar to a random coin toss: 50% in one period, 25% for two periods in a row, 12.5% for three periods in a row. These odds hold true even for top performers, because the valuation multiple component means that they typically revert back to average TSR over time. (See the exhibit "TSR Reverts to the Mean, Limiting Even Top Performers' Upside.")

For this reason, strategic plans should always be developed with an eve to winning on rTSR over the next three- to five-year period (and not every year in the period). Moreover, incentive program payouts should be based on realistic assessments of the frequency of delivering aboveaverage rTSR and on the level and period of outperformance required to trigger a top incentive award. For example, delivering top-quartile TSR over five years typically requires performing 10 percentage points above the industry median, while delivering top-quartile TSR over a 20-year period typically requires only about a 4 percentagepoint spread over the median.



group is underperforming the market (and the cause is not normal industry cyclicality), it may be a signal of impending disruption from a source such as regulatory change, new technology, or demographic shifts. When the peer group is underperforming the market and the company is underperforming its peers, that is an even stronger signal that reinvention is needed.

We examined the performance of 1,952 companies that attracted attention from activist investors from 2000 through 2017. These activist targets underperformed both the S&P 500 and their industry indices by more than 7 percentage points in the year before the activist arrived. They underperformed the S&P

500 by more than 3 percentage points, and the industry index by almost 6 percentage points, in the three years prior. Given a market and typical industry average TSR of about 9%, a 3 to 7 percentage-point gap is a clear call to action.

**B** CG has studied the patterns and drivers of rTSR success for almost three decades. In stable times, as well as in times of financial crisis, recession, technology change, or disruption, companies that win combine a willingness to embrace reinvention with the guidance and discipline of best-practice TSR management.

# CREATING VALUE FROM DISRUPTION (WHILE OTHERS DISAPPEAR)

THE ODDS ARE LONG, but the payoff is big. Only about one in three companies successfully evolves in the face of industry disruption. Trillions of dollars of shareholder value have vaporized as once high-flying companies failed to navigate major shifts driven by technology, consumers, or regulation. But companies that do make the transition often create even more value than they had previously.

About one in three companies successfully evolves in the face of industry disruption.

Disruption, including rapid technological change, is at the top of most companies' agendas, and rightly so: more industries and companies than ever before are facing the need to adapt. As Cisco's John Chambers told the *Wall Street Journal* in 2015, "Every company's future is going to depend on whether they catch the market transitions right." Here's what successful companies did to catch those transitions right.

#### Long Odds...

The track record is stark. Across a long list of industries (including agriculture, apparel, fi-

nancial services, food, media, pharmaceuticals, retail, technology, and travel), substantive industry shocks have hobbled, if not crippled, incumbents. For the relatively few that navigated the transition, five numbers stand out:

- 33: The percentage of companies that successfully steered through the change when industry disruption occurred. The other 67% went out of business, got bought, or stumbled through years of stagnating or declining value.
- 10: The percentage of market capitalization that constituted a sufficiently large bet. Companies need to bet big to overcome the drag of the old way of doing things and reach the critical mass that will enable the business to flourish in the new regime. Those that do not make bets of this magnitude or more are likely to fail.
- 20: The rough percentage (generally from 10% to 20%) of revenue that had to be generated by the new business model to overcome internal resistance and signal to investors that the change was significant and successful. Internal organizations will conspire against half-hearted transitions, and investors are unlikely to recognize or reward companies that do not identify a credible path to move a fifth of their business or more into the new paradigm.

- **5:** There were five components to a successful response. The key for successful companies was that they almost always employed a coordinated agenda consisting of all five elements.
- 14: Doing all five things together delivered value—to be precise, an average of 14 additional percentage points of annual TSR if all five components of the transition agenda were successfully employed. Note that this was 14 points more than their peers. The spread over nonsurvivors was, of course, much higher. (See Exhibit 3.)

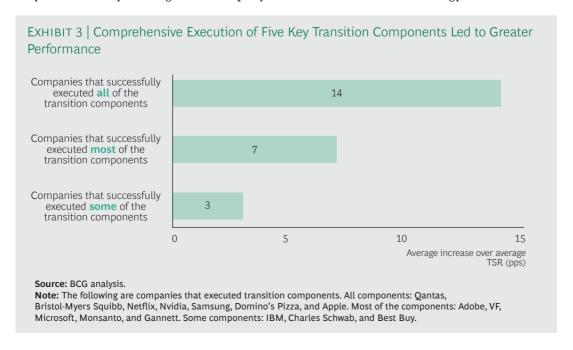
#### ...And High Hurdles

Traditional companies start with lots of builtin hurdles. Incumbents are not used to reinventing their business models; after years of industry stability, their managerial skills and talent are generally honed toward methodical and incremental improvements within the existing paradigm. Furthermore, longstanding beliefs about how the world works can blind these companies to challenges from insurgents. Because established organizations are often hardwired to deny the need for disruptive change, they resist business models that upset the status quo. In addition, economic models based on scale positions or competitive capabilities usually convey substantial advantage—until they no longer do, and then they often actually work against a company's

ability to transform. It's a tough combination for management to overcome.

Even when companies recognize the need for change and take action, they're likely to fall into one or more traps. Most often, they fail to understand the full scope of the changes necessary or the implications for their value chains and business models. Poor timing, acting half-heartedly, or waiting too long before they move decisively are also common pitfalls. While there are cases of companies moving overly aggressively toward a new regime before it's taken shape, the more common cause of failure is reacting too slowly or incompletely. Companies experiment without feeling the pressure to scale up. They adopt new technologies without evolving the business model. Or they make a single big bet without taking the time to fully understand how existing assets can be valuable in the endgame.

The initial response of newspaper and magazine publishers to the digital disruption of print media is an example. It took years of losing readers and, more critically, advertisers, before many companies responded effectively to the fundamental attack on their long-standing business models. The imaging industry is another example: remember Polaroid and Kodak? Most of the failures follow a well-documented pattern: denial, derisking, and decline. Even technology has not been



immune: Wang Laboratories, Digital Equipment, and Gateway, among other major innovators, are no more.

#### **How Thrivers Create Value**

Less well documented are the thrivers: the one-third of companies that navigated an industry inflection to remain—or become—leaders in the new regime. Situations and actions differed enormously, but, in general, thrivers did five things well.

Bigger bets ensure that the "new way" has enough heft to command respect.

They engaged the threat. Thrivers understood the threat of disruption and its potential effects on their business models early, took preemptive steps to prepare—and disrupted on their own. For example, as airline deregulation took hold in Australia in the late 1990s, giving rise to low-cost carriers (LCCs) with significant operating and cost advantages, legacy carrier Qantas moved to start its own LCC, Jetstar Airways, while its major prederegulation competitor collapsed. This involved building an entirely new organization on the basis of very different operating principles and processes. Success was far from certain: the history of the global airline industry since deregulation is littered with bankrupt legacy carriers and failed LCCs. In fiscal year 2016, Jetstar had revenue of A\$3.6 billion and generated earnings before interest and taxes of A\$452 millionalmost 25% of Qantas's total.

Similarly, when Adobe saw the transformational potential of cloud-based services, such as software as a service, the company moved aggressively to a subscription-based product, revamping its engineering organization to function around one-month product cycles. Today, cloud-based products make up 85% of Adobe's revenue, compared with 15% in 2012, and revenue is up by 33% by capturing share from those that did not make the transition as aggressively. Adobe's shares have far out-

performed its software industry peers, many of which have been slower to embrace the cloud

They bet decisively (and they got the timing right). The magnitude of the response matters. When thrivers took action, they made investments equivalent to at least 10% of the company's market cap, in the form of M&A or the capitalized value of internal investments, such as R&D. Bigger bets are certainly riskier, but in the face of disruption, such bets provide two distinct benefits. First, they ensure that the "new way" has enough heft to command organizational respect. Second, they signal to capital markets that the company has momentum and that a significant and growing portion of their business is benefiting, rather than suffering, from the disruption. BCG research has found material increases in the multiples awarded companies that act decisively, compared with those that do not.

Consider Monsanto, for example. When big jumps in oil prices in the early 1980s disrupted the company's large chemicals businesses, it changed direction. It spent 3% to 5% of its revenue annually through the decade on the R&D of genetically modified organisms—which it paid for by spinning off legacy businesses. Despite a tumultuous period in the 1990s, Monsanto emerged as an agricultural powerhouse with a genetic seed portfolio that helped the company more than triple its revenue in the first 15 years of this century.

They paid their way. Transformations take time and money, and investors are not known for their patience or charity. Companies that thrived found a way to fund their journey, either from substantive performance acceleration programs (which are often focused on cost) in the legacy business or through the disposal of assets that don't fit the new world. In some cases, the magnitude of performance improvement and the clear skew of capital away from the core sent a clear and unmistakable signal: the future is elsewhere, this business's role now is to generate cash to fund the journey.

Facing increasing competitive intensity and changes in technology, Bristol-Myers Squibb

(BMS) set about transforming itself from a broad-based health care organization with an emphasis on pharmaceuticals into a highmargin biopharmaceutical leader focused on specialty drugs. It paid the way by shrinking to grow and executing a multibillion dollar productivity improvement initiative over a number of years. It also launched a targeted M&A strategy to acquire high-potential drugs.

One bet that paid off big was the \$2.4 billion acquisition of Medarex in 2009. Two drugs developed at Medarex and acquired by BMS were among the first immuno-oncology drugs approved by the FDA, in 2011 and 2014, for use in treating certain cancers. The acquisition was the start of an \$8.3 billion bet on immuno-oncology. BMS's market cap, which was \$38 billion in 2007, increased 1.5 times, to \$96 billion, at the end of 2016. (See "Bristol-Myers Squibb: Reshaping the Portfolio to Create Superior Shareholder Value," BCG article, October 2016.)

Their top executives championed the new business. Thrivers all took decisive steps to protect and support the new business-and prevent the legacy organization from sabotaging it—until the venture could reach maturity. They did this in one of two ways. Either the "new way" was personally championed by the CEO, or the new business was kept independent from the legacy organization until sufficiently mature and successful. Under both approaches, strong leadership, well-designed incentives, and substantial top-down commitment were critical elements of success.

In 2011, the new CEO of Gannett—which, like many print media companies, had suffered major value erosion—launched a multifaceted transformation that has led to a four-fold increase in shareholder value as other publishers have continued to struggle, been sold, or gone out of business. In addition to taking the steps described above, she invested in building an adjacent business, which led to splitting the company into two publicly traded entities in 2015.

To help champion the changes and push the organization to pursue the transformation, she funded the building of an integrated digital capability at the corporate level and kept its budget isolated from the operating groups. She also personally approved the funding of key technology initiatives (such as a subscription paywall on the company's websites and apps) to support the core business, sidestepping the usual financial analysis and approval process and accelerating execution by months.

#### They brought investors along for the ride.

Investors that own stable businesses with predictable earnings typically value the large cash flows that such companies generate. And these investors often don't appreciate the need for transformation—and the investment that accompanies such change—until the disruptive threat is affecting performance. Then they sell and move on, and the company's valuation suffers the consequences.

Thrivers disrupted the company without disrupting the stock.

Thrivers solved this problem by continuing to provide stable earnings and increasing payouts while delivering a transformed business model. They disrupted the company without disrupting the stock. They also used highly transparent investor communications to clearly articulate the transformation plan and lay out the milestones that management must meet. They reported regularly on progress. Some companies actively segmented their investor base and created outreach programs to cultivate support from influential and vocal members of the financial community while they managed key existing and target investors one-on-one.

Best Buy, which managed a wrenching transformation during the meltdown of the consumer electronics retail segment, kept investors on board by talking the talk and walking the walk. The company aggressively communicated revenue and customer retention strategies that included turning the "showrooming" trend to its advantage, rolling out the "store within a store" model with major suppliers, such as Apple and Samsung, and expanding into digital and online retailing.

Best Buy had a simple message of customer focus and service, putting it this way in its 2008 annual report: "The core of our story, as we look to the future, is based on the hypothesis that we live in an age when technology is producing transformative change, enabling people to accomplish more with their lives than could have been dreamed possible two or three decades ago. We believe that to realize the many potential benefits of these changes, our customers will need a friend who can help them enable their dreams of digital connectivity—and that we will be that friend, through the talents of our employees." Best Buy increased its dividends per share every year from 2003 to 2016 and is one of the few consumer electronics retailers to survive the shift online that brought about the demise of Circuit City and Radio Shack, among others.

#### Putting All the Pieces Together

Managing disruption is hard. The odds are stacked against a company, and it's tough to succeed by taking half steps. Thriving through disruption requires an orchestration of five individually bold moves that must be executed concurrently.

At Microsoft, for instance, former CEO Steve Ballmer and Satva Nadella, acting as senior vice president of R&D for online services and then executive vice president of the servers and tools business, laid a significant amount of the foundation; as CEO, Nadella built the house. Ballmer recognized the disruption to Microsoft's long-standing and fabulously successful license- and desktop-based business model. And he did not underestimate the extent of the threat. He bet boldly, moving away from the Wintel model that had been at the root of the company's success almost since its inception. He articulated and drove a vision of shifting from a software-sales to a cloud-based business model. He pulled top engineering talent from the server business and created a separate unit to build Azure, Microsoft's cloud platform. Similarly, he set in motion the process of transforming Microsoft Office from a software product to a cloudbased service.

As reported in its 2010 letter to shareholders, approximately 70% of Microsoft's engineers and most of its \$8.7 billion R&D budget at that time were dedicated to cloud-related products and services. Microsoft paid its way with aggressive cuts to its cost structure and in 2010 began steadily increasing its quarterly dividend.

When Nadella took over as CEO in early 2014, he pushed organizational alignment through the senior team and the sales force using goals that were simple to define and measure. He also communicated these efforts to investors. Perhaps the most ambitious of the targets was achieving an annual revenue run rate of \$20 billion from cloud services by 2018. (When he set the target in 2015, Microsoft's cloud revenue was a little more than \$6 billion; today, the goal is well within sight.)

Nadella also freed Office from Windows, made sure that Azure was reintegrated with the company's servers and tools, and gave leaders carte blanche to grab from other areas of the business whatever resources were needed for success. He increased investment in infrastructure ahead of the curve and added another big bet with the acquisition of LinkedIn. He continued to make sure that investors were aware of and understood the transformation that was underway. Microsoft's stock price has doubled since the end of 2013, outperforming the S&P 500 by almost a factor of two at a time when many legacy technology companies, slow to invest in cloud-based services and infrastructure, have seen their valuations lag by a factor of two or more.

THE road to ruin is paved with past success; value creators blaze their own trail. To thrive in the face of disruption, companies must understand the scope of the change. They must also articulate a clear vision for their role in the disrupted future, make bold bets, fund the journey, champion the venture, and manage investors—and pull it all off in a carefully orchestrated program. It's hard work. As the pace of change accelerates, more management teams will have to rise to the challenge.

## HOW TOP VALUE CREATORS OUTPACE THE MARKET—FOR DECADES

HE BOSTON CONSULTING GROUP has been tracking value creation among largecap companies on a global basis for 19 years. Not surprisingly, a cursory look back reveals substantial turnover among the top companies each year. But a deeper look uncovers an elite group of consistent outperformers companies that have delivered outstanding value creation over a sustained period of two full decades. These companies are not always at the top of our annual value creators rankings, but more often than not they are among the strongest performers. They significantly outpace the market, and they manage to resist the fade that ultimately drags most outperformers back to average. How they do so provides some valuable lessons for others seeking to deliver strong and sustainable results for their shareholders.

#### The 2017 Rankings

First, the new news. Among the world's 200 largest companies, the top ten value creators for the five years from 2012 through 2016 delivered an impressive average annual TSR of 41%, with a range of 66% to 30%. (See Exhibit 4.) By way of comparison, the average annual TSR for the next ten best companies was a still impressive 29%. The overall average annual TSR for the approximately 2,350 companies in this year's value creators database was 16%, well above the long-term average of about 10% for the S&P 500.

The top ten companies represent six industries, with a concentration in technology, media, and telecommunications (TMT)—and Amazon, despite being listed as a retailer, also qualifies as a megacap technology player. The results are a departure from the previous two years, when pharma dominated the top ten, holding down four places each year. Nevertheless, although pharma is absent this year, it has not fallen far: three companies in the industry—Gilead Sciences, Allergan, and Celgene—rank in the top 20 (and as we shall see, they are consistent long-term value creators). As an industry, large-cap pharma (more than \$18 billion in market cap) ranks only 17th this year (17% median TSR), while mid-cap pharma (\$4 billion to \$17 billion) still ranks first. Other topfive sectors are consumer durables, automotive components, financial infrastructure providers, and medical technology. (See Exhibit 5.)

At the other end of the spectrum, with the exception of the mining industry (which had a median TSR of -5%), even industries near the bottom (such as communication service providers, oil, and metals), which have been buffeted by sector-specific economic headwinds, still managed to deliver solid, if unspectacular, median annual TSRs of 6% to 11%. And a challenging industry context does not rule out superior value creation—the top-performing companies in most industries

#### EXHIBIT 4 | The Top Ten Large-Cap Value Creators, 2012–2016

							Profit	growth	Valuation	Cash f	Cash flow contribution					
	Company	Location <sup>1</sup>	Industry	Market value (\$billions)²	Average annual TSR (%)	=	Sales growth	Margin change	+ Multiple change <sup>4</sup> +	Dividend yield	Share + change <sup>s</sup> +	Net debt change	2017 TSR (%) <sup>6</sup>			
1	Netflix	United States	Media and publishing	53.1	65.7		22	-22	70	0	-2	-3	20.7			
2	NVIDIA	United States	Technology	57.5	52.6		9	6	39	2	3	-6	35.7			
3	Tencent Holdings	China	Media and publishing	229.5	47.0		40	-3	12	1	-1	-1	43.1			
4	Broadcom	Singapore	Technology	70.5	46.1		41	5	12	2	-9	-6	33.0			
5	Charter Communications	United States	Communication service providers	77.4	35.5		32	0	11	0	-19	11	17.0			
6	ASML	Netherlands	Technology	48.6	34.2		4	0	26	7	-0	-3	8.0			
7	Amazon	United States	Retail	356.3	34.1		23	24	-10	0	-1	-2	29.1			
8	Bank of America <sup>7</sup>	United States	Banking	223.3	32.9		3	20	9	1	0	n/a	10.5			
9	KDDI	Japan	Communication service providers	62.3	31.7		6	4	13	3	1	5	2.0			
10	Charles Schwab <sup>7</sup>	United States	Asset management and brokerage	52.3	30.0		12	3	15	1	-1	n/a	9.3			

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG

Note: n = the world's 200 largest global companies by market value as of December 31, 2016. n/a = not applicable.

rank well above average, or even in the top quartile, across the full sample.

#### Why TSR Is Important...

People sometimes criticize TSR for being a time frame-dependent metric, and certainly a company's TSR performance depends on the starting point and length of the period measured. Bank of America, for example, was a top TSR performer for the most recent five years, with an annual return of 33%; however, it had a -35% annual TSR from 2006 through 2011.

That said, TSR (especially relative TSR) is valuable, because it reflects shareholders' true bottom line (the total return they receive from the moment they buy the stock). A new CEO, a shift in strategy, a big acquisition or

divestiture—all such changes signal a new phase in a company's life and a reason to start a new TSR clock ticking. Using TSR as a performance measure lets companies set goals and reward managers for delivering actual value, rather than focusing on relatively narrow measures that may be arbitrarily selected or even subject to manipulation, such as EPS growth or return on equity. TSR helps managers and boards balance short-term moves and longer-term vision. It takes some of the weight off quarterly EPS and enables companies to incentivize longer-term performance—from the shareholder's point of view.

#### ...and Difficult to Sustain

**TSR Disaggregation** (percentage-point contributions)3

Five years is hardly a short time frame, and delivering value at the level that top-ten companies do over such a period is a consider-

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

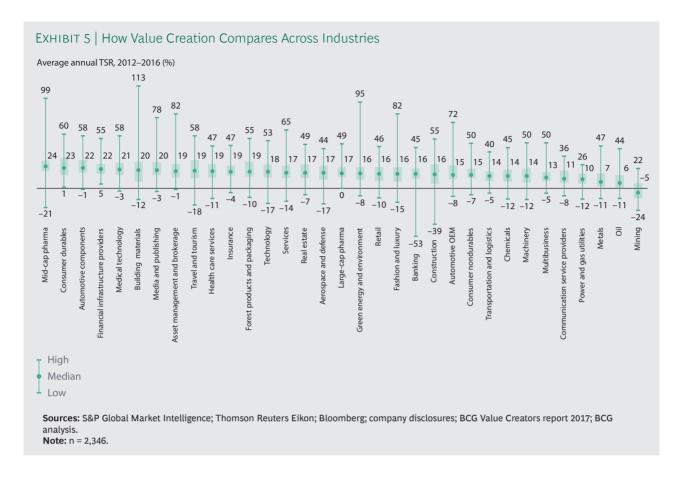
<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>4</sup>Change in EBITDA multiple. See also footnote 7.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

Because both Bank of America and Charles Schwab are treated as financial institutions, the TSR disaggregation for these companies reflects the approach used for the banking industry, in which equity growth replaces sales growth, ROE change replaces margin change, and the P/E multiple replaces the EBITDA multiple. Change in net debt is not shown.



able accomplishment. Last year, we looked at how hard it was to sustain the exceptional performance of a global top-ten company for more than a few consecutive rolling five-year periods. For example, just three of the companies in the 2017 top ten also made the 2016 list—KDDI, Netflix, and Tencent, Last year, five companies—KDDI, MasterCard, Netflix, Regeneron, and Visa-were newcomers; this year, of those five, only KDDI and Netflix remain in the top ten. (See Creating Value Through Active Portfolio Management: The 2016 Value Creators Report, BCG report, October 2016.)

The likelihood of beating the market—especially by a wide margin—year in and year out (or over consecutive measurement periods) is low. For companies in mature industries, the challenge is even greater because growth is such an important driver of long-term TSR. That said, companies in mature industries still can drive value creation by improving efficiency, allocating capital prudently, and returning cash to shareholders rather than investing it in low-return growth opportunities. At the other extreme, the primary value creation priority for high-growth companies is to "beat the fade." High-growth companies must significantly outperform expectations, because capital markets look forward and continually capitalize expected future earnings into today's stock price. As growth slows, which it almost inevitably does, falling expectations usually lead to lower valuation multiples, and this in turn reduces TSR. As a result, top-performing companies tend to move slowly to average market performance over time.

Successful companies also understand that every strategy has a useful life. Over the long term, they regularly adapt their strategies and their value delivery models to evolving circumstances. Some rebuild expectations by investing in the next wave of high-return growth opportunities. Others pursue a growth-focused model in a young or fastgrowing industry, but over time, they shift to a more balanced mix of growth, margin improvement, and rising cash payouts in order to reap higher rewards for shareholders. In the right circumstances, investors will pay up for a cash-focused, high-dividend

model or a turnaround story that emphasizes improving margins. Senior management and boards of directors must regularly review and challenge current strategies and underlying assumptions regarding such issues as the market and the company's competitive position, financial resources, and human capital.

#### Tales of 20-Year TSR

From 1997 through 2016, nine companies that rank among the largest 200 have been top-quartile value creators in at least three of the four five-year periods. They top the consistent value creators list for the past two decades by generating average annual TSR of 16% to 32% over 20 years. (See Exhibit 6.)

These are extraordinary levels of sustained value creation. Over 20 years, a 16% annual TSR results in a twenty-fold increase in absolute value, and a 33% annual TSR results in a three-hundred-fold increase in value.

The small number of consistent value creation champions is not surprising; it's close to what a statistical analysis of outperformers

versus underperformers would suggest. More interesting are the questions of where these nine companies come from and how they built their track records. Two are pharma companies, two are tech firms, and two are tobacco companies. One comes from media and publishing, and one from health care. Amazon straddles tech and retail. Seven are based in the US, one in the Netherlands, and one in South Africa.

What are these companies doing? Which value delivery models do they follow? Three (Gilead, Celgene, and Amazon) are highgrowth stories, with 20-year annual revenue growth rates of 52%, 41%, and 43%, respectively. The two pharma firms have ridden blockbuster-producing R&D programs to dizzying heights, and along the way they have also used M&A strategically to reinforce their innovation efforts. They have managed to outperform even the outsized expectations that fairly consistently become priced into such companies' stocks. (See "Innovation in 2015," BCG article, December 2015, and "Bristol-Myers Squibb: Reshaping the Portfolio to Create Superior Shareholder Value," BCG article, October 2016.)

EXHIBIT 6 | Consistent, Long-Term Large-Cap Value Creators

COMPANY	MARKET CAP <sup>1</sup>	INDUSTRY	COUNTRY	20-YEAR TSR <sup>2</sup>	5-YEAR TOP QUARTILES <sup>3</sup>
Celgene	89.7	Pharma	United States	32%	3
Gilead Sciences	94.3	Pharma	United States	26%	3
ASML	48.6	Technology	Netherlands	19%	3
UnitedHealth Group	152.3	Health care services	United States	19%	3
Adobe Systems	51.2	Technology	United States	17%	3
Altria Group	131.9	Consumer nondurables	United States	17%	3
Naspers	63.3	Media and publishing	South Africa	16%	3
Amazon	356.3	Retail⁴	United States	33% <sup>5</sup>	3
Reynolds American	79.9	Consumer nondurables	United States	22%5	3

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis.

Note: List includes all large-cap companies that were top-quartile value creators in at least three of the past four five-year periods (1997-2001, 2002-2006, 2007-2011, 2012-2016).

<sup>&</sup>lt;sup>1</sup>In \$billions as of December 31, 2016.

<sup>&</sup>lt;sup>2</sup>Average annual TSR from December 31, 1997 to December 31, 2016.

<sup>3</sup> Number of times the company was ranked in the top quartile of the large-cap sample in the past four five-year periods (1997–2001, 2002–2006, 2007-2011, 2012-2016).

<sup>&#</sup>x27;Amazon is classified as "retail," consistent with previous Value Creators reports. Given Amazon's portfolio, however, the company may be classified as "technology" in other publications.

<sup>&</sup>lt;sup>5</sup>TSR since IPO (Amazon and Reynolds were publicly listed for only part of the 20-year period).

Amazon generated its growth by fundamentally and continually disrupting one of the economy's biggest sectors-retail-and championing the development of an entirely new, high-growth industry: cloud computing. Like the two pharma firms, Amazon has for a long time met or exceeded high expectations and rebuilt expectations that it can continue its rapid growth and thereby maintain a high multiple.

Two other top companies—Altria and Reynolds American—have taken a very different approach: they have hardly grown at all. Both are in the tobacco industry, which has long been in decline. But they have managed to beat expectations and expand margins (largely by raising prices), and they have consistently returned cash to shareholders through generous dividend yields.

Between these two extremes of high growth and no growth are several companies that have pulled multiple TSR levers over time. For the first decade or so of our time frame, ASML rode a steep growth curve. Then, as the semiconductor market changed and growth slowed, the company adjusted its capital allocation strategy to return more of its cash flows to shareholders, increasing its dividend

yield to 7% over the most recent five years. Similarly, Adobe, Naspers, and UnitedHealth Group have managed slowing growth, uncertain market conditions, and investor expectations. All of these companies have achieved strong TSR and—in recent years—expanded multiples as they have repositioned themselves for the future.

OR consistent value creators, the strong tailwinds of a growth industry help, to be sure. But far more important is management's understanding of different value delivery models, its willingness to adapt its strategy and capital allocation to meet evolving conditions, and its ability to balance short-term targets and longer-term TSR goals. (See "The Art of Capital Allocation," BCG article, March 2017.) Regardless of time frame, top performers set their sights on winning in their industry or peer group—and they deliver.

There are plenty of ways to create value in both the near term and the long term. Top performers are adept at selecting the most effective ones for responding to the conditions they face.

## APPENDIX

#### THE 2017 VALUE CREATORS RANKINGS

Since 1999, BCG has published annual rankings of top value creators based on total shareholder return over the previous five-year period. The 2017 rankings reflect our analysis of TSR at approximately 2,350 companies worldwide from 2012 through 2016.

To arrive at this sample, we began with TSR data provided by S&P Capital IQ—data that covers nearly 45,000 companies. We eliminated all companies that either were not listed on a world stock exchange for the full five years of our study or did not trade at least 25% of their shares in public capital markets. We further refined the sample by organizing the remaining companies into 32 industry groups and by establishing an appropriate market-valuation hurdle to eliminate the smallest companies in each industry. (We identify the size of the market-valuation hurdle for each industry in the tables under "Industry.") For our global large-cap top-ten ranking, we focused on the 200 largest companies by market valuation.

We base the global and industry rankings on five-year TSR performance from 2012 through 2016. We also show TSR performance from January 1 through June 30, 2017. In addition, for all but three of the industry rankings, we break down TSR performance into the six investor-oriented financial metrics used in the BCG TSR disaggregation model: sales growth, margin change, multiple change, dividend yield, change in the number of shares outstanding, and change in net debt. For three industries—asset management and brokerage, banking, and insurance—we use a slightly different approach to TSR disaggregation because of the special analytical problems involved in measuring value creation in those sectors.

#### NOTE

1. TSR is a dynamic ratio that includes price gains and dividend payments for a specific stock during a given period. To measure performance from 2012 through 2016, we use 2011 end-of-year data as a starting point in order to capture the change from 2011 to 2012, which determines 2012 TSR.



#### LARGE-CAP COMPANIES

#### LARGE-CAP TOP TEN, 2012-2016

							(percentage-point contributions) <sup>3</sup>								
							Profit	growth	Valuation	Cash f	low contrib	ution			
	Company	Location <sup>1</sup>	Industry	Market value (\$billions)²	Average annual TSR (%)	=	Sales growth	Margin change	+ Multiple change⁴	Dividend yield	+ Share change <sup>5</sup>	Net debt change	2017 TSR (%) <sup>6</sup>		
1	Netflix	United States	Media and publishing	53.1	65.7		22	-22	70	0	-2	-3	20.7		
2	NVIDIA	United States	Technology	57.5	52.6		9	6	39	2	3	-6	35.7		
3	Tencent Holdings	China	Media and publishing	229.5	47.0		40	-3	12	1	-1	-1	43.1		
4	Broadcom	Singapore	Technology	70.5	46.1		41	5	12	2	-9	-6	33.0		
5	Charter Communications	United States	Communication service providers	77.4	35.5		32	0	11	0	-19	11	17.0		
6	ASML	Netherlands	Technology	48.6	34.2		4	0	26	7	-0	-3	8.0		
7	Amazon	United States	Retail	356.3	34.1		23	24	-10	0	-1	-2	29.1		
8	Bank of America <sup>7</sup>	United States	Banking	223.3	32.9		3	20	9	1	0	n/a	10.5		
9	KDDI	Japan	Communication service providers	62.3	31.7		6	4	13	3	1	5	2.0		
10	Charles Schwab <sup>7</sup>	United States	Asset management and brokerage	52.3	30.0		12	3	15	1	-1	n/a	9.3		

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis.

Note: n = the world's 200 largest global companies by market value as of December 31, 2016. n/a = not applicable.

<sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple. See also footnote 7.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

Because both Bank of America and Charles Schwab are treated as financial institutions, the TSR disaggregation for these companies reflects the approach used for the banking industry, in which equity growth replaces sales growth, ROE change replaces margin change, and the P/E multiple replaces the EBITDA multiple. Change in net debt is not shown.

## **INDUSTRY**

#### AFROSPACE AND DEFENSE

#### AEROSPACE AND DEFENSE TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Huntington Ingalls Industries	United States	8.5	43.9
2	Axon (formerly TASER Intl.)	United States	1.3	36.5
3	Leonardo	Italy	8.1	36.1
4	Northrop Grumman	United States	41.0	35.0
5	Thales	France	20.5	33.5
6	TransDigm Group	United States	13.3	32.9
7	Lockheed Martin	United States	73.2	29.9
8	Orbital ATK	United States	5.1	28.6
9	Aerojet Rocketdyne	United States	1.3	27.5
10	Raytheon	United States	41.7	27.5

		(pe	rcentage-p		<b>ggregation</b> nt contribu		ons)³			
	Profit	growth	Valuation	1	Cash	fl	ow contrib	u	tion	
=	Sales growth	Margin change	+ Multiple change	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	1	11	16		1		1		13	1.7
	24	38	-26		0		1		-1	3.7
	-7	n/m	n/m		0		0		25	10.1
	-1	1	25		3		8		-0	11.2
	3	4	21		3		-1		4	3.5
	20	-1	5		12		-1		-2	8.0
	0	6	14		5		2		4	12.6
	-1	0	22		2		-11		16	12.8
	14	5	6		0		-3		6	15.9
	-1	3	16		3		3		3	14.3

TCD D:------

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 66 global companies with a market valuation greater than \$1 billion as of December 31, 2016. n/m = not measurable.

#### ASSET MANAGEMENT AND BROKERAGE

#### ASSET MANAGEMENT AND BROKERAGE TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Magellan Financial Group	Australia	3.0	81.9
2	BT Investment Management	Australia	2.0	49.1
3	Dubai Investments	United Arab Emirates	2.6	41.0
4	3i Group	United Kingdom	8.3	36.7
5	Anxin Trust	China	7.0	35.9
6	E*TRADE Financial	United States	9.5	34.2
7	Intermediate Capital Group	United Kingdom	2.4	32.4
8	Banca Generali	Italy	2.8	32.3
9	Investment AB Latour	Sweden	5.6	30.2
10	Charles Schwab	United States	52.3	30.0

					<b>R Disaggr</b> ge-point c		<b>gation</b> ntributions	)3						
	Profit	g	rowth		Valuation		Cash flow							
=	Equity growth	+	ROE change	+	Multiple change <sup>4</sup>	+	Dividend yield	Dividend + Sha yield + chan						
	25		56		-2	5		-2	23.3					
	8		38		-2		7		-2	8.8				
	6 44 17 n/m		-15			6		0	-3.8					
			n/m	6		-0	30.9							
	92		-23		-24		2		-11	27.8				
	4		26		4		0		1	9.8				
	-4		7		14		14		2	21.6				
	20		-4		10		7		-1	19.5				
	13	13 -1			15		4		-0	25.9				
	12	12 3		15		1		-1	9.3					

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 81 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016. n/m = not measurable.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters. <sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>4</sup>Change in P/E multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### AUTOMOTIVE COMPONENTS

#### AUTOMOTIVE COMPONENTS TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Brembo	Italy	3.9	58.0
2	Motherson Sumi Systems	India	6.7	53.4
3	MRF	India	3.0	47.8
4	Plastic Omnium	France	4.7	45.6
5	Koito Manufacturing	Japan	8.5	43.6
6	Valeo	France	13.6	43.5
7	Calsonic Kansei (acquired by KKR)	Japan	4.0	34.4
8	Linamar	Canada	2.8	33.9
9	Minth Group	China	3.5	33.4
10	Continental	Germany	38.8	33.3

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>													
	Profit	g	rowth		Valuation Cash flow contribution									
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>		
	13		12		18		4		0		11	13.0		
	32		9		8		1		-1		5	41.2		
	7		22		7		0		0		11	40.1		
	7		4		22		3		-0		10	6.7		
	15		6		17		2		0		4	-6.1		
	9		3		21		4		-0		8	10.2		
	6		5		13		2		0		8	Delisted		
	16		10		2		1		-0		5	11.2		
	19		2		19		4		-1		-10	35.7		
	6		2		13		2		0		10	5.2		

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 52 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016.

#### AUTOMOTIVE OFM

#### AUTOMOTIVE OEM TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Eicher Motors	India	8.7	72.4
2	Subaru (formerly Fuji Heavy Ind.)	Japan	31.3	62.9
3	Tesla	United States	34.4	49.6
4	Maruti Suzuki India	India	23.7	42.9
5	Geely Automobile Holdings	Hong Kong	8.5	38.4
6	Chongqing Changan Automobile	China	9.7	37.7
7	Fiat Chrysler Automobiles	United Kingdom	14.0	29.8
8	Renault	France	26.2	29.6
9	Toyota Motor	Japan	173.8	25.1
10	Mazda Motor	Japan	9.8	23.8

			(pe	rc			nt contribu		ons)³			
	Profit	g	rowth		Valuation		Cash	fl	ow contrib	ou	tion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	21		16		39		1	Г	-0		-4	23.8
	18		23		6		4		0		13	-19.3
	103		n/m		n/m		0		-8		-3	69.2
	9		12		23		1		-1		-2	35.6
	21		3		7		1		-3		9	122.3
	24		n/m		n/m		3		0		4	-3.1
	13		1		-13		10		-4		22	6.5
	4		9		6		4		-2		9	-2.5
	9		15		-8		3		1		5	-12.8
	10		46		-49		1		-10		26	-16.9

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 38 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016. n/m = not measurable.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### BANKING

#### BANKING TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	KBC Group	Belgium	26.0	45.2
2	Macquarie Group	Australia	20.2	36.7
3	Natixis	France	17.7	33.3
4	Bank of America	United States	223.3	32.9
5	Emirates NBD Bank	UAE	12.8	30.1
6	Regions Financial	United States	17.7	29.4
7	Daiwa Securities Group	Japan	10.4	28.9
8	SunTrust Banks	United States	26.9	27.5
9	Kotak Mahindra Bank	India	19.5	27.3
10	Nomura Holdings	Japan	20.9	27.1

					<b>R Disaggr</b> ge-point c		<b>gation</b> ntributions]	)3		
	Profit	g	rowth		Valuation		Cash flow	СО	ntribution	
=	Equity growth	+	ROE change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	2017 TSR (%) <sup>6</sup>
	1		n/m		n/m		2		-4	14.9
	7		13		8		9		1	4.8
	-1		1		23		11		-0	15.9
	3		20		9		1		0	10.5
	9		13		2		6		0	0.5
	4		35		-12		2		0	2.9
	11		n/m		n/m		4		-0	-5.8
	3		22		-1		2		2	4.4
	27		-3		7		0		-4	32.9
	6		n/m		n/m		3		1	-0.7

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 131 global companies with a market valuation greater than \$10.0 billion as of December 31, 2016. n/m = n ot measurable.

#### BUILDING MATERIALS

#### BUILDING MATERIALS TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)2	Average annual TSR (%)
1	Bestway Cement	Pakistan	1.5	112.7
2	Lucky Cement	Pakistan	2.7	67.5
3	Dalmia Bharat	India	1.8	64.4
4	Headwaters (acq. by Boral Ind.)	United States	1.8	60.3
5	Shree Cement	India	7.6	47.3
6	Trex	United States	2.0	41.2
7	Ramco Cements	India	1.9	41.0
8	Sanwa Holdings	Japan	2.2	40.4
9	Lennox International	United States	6.6	37.1
10	Apogee Enterprises	United States	1.5	36.1

		(pe	TSR Dis		ggregation nt contribu		ons)³					
	Profit growth Valuation Cash flow contribution											
=	Sales growth	+ Margin change	+ Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>		
	21	11	34		12		-0		35	-18.9		
	24	2	31		4		0		6	-3.5		
	26	-1	23		1		-2		16	81.9		
	11	2	24		0		-4		27	Delisted		
	16	-1	28		1		0		4	15.8		
	12	30	-5	]	0		-0		5	5.1		
	7	5	15		1		-0		13	26.8		
	8	17	-2		3		1		12	7.5		
	2	15	11		2		4		3	20.2		
	11	35	-11		2		-0		0	6.7		

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. **Note:** n = 70 global companies with a market valuation greater than \$1.5 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>4</sup>Change in P/E multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### CHEMICALS

#### CHEMICALS TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Nippon Paint	Japan	8.7	45.1
2	EMS-Chemie	Switzerland	11.9	30.5
3	Lonza Group	Switzerland	9.0	29.7
4	Nitto Denko	Japan	12.5	29.3
5	Asian Paints	India	12.6	29.2
6	Braskem	Brazil	7.8	27.7
7	LyondellBasell Industries	United Kingdom	35.0	27.0
8	Sekisui Chemical	Japan	7.6	26.8
9	Sherwin-Williams	United States	25.0	26.1
10	Symrise	Germany	7.9	25.2

			(pe	rc			ggregatior nt contribu		ons)³			
	Profit	t g	rowth		Valuation		Cash	fl	ow contrib	ou	tion	
=	Sales growth	+	Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change <sup>s</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	22		20		-0		2		-4		5	33.4
	3		9		16		4		-0		-1	36.6
	9		0		6		4		0		11	28.6
	4		-0		25		3		0		-2	3.9
	12		4		11		1		0		0	24.6
	8		11		2		6		-1		3	-0.1
	-11		14		11		6		7		-0	0.4
	2		6		9		3		2		5	9.0
	6		9		6		1		2		1	31.3
	13		1		10	L	2		-2		1	8.7

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Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 56 global companies with a market valuation greater than \$7.5 billion as of December 31, 2016.

#### COMMUNICATION SERVICE PROVIDERS

#### COMMUNICATION SERVICE PROVIDERS TOP TEN, 2012–2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Charter Communications	United States	77.4	35.5
2	KDDI	Japan	62.3	31.7
3	SoftBank Group	Japan	65.8	29.2
4	PT Telekomunikasi Indonesia	Indonesia	29.3	27.9
5	Level 3 Communications	United States	20.3	27.1
6	Comcast	United States	165.2	26.0
7	Emirates Telecommunications (Etisalat)	UAE	44.5	25.0
8	Emirates Integrated Telecommunications	UAE	7.7	24.6
9	Nippon Telegraph and Telephone	Japan	85.7	23.8
10	Saudi Telecom	Saudi Arabia	38.6	23.0

		(pe	rc			ggregation nt contribu		ons)³			
	Profit	growth	Γ	Valuation		Cash	tion				
=	Sales growth	+ Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	32	0	Γ	11		0		-19		11	17.0
	6	4		13		3		1		5	2.0
	23	-3		15		1		2		-9	17.5
	10	-1	]	12		5		-0		2	16.7
	14	12	]	-5		0		-10		17	5.2
	8	-0		8		2		3		6	13.2
	10	3		7		7		-0		-2	-5.9
	8	6		2		8		0		1	-10.7
	2	-1		10		4		2		7	9.4
	-1	-1		9		6		0		9	9.3

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 55 global companies with a market valuation greater than \$7.5 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### CONSTRUCTION

#### CONSTRUCTION TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Pembangunan Perumahan	Indonesia	1.8	54.6
2	Kyudenko	Japan	1.9	49.1
3	Norinco International	China	2.0	38.9
4	AF Gruppen	Norway	1.7	38.1
5	HASEKO	Japan	3.1	36.8
6	Taisei	Japan	8.0	35.6
7	Wijaya Karya	Indonesia	1.6	34.5
8	Eiffage	France	6.5	32.9
9	Sweco	Sweden	2.4	31.3
10	Maeda	Japan	1.5	31.2

			(pe	rc			<b>ggregatior</b> nt contribu		ons)³			
	Profit	g	rowth		Valuation		Cash	fl	ow contrib	u	tion	
=	Sales growth	+	Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	21		11		21	Г	4	Г	-5		2	-16.4
	5		27		-1		3		1		14	29.8
	27		-8		33		1		-6		-7	-12.3
	10		14		10		10		-4		-2	0.2
	10		20		-15		1		0		21	17.5
	3		28		-22		2		-0		24	27.3
	15		8		19		3		-8		-3	-5.0
	1		3		1		4		-2		27	22.4
	23		-1		12		6		-5		-2	17.9
	8		20		-19		2		-0		20	23.0

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 91 global companies with a market valuation greater than \$1.5 billion as of December 31, 2016.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

#### CONSUMER DURABLES

#### CONSUMER DURABLES TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Hanssem	South Korea	3.0	59.9
2	TVS Motor	India	2.5	50.5
3	Hangzhou Robam Appliances	China	3.9	46.5
4	Man Wah Holdings	Hong Kong	2.6	41.7
5	Suofeiya Home Collection	China	3.6	41.0
6	Yamaha	Japan	5.7	40.5
7	Shimano	Japan	14.6	38.8
8	De'Longhi	Italy	3.6	34.3
9	Whirlpool	United States	13.7	33.6
10	Thor Industries	United States	5.3	33.5

			(pe	rc			gregatior nt contribu		ons)³			
	Profit	g	rowth		Valuation		Cash	fl	ow contrib	u	tion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	22		5		31		2		1		-2	-7.5
	12		3		26		3		0		6	52.8
	30		16		2		1		-0		-3	54.2
	13		23		1		7		-0		-2	33.5
	35		8		2		2		-2		-4	52.1
	3		23		8		2		1		4	9.6
	8		6		26		1		0		-2	-3.1
	0		5		22		7		0		-0	25.2
	2		6		17		3		0		5	6.6
	13		11		8		4		1		-4	5.2

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 59 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### CONSUMER NONDURABLES

#### CONSUMER NONDURABLES TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Constellation Brands	United States	30.8	49.8
2	Marine Harvest	Norway	8.1	46.1
3	Meiji Holdings	Japan	11.6	43.7
4	Vietnam Dairy Products	Vietnam	8.0	35.2
5	Thai Beverage	Thailand	14.8	33.1
6	Godrej Consumer Products	India	7.6	32.2
7	Reynolds American	United States	79.9	27.5
8	Tyson Foods	United States	22.9	25.8
9	Amorepacific	South Korea	17.4	25.6
10	Kao	Japan	23.4	24.0

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>												
	Profit	g	rowth	Valuation Cash flow contributio							tion		
=	Sales growth	+	Margin change	+ Multiple + D change⁴ +			Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>	
	21		9		12		1	Г	0		6	27.1	
	11		26		-3		7		-4		9	-9.3	
	2		15		12		2		0		13	0.1	
	17		3		11		5		-0		-1	27.2	
	7		2		19		4		0		1	8.4	
	16		1		13		1		-1		2	-35.4	
	8		9		10		6		-4		-1	17.9	
	2		17		6		1		-0		-1	2.3	
	17		1		7		1		0		0	-5.4	
	4		2		12		3	L	1		1	20.4	

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 83 global companies with a market valuation greater than \$7.5 billion as of December 31, 2016.

#### FASHION AND LUXURY

#### FASHION AND LUXURY TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Pandora	Denmark	14.7	82.2
2	Hanesbrands	United States	8.2	33.0
3	ANTA Sports	China	7.5	28.9
4	Foot Locker	United States	9.4	26.8
5	Adidas	Germany	31.7	26.5
6	Under Armour	United States	11.9	26.5
7	Fast Retailing	Japan	36.5	25.8
8	Ross Stores	United States	25.9	23.7
9	Gildan Activewear	Canada	5.9	23.1
10	Industria de Diseño Textil	Spain	106.6	22.7

			(pe	rc	entage-po	ir	t contribu	ti	ons)³			
	Profit	g	rowth		Valuation		Cash	fl	ow contrib	ou	tion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	25		3		45		6		3		0	-32.6
	5		7		11		1		1		8	8.9
	8		2		16		6		-0		-3	10.2
	7		10		6		2		3		-1	-29.9
	8		-1		17		2		1		-0	13.9
	27		-4		6		0		-1		-1	-25.1
	16		-8		18		1		-0		-1	-10.1
	9		3		8		1		3		-0	-11.6
	8		2		12		1		1		-1	21.7
	11		-1		11		2		0		-0	4.5
				Т								

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 38 global companies with a market valuation greater than \$4.5 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### FINANCIAL INFRASTRUCTURE PROVIDERS

#### FINANCIAL INFRASTRUCTURE PROVIDERS TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Paysafe Group	United Kingdom	2.2	54.9
2	MarketAxess Holdings	United States	5.5	39.9
3	FleetCor Technologies	United States	13.1	36.5
4	London Stock Exchange	United Kingdom	12.6	34.2
5	Euronet Worldwide	United States	3.8	31.4
6	Fiserv	United States	23.1	29.3
7	Wirecard	Germany	5.3	27.5
8	Broadridge Financial Solutions	United States	7.9	27.1
9	Equifax	United States	14.2	26.7
10	CBOE Holdings	United States	6.0	26.2

			(pe	rc			ggregation nt contribu		ons)³			
	Profit	g	rowth	Valuation Cash flow contribution							tion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	Net debt change	2017 TSR (%) <sup>6</sup>					
	51		36		-12		16		-24		-13	44.8
	15		4		20		3		0		-3	37.4
	29		1		11		0		-3		-1	1.9
	16		-7		21		4		-5		4	26.3
	11		8		9		0		-1		4	20.6
	5		2		14		0		5		3	15.1
	26		3		0		1		-4		2	36.6
	9		2		12		3		1		-0	15.0
	10		2		12		2		0		1	16.9
	5		-0		17		3	L	2		-1	24.5

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 45 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016.

#### FOR EST PRODUCTS AND PACKAGING

#### FOREST PRODUCTS AND PACKAGING TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	CCL Industries	Canada	6.8	55.0
2	Corticeira Amorim	Portugal	1.2	54.6
3	Intertape Polymer Group	Canada	1.1	45.7
4	Metsä Board	Finland	2.5	42.3
5	DeHua TB New Decoration Material	China	1.4	40.1
6	Smurfit Kappa Group	Ireland	5.4	39.9
7	Stella-Jones	Canada	2.2	35.1
8	Huhtamäki	Finland	3.9	34.8
9	Neenah Paper	United States	1.4	33.3
10	MCC Meili	China	2.1	33.2

			(pe	rc			nt contribu	ti	ons)3			
	Profit	g	rowth		Valuation		Cash	fl	low contrib	ou	tion	
]=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>s</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	26		0		26		2		-1		2	24.8
	5		5		23		10		-1		11	54.0
	1		9		19		4		0		13	3.0
	-7		21		5		4		-2		21	-3.6
	18		18		6		1		-3		-0	20.0
	2		2		12		4		-1		20	28.1
	23		-2		13		1		-2		1	2.1
	7		5		15		4		-0		4	-0.2
	6		5		14		3		-2		8	-4.9
	-12		n/m		n/m		0		-15		12	-36.6

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 75 global companies with a market valuation greater than \$1.0 billion as of December 31, 2016. n/m = not measurable.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### GREEN ENERGY AND ENVIRONMENT

#### GREEN ENERGY AND ENVIRONMENT TOP TEN, 2012-2016

						Profit	g
	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	=	Sales growth	+
1	Superblock	Thailand	1.2	95.2		61	Γ
2	Zhonghua Geotechnical Engineering	China	2.1	44.1		54	
3	Golden Dragon Development	China	3.0	36.4		87	
4	CITIC Envirotech	Singapore	1.1	34.6		45	
5	Shanghai Safbon Water Service	China	1.1	32.5		45	
6	Rentokil Initial	United Kingdom	5.0	31.4		-3	
7	Saneamento do Paraná (SANEPAR)	Brazil	1.4	28.9		15	
8	Dongjiang Environmental	Hong Kong	2.1	28.7		12	
9	Beijing OriginWater Technology	China	7.9	28.3		54	
10	China Everbright International	Hong Kong	5.1	27.3		31	

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>												
	Profit	g	rowth		Valuation		Cash	Cash flow contribution					
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>					
	61		n/m		n/m		0	Г	-28		5	-8.6	
	54		7		-1		0		-8		-9	49.3	
	87		-16		-34		1		-7		5	-30.2	
	45		23		-21		1		-16		3	5.3	
	45		14		-20		0		-4		-4	-10.6	
	-3		6		19		3		-0		7	24.2	
	15		-1		8		11		-4		0	1.3	
	12		7		14		1		-4		-1	-10.9	
	54		-11		-9		0		-3		-2	6.8	
	31		-2		2		2	L	-4		-1	12.3	

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 70 global companies with a market valuation greater than \$1.0 billion as of December 31, 2016. n/m = not measurable.

3The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

#### HEALTH CARE SERVICES

#### HEALTH CARE SERVICES TOP TEN, 2012-2016

		Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	=
ſ	1	Zhejiang Dian Diagnostics	China	2.5	46.7	
	2	Bumrungrad Hospital	Thailand	3.7	33.5	
	3	HCA Healthcare	United States	27.7	33.2	
	4	Ramsay Health Care	Australia	9.9	31.3	
	5	Mouwasat Medical Services	Saudi Arabia	2.0	28.3	
	6	UnitedHealth Group <sup>7</sup>	United States	152.3	27.9	
	7	Acadia Healthcare	United States	2.9	27.1	
	8	Ryman Healthcare	New Zealand	2.8	26.8	
	9	ORPEA	France	4.9	26.8	
ſ	10	Cigna <sup>7</sup>	United States	34.2	26.1	

				(реі	rce			t contribut	tic	ns)³				
		Profit	g	rowth		Valuation		Cash	Cash flow contribution					
e l o)	=	Sales growth	+	Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>	
		51		4		12		0		-14		-8	-1.6	
		10		5		13		2		-0		2	-4.4	
		7		-0		5		6		3		13	17.8	
		18		-0		10		3		0		1	8.6	
		13		-1		15		3		0		-1	8.8	
		6		n/a <sup>7</sup>		17		2		2		n/a <sup>7</sup>	16.8	
		66		40		-56		0		-18		-5	49.2	
		14		-5		16		2		-0		-1	3.3	
		18		-1		6		2		-3		5	27.1	
		10		n/a <sup>7</sup>		13		0		2		n/a <sup>7</sup>	25.5	

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 45 global companies with a market valuation greater than \$1.5 billion as of December 31, 2016. n/a = not applicable.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to

<sup>4</sup>Change in EBITDA multiple (except for Centene and Cigna; see footnote 7).

<sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>6</sup>As of June 30, 2017.

Because both UnitedHealth and Cigna have large health-insurance businesses, the TSR disaggregation for these companies reflects the approach used for the insurance industry, in which equity growth replaces sales growth and the price-to-book multiple replaces the EBITDA multiple. Change in margin and net debt are not shown.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location corporate headquarters. <sup>2</sup>As of December 31, 2016.

#### INSURANCE

#### INSURANCE TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Bajaj Finserv	India	6.8	47.1
2	Swiss Life	Switzerland	9.0	31.6
3	Ageas	Belgium	8.2	31.2
4	Qatar Insurance	Qatar	5.6	30.1
5	Lincoln National	United States	15.1	29.9
6	St. James's Place	United Kingdom	6.6	29.0
7	Hannover Rück	Germany	13.1	27.8
8	Sun Life Financial	Canada	23.5	27.6
9	Hartford Financial Services Group	United States	18.0	26.3
10	Tokio Marine Holdings	Japan	31.0	26.1

	(per			regation contribution	on	S) <sup>3</sup>	
	Profit growth	Valuat	ion	Cash flow	со	ntribution	
=	Equity growth	+ Multip	ole ge4 +	Dividend yield	+	Share change <sup>5</sup>	2017 TSR (%) <sup>6</sup>
	29	19		1		-2	42.2
	8	19		4		0	16.1
	4	18		6		3	-2.4
	20	7		10		-7	-7.2
	0	22		2		6	2.9
	10	17		3		-1	18.9
	13	9		6		0	7.1
	9	14		5		-1	-8.4
	-5	26		2		3	11.4
	16	7		3		0	-1.5

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 84 global companies with a market valuation greater than \$5.0 billion as of December 31, 2016.

#### LARGE-CAP PHARMA

#### LARGE-CAP PHARMA TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Actelion	Switzerland	22.5	49.1
2	Incyte	United States	18.9	46.2
3	Regeneron Pharmaceuticals	United States	39.4	46.0
4	Gilead Sciences	United States	94.3	29.4
5	Allergan	Ireland	78.8	28.3
6	Celgene	United States	89.7	27.9
7	Astellas Pharma	Japan	29.5	23.7
8	Merck	Germany	45.6	22.6
9	Otsuka Holdings	Japan	23.6	21.5
10	Biogen	United States	61.7	20.8

		(pe	rcentage-poin	t contribut	tions)3		
	Profit	growth	Valuation	Cash	flow contribเ	ıtion	
=	Sales growth	+ Margin change	+ Multiple change <sup>4</sup> +	Dividend yield	+ Share change <sup>5</sup> -	Net H debt change	2017 TSR (%) <sup>6</sup>
	6	11	33	2	3	-6	21.5
	64	n/m	n/m	0	-8	1	25.6
	61	n/m	n/m	0	-3	-0	33.8
	29	7	-6	1	3	-4	0.4
	26	15	10	0	-19	-3	16.4
	18	-2	11	0	3	-2	12.2
	6	5	11	3	2	-2	-14.4
	8	3	11	2	0	-1	7.5
	1	-7	31	3	1	-7	-5.9
	18	7	-5	0	2	-1	3.9

**TSR Disaggregation** 

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 30 global companies with a market valuation greater than \$18 billion as of December 31, 2016. n/m = not measurable.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in price-to-book multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### MACHINERY

#### MACHINERY TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Vestas Wind Systems	Denmark	13.9	50.1
2	Melrose Industries	United Kingdom	4.6	45.0
3	Gamesa (acquired by Siemens Wind)	Spain	5.6	44.3
4	SIASUN Robot & Automation	China	4.8	42.4
5	Daikin Industries	Japan	26.9	40.3
6	A. O. Smith	United States	8.2	38.1
7	The Toro	United States	6.0	31.5
8	Trelleborg	Sweden	5.4	28.1
9	Ingersoll Rand	Ireland	19.4	27.4
10	ASSA ABLOY	Sweden	20.7	26.3

			(per				<b>gregation</b> t contribut		ons)³			
	Profit	g	rowth		Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	Margin change	+	Multiple change <sup>4</sup>	Dividend yield	Dividend + Share change <sup>5</sup>			Net debt change	2017 TSR (%) <sup>6</sup>		
	12		47		-20		1		-1		12	33.2
	-5		-9		22		87		-53		3	23.6
	9		14		7		1		-2		16	Delisted
	21		-2		25		0		-2		-0	-8.8
	11		9		13		2		-0		5	7.5
	9		13		12		2		1		1	19.6
	5		6		15		2		2		1	24.5
	-1		7		16		4		0		3	9.5
	-2		2		12		8		4		3	23.0
	11		5		6		2		-0		2	11.2

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 80 global companies with a market valuation greater than \$4.0 billion as of December 31, 2016.

#### MEDIA AND PUBLISHING

#### MEDIA AND PUBLISHING TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Hithink RoyalFlush Information Network	China	5.3	77.7
2	East Money Information	China	8.7	67.0
3	Netflix	United States	53.1	65.7
4	Leshi Internet Information & Technology	China	10.2	58.7
5	Tencent Holdings	China	229.5	47.0
6	NetEase	China	28.3	41.9
7	M3	Japan	8.2	39.1
8	Zillow Group	United States	6.5	37.2
9	REA Group	Australia	5.3	36.7
10	Zee Entertainment Enterprises	India	6.4	31.9

		(per		ggregation nt contribut	ions)³		
	Profit	growth	Valuation	Cash f	low contribu	tion	
=	Sales growth	Margin change	+ Multiple change <sup>4</sup>	Dividend -	⊢ Share change⁵ ⊣	Net debt change	2017 TSR (%) <sup>6</sup>
	52	44	-9	1	0	-10	-8.3
	54	4	17	0	-3	-6	-14.6
	22	-22	70	0	-2	-3	20.7
	106	-98	54	0	-2	-0	-14.3
1	40	-3	12	1	-1	-1	43.1
	39	-10	15	2	-0	-5	37.3
	33	-8	14	1	-0	-1	5.5
	67	n/m	n/m	0	-14	-2	34.0
	21	5	11	2	0	-3	21.1
	17	1	13	1	0	-0	8.5

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 73 global companies with a market valuation greater than \$4.0 billion as of December 31, 2016. n/m = not measurable.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### MEDICAL TECHNOLOGY

#### MEDICAL TECHNOLOGY TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)	=
1	Sartorius	Germany	5.1	58.0	
2	Ambu	Denmark	1.9	52.4	
3	Cantel Medical	United States	3.3	45.1	
4	DexCom	United States	5.0	45.0	
5	ABIOMED	United States	4.7	43.6	
6	DaAn Gene	China	2.4	42.5	
7	Shanghai Conant Optics	China	1.7	42.4	
8	Sysmex	Japan	12.1	41.2	
9	NuVasive	United States	3.4	39.9	
10	Illumina	United States	18.8	33.2	

			(pe				gregation t contribut		ons)³			
	Profit	g	rowth	Γ	Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	12		7		29		2		-0		8	14.4
	17		3		31		1		-0		-0	48.1
	15		6		22		0		-1		3	-1.0
	50		n/m		n/m		0		-4		-2	22.5
	29		n/m		n/m		0		-2		-1	27.2
	29		-11		25		0		0		-0	-5.9
	29		14	]	11		0		-14		3	-20.0
	13		7		20		1		-0		-0	-0.5
	12		11		19		0		-3		1	14.2
	17		1		20		0		-4		-1	35.5

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 74 global companies with a market valuation greater than \$1.5 billion as of December 31, 2016. n/m = not measurable.

#### MFTALS

#### METALS TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Ternium Siderar	Argentina	2.7	47.0
2	Jiangsu Shagang	China	5.1	40.8
3	Jiangxi Ganfeng Lithium	China	2.9	39.2
4	BlueScope Steel	Australia	3.9	31.3
5	Erdemir Group	Turkey	5.1	29.6
6	Aperam	Luxembourg	3.6	28.3
7	JSW Steel	India	5.8	27.6
8	Worthington Industries	United States	3.0	26.4
9	Steel Dynamics	United States	8.7	25.3
10	Grupo Simec	Mexico	2.3	24.5

				(pei	C	TSR Disa entage-poi		<b>gregation</b> t contribut		ns)³			
		Profit	g	rowth		Valuation Cash flow contribution						ion	
e l )	=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup> + Dividend yield + Share change <sup>5</sup> + Net debt change							2017 TSR (%) <sup>6</sup>
		18		3		23		7		0		-4	16.1
		-13	П	6		39		0		0		9	Halted
		43		18		-17		1		-4		-2	74.5
		2		69		-46		1		-1		7	42.8
		5		0		5		9		0		9	47.2
		-8		14		8		2		0		11	2.5
		16		3		8		1		-2		2	26.5
		3		8		7		3		2		4	6.8
		-1		8		9		3		-2		8	1.1
		-1		7		19		0		1		-1	-34.4

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 70 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### MID-CAP PHARMA

#### MID-CAP PHARMA TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)
1	Genmab	Denmark	10.1	99.0
2	Aurobindo Pharma	India	5.8	74.7
3	Shanghai RAAS Blood Products	China	16.5	66.6
4	Ionis Pharmaceuticals	United States	5.8	46.0
5	Shionogi	Japan	15.3	44.4
6	Recordati	Italy	5.8	41.7
7	CSPC Pharmaceutical Group	China	6.5	38.9
8	Piramal Enterprises	India	4.1	38.7
9	Tonghua Dongbao Pharmaceutical	China	4.5	37.3
10	Guangzhou Baiyunshan Pharmaceutical	China	5.4	31.3

			(pei				gregation t contribut		ons)³				
	Profit	g	rowth	Г	Valuation		Cash	Cash flow contribution					
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>	
	39		n/m		n/m		0		-6		-18	18.4	
	27		12		20		1		-0		15	2.4	
	33		5		35		1		-7		-0	-12.2	
	28		n/m		n/m		0		-4		-4	6.4	
	5		9		23		3		1		3	12.5	
	9		6		23		5		-1		0	33.4	
	11		17		25		2		-24		8	39.2	
	33		n/m		n/m		5		-1		-8	72.7	
	21		26		-11		2		-1		0	0.6	
	30		9		-8		2		-13		11	3.8	

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 51 global companies with a market valuation greater than \$4.0 billion as of December 31, 2016. n/m = not measurable.

#### MINING

#### MINING TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Boliden	Sweden	7.2	22.0
2	Imerys	France	6.1	18.6
3	China Molybdenum	China	7.9	17.8
4	Shanxi Meijin Energy	China	5.0	11.8
5	Franco-Nevada	Canada	10.7	11.0
6	Saudi Arabian Mining (Ma'aden)	Saudi Arabia	12.1	10.8
7	Norilsk Nickel	Russia	26.4	9.8
8	Wintime Energy	China	7.2	8.8
9	Vedanta	India	9.4	7.8
10	Shandong Gold Mining	China	9.8	5.6

			(pei	CE	entage-poi	n	t contribut	tic	ns)³			
	Profit	g	rowth	Г	Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	+	Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change⁵	+	Net debt change	2017 TSR (%) <sup>6</sup>
	-0		8		9		3		0		2	-1.4
	3		0		11		3		-1		3	8.3
	3		9		21		4		-3		-16	56.0
	36		48		-37		0		-34		-1	-3.9
	8		-0		9		2		-5		-3	21.3
	44		-7		-16		2		-5		-8	24.9
	-10		-1		12		8		2		-1	-17.8
	46		-15		3		1		-25		-2	-11.0
	48		-21		27		2		-22		-26	23.2
	5	5 –5		10		0		<b>-</b> 5		0	-20.5	

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 50 global companies with a market valuation greater than \$3.0 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### MULTIBUSINESS

#### MULTIBUSINESS TOP TEN, 2012-2016

							t
		Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)	=	
Γ	1	Hap Seng Consolidated	Malaysia	4.9	50.2		Ī
Γ	2	Bidvest Group	South Africa	4.4	38.1		ſ
	3	DCC	Ireland	6.6	34.8		
	4	Fosun International	China	12.2	27.2		
	5	Koç Holding	Turkey	9.9	22.8		l
	6	Grupo Carso	Mexico	9.2	22.7		l
	7	JG Summit Holdings	Philippines	9.8	22.4		
	8	Carlisle Companies	United States	7.1	21.5		
	9	Enka Insaat	Turkey	6.4	20.2		
[:	10	CJ	South Korea	4.2	20.2		ſ

			(pe	C			gregation t contribut		ons)³			
	Profit	g	rowth		Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	+	Margin change	+	Multiple change⁴	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	6		-2		33		9		-3		7	5.9
	-11		9		7		35		-1		-0	-11.8
	7		5		18		3		-1		2	16.9
	5		n/m		n/m		3		-6		11	9.6
	-1		2		13		2		0		7	19.7
	5		4		9		3		0		2	-8.1
	14		8		1		0		-1		-0	19.7
	3		12		3		2		-1		4	-12.9
	2		6		7		3		0		2	11.5
	13		-1		-0		1		-0		8	1.3

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. **Note:** n = 64 global companies with a market valuation greater than \$4.0 billion as of December 31, 2016. n/m = not measurable.

#### $\bigcirc$

#### OIL TOP TEN, 2012-2016

			Market value	Average annual
	Company	Location <sup>1</sup>	(\$billions)2	TSR (%)
1	Bharat Petroleum	India	13.5	43.6
2	Neste	Finland	9.9	41.3
3	Cheniere Energy	United States	9.7	36.7
4	Transneft	Russia	23.0	33.1
5	Tesoro	United States	10.2	32.5
6	Valero Energy	United States	30.9	32.4
7	Marathon Petroleum	United States	26.6	27.9
8	Tatneft	Russia	14.7	26.4
9	ORLEN	Poland	8.7	24.3
10	Indian Oil	India	23.3	23.7

			(per	C	entage-poi	n	t contribut	tic	ons)³			
	Profit	g	rowth	Г	Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	+	Margin + Multiple change + Dividend + Share change + Change + Dividend + Change + Ch					+	Net debt change	2017 TSR (%) <sup>6</sup>		
	4		26		-0		4		0		9	5.5
	-8		32		-2		5		0		14	-2.1
	35		-22		35		0		-12		0	17.6
	5		2		11		1		0		15	-19.4
	-4		13		21		2		4		-3	8.4
	-11		14		12		6		4		7	0.8
	-5		6		26		3		6		-8	5.4
	-1		10		7		5		0		6	-12.0
	-6		11		7		4		0		8	31.2
	3		10		3		3		0		5	23.8
								_				

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. **Note:** n = 81 global companies with a market valuation greater than \$8.0 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### POWER AND GAS LITHITIES

#### POWER AND GAS UTILITIES TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	=
1	Huadian Power International	China	6.6	25.8	
2	China Gas Holdings	Hong Kong	6.6	25.6	
3	SDIC Power Holdings	China	6.5	24.5	
4	NiSource	United States	7.1	22.5	
5	Tenaga	Malaysia	17.5	21.6	
6	Red Eléctrica	Spain	10.2	21.5	
7	APA Group	Australia	6.9	21.3	]
8	Atmos Energy	United States	7.8	21.1	
9	Tokyo Electric Power	Japan	6.5	20.9	
10	Endesa	Spain	22.5	19.9	

			(pe	rce	TSR Disa entage-po							
	Profit	g	rowth	Γ	Valuation		Cash	flo	ow contrib	ut	ion	
=	Sales growth	+	Margin change	+	Multiple change <sup>4</sup>	+	Dividend yield	+	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>
	3		17		-15		5		-7		23	-3.6
	10		5		6		1		-2		5	50.5
	6		20		-13		3		-4		12	18.4
	-5		5		1		24		-3		1	16.3
	6		22		-12		3		-1		3	3.0
	4		0		7		5		0		6	3.2
	16		7		1		8		-7		-3	7.0
	-4		11		8		4		-3		5	13.2
	1		5		-9		0		0		25	-1.9
	-10		-3		8		15		0		10	0.2

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 92 global companies with a market valuation greater than \$5.0 billion as of December 31, 2016.

3The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

#### REAL ESTATE

#### REAL ESTATE TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	Fastighets AB Balder	Sweden	3.7	48.7
2	China Fortune Land Development	China	10.2	47.9
3	Barratt Developments	United Kingdom	5.7	41.7
4	Sunac China Holdings	China	3.2	40.1
5	Persimmon	United Kingdom	6.8	36.9
6	Taylor Wimpey	United Kingdom	6.2	36.5
7	Shanghai Chengtou	China	9.5	35.8
8	Yango Group	China	3.2	33.9
9	Bellway	United Kingdom	3.8	32.2
10	Daiwa House Industry	Japan	18.1	31.9

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>													
	Profit	growth	Valuation		Cash flow	Cash flow contribution								
=	Equity growth	+ ROE change	+ Multiple change⁴	+	Dividend yield	+	Share change <sup>5</sup>	2017 TSR (%) <sup>6</sup>						
	33	n/m	n/m		0		-2	10.8						
	56	-19	12		2		-2	43.2						
	7	69	-37		4		-1	23.4						
	36	-39	42		5		-5	151.7						
	8	34	-12		6		-0	33.8						
	10	46	-23		4		-1	21.7						
	13	-0	23		1		-2	-48.3						
	46	-15	11		1		-9	4.5						
	13	35	-19		4		-0	21.7						
	14	20	-2		4		-3	22.0						

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 92 global companies with a market valuation greater than \$3.0 billion as of December 31, 2016. n/m = not measurable.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in P/E multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### RFTAII

#### **RETAIL TOP TEN, 2012–2016**

						(реі	(percentage-point contributions) <sup>3</sup>							
					Profit	growth	Valuation	Cash f	Cash flow contribution					
	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	Sales	+ Margin change	+ Multiple change <sup>4</sup> -	Dividend yield	Share change⁵	Ne + deb chan				
1	Ryohin Keikaku	Japan	5.2	46.0	13	7	26	2	0	-3				
2	Rite Aid	United States	8.6	45.6	5	4	10	0	-3	29				
3	Tsuruha Holdings	Japan	4.6	40.7	13	3	27	2	-0	-4				
4	Domino's Pizza	United States	7.7	39.7	8	3	16	3	4	6				
5	Raia Drogasil	Brazil	6.2	37.7	33	11	-6	1	0	-1				
6	Dollarama	Canada	8.6	35.5	13	6	11	1	5	-1				
7	Alimentation Couche-Tard	Canada	25.9	34.9	10	17	11	1	-1	-2				
8	Amazon	United States	356.3	34.1	23	24	-10	0	-1	-2				
9	ASOS	United Kingdom	5.1	32.1	30	-14	17	0	-2	:				
10	Ulta Beauty	United States	15.9	31.8	22	4	5	0	-0	-0				

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 92 global companies with a market valuation greater than \$4.5 billion as of December 31, 2016.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

#### SERVICES

#### SERVICES TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions) <sup>2</sup>	Average annual TSR (%)	
1	MonotaRO	Japan	2.5	64.5	
2	Temp Holdings	Japan	3.7	52.6	
3	Ashtead Group	United Kingdom	9.7	49.7	
4	Sohgo Security Services	Japan	3.9	42.8	
5	Realcan Pharmaceutical	China	3.1	38.2	
6	Eternal Asia Supply Chain Management	China	3.3	37.3	
7	Unisplendour	China	8.6	37.0	
8	AMERCO	United States	7.2	34.9	
9	SYNNEX	United States	4.8	32.3	
10	Pool	United States	4.3	30.1	

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>										
	Profit	growth	Valuation	Cash	flow contribu	tion					
e l )	Sales	+ Margin change	+ Multiple change <sup>4</sup> +	Dividend yield	+ Share change <sup>s</sup> +	Net debt change	2017 TSR (%) <sup>6</sup>				
	26	9	29	1	-1	-0	51.5				
	20	16	39	2	-5	-20	16.7				
	22	10	9	2	0	6	0.9				
	7	7	29	2	0	-2	13.3				
	37	11	1	0	-11	-0	9.3				
	53	11	-20	1	-4	-3	-19.8				
	39	16	10	0	-28	-1	6.5				
	7	10	12	2	0	4	-0.7				
	6	7	17	0	-2	3	-0.4				
	7	8	9	2	3	1	13.3				

TSR Disaggregation

2017 TSR (%)<sup>6</sup>

23.3

-64.2

8.3

33.5

14.9

26.2

5.7

29.1

15.8

12.7

change

-3

29

-4

6

-1

-2

-2

1

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 82 global companies with a market valuation greater than \$2.5 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### TECHNOLOGY

#### TECHNOLOGY TOP TEN, 2012-2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	=
1	NVIDIA	United States	57.5	52.6	
2	Largan Precision	Taiwan	15.7	49.0	
3	Constellation Software	Canada	9.6	46.2	
4	Broadcom	Singapore	70.5	46.1	
5	NXP Semiconductors	Netherlands	32.9	44.9	
6	AAC Technologies	China	11.2	37.5	
7	Keyence	Japan	41.7	36.9	
8	Skyworks Solutions	United States	13.9	36.6	
9	Acuity Brands	United States	10.2	34.9	
10	ASML Holding	Netherlands	48.6	34.2	

	TSR Disaggregation (percentage-point contributions) <sup>3</sup>											
	Profit growth			Г	Valuation	Cash	ion					
=	Sales + Margin change		+	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	+	Net debt change	2017 TSR (%) <sup>6</sup>			
	9	9 6 25 12 22 5 41 5			39		2		3		-6	35.7
	25			12		11	3		0		-1	28.0
	22			16	3		0		-1	15.4		
	41				2		-9		-6	33.0		
	18		2		22		0		-6		9	11.7
	31	1 4			3		0		-1	36.3		
	15		2		25		0		0		-5	23.2
	17	11			8		1		0		-1	29.3
	13		7		13		1		-1		2	-11.8
	4		0		26		7		-0		-3	8.0

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 94 global companies with a market valuation greater than \$9.0 billion as of December 31, 2016.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

#### TRANSPORTATION AND LOGISTICS

#### TRANSPORTATION AND LOGISTICS TOP TEN, 2012–2016

	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)
1	DFDS	Denmark	2.6	40.0
2	National Shipping	Saudi Arabia	4.6	34.0
3	Macquarie Infrastructure	United States	6.7	31.2
4	XPO Logistics	United States	4.8	28.4
5	Old Dominion Freight Line	United States	7.1	26.0
6	DSV	Denmark	8.3	26.0
7	Deutsche Post	Germany	39.4	25.7
8	Sinotrans	China	2.1	25.4
9	Central Japan Railway	Japan	32.4	25.2
10	TFI International	Canada	2.4	25.1

(percentage-point contributions) <sup>3</sup>												
Profit growth			Γ	Valuation	Cash							
Sales growth	+	Margin +		Multiple change⁴	Dividend + Share changes				Net debt change	2017 TSR (%) <sup>6</sup>		
3	8			12		5		5		7	8.4	
28		8 18 n/m 6 -1		-11		5		-4		8	-9.9	
11				18		1		7			-11	5
n/m				n/m 8		n/m		n/m		n/m	49.7	
10						-0		1		1	11.3	
9				13		1		0		4	28.0	
2		6		9		4		0		5	8.5	
1	6			11		3		-2 0		6	14.7	
3		3		6		1				12	-4.4	
8		-2		12		3		1		3	-18.8	
	Sales growth  3 28 11 n/m 10 9 2 1 3	Sales growth +  3	Profit growth	Profit growth   Sales growth + Change +	Profit growth   Valuation	Profit growth	Profit growth	Profit growth   Valuation   Cash floor	Profit growth	Profit growth	Profit growth	

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis.

Note: n = 99 global companies with a market valuation greater than \$2.0 billion as of December 31, 2016. n/m = not measurable.

<sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

#### TRAVEL AND TOURISM

#### TRAVEL AND TOURISM TOP TEN, 2012-2016

							(per	centage-poir	nt contributi	ons)3		
						Profit	growth	Valuation	Cash f	low contribu	ıtion	
	Company	Location <sup>1</sup>	Market value (\$billions)²	Average annual TSR (%)	=	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net H debt change	2017 TSR (%) <sup>6</sup>
	1 Hawaiian Holdings	United States	3.0	57.9		8	24	11	0	-1	16	-17.6
	2 Airports of Thailand	Thailand	15.9	57.6		12	3	30	3	0	10	18.7
	3 Aristocrat Leisure	Australia	7.2	51.7		26	16	7	4	-3	2	46.5
	4 Delta Air Lines	United States	36.1	44.6		2	15	-1	1	3	24	10.1
	5 Southwest Airlines	United States	30.7	43.3		5	22	8	1	5	2	25.2
	6 Alaska Air Group	United States	10.9	37.6		7	12	14	1	3	1	1.8
Г	7 Grupo Aeroportuario del Pacífico	Mexico	4.3	36.4		14	7	10	7	1	-1	21.9
	8 Ryanair Holdings	Ireland	18.9	34.2		9	7	11	3	3	1	23.8
	9 Grupo Aeroportuario del Sureste	Mexico	4.3	34.1		16	1	14	3	0	-1	30.4
1	10 JetBlue Airways	United States	7.3	33.9		8	16	-5	0	-2	16	1.8

TSR Disaggregation

Sources: S&P Global Market Intelligence; Thomson Reuters Eikon; Bloomberg; company disclosures; BCG Value Creators report 2017; BCG analysis. Note: n = 80 global companies with a market valuation greater than \$3.0 billion as of December 31, 2016.

<sup>&</sup>lt;sup>1</sup>Location of corporate headquarters.

<sup>&</sup>lt;sup>2</sup>As of December 31, 2016.

<sup>&</sup>lt;sup>3</sup>The contribution of each factor to the average annual TSR is shown in percentage points. Because of rounding, the numbers may not add up to the TSR figure shown.

<sup>&</sup>lt;sup>4</sup>Change in EBITDA multiple.

<sup>&</sup>lt;sup>5</sup>Share change refers to the change in the number of shares outstanding, not to the change in share price.

<sup>&</sup>lt;sup>6</sup>As of June 30, 2017.

## FOR FURTHER READING

The Boston Consulting Group publishes many reports and articles on corporate development and value creation that may be of interest to senior executives. Examples include the following.

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#### **Total Societal Impact: A New Lens for Strategy**

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#### **Acknowledgments**

The authors are grateful to Qiang Liu and Eva Klement for their assistance with this report. They thank David Duffy for his help writing the report and Tan Nguyen for her assistance with marketing. They are also grateful to Katherine Andrews, Gary Callahan, Angela DiBattista, Kim Friedman, Abby Garland, Gina Goldstein, Steven Gray, Sean Hourihan, Trudy Neuhaus, and David Purcell for their assistance with the report's editing, design, and production.

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