

THE 2016 VALUE CREATORS REPORT

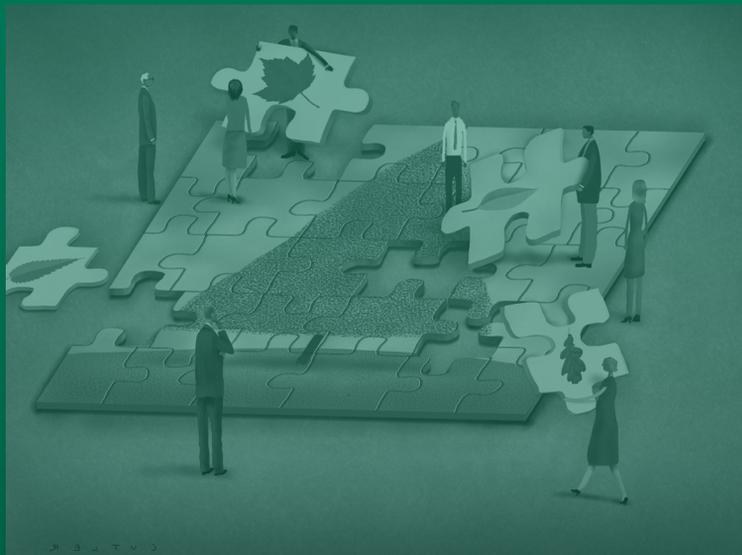
# CREATING VALUE THROUGH ACTIVE PORTFOLIO MANAGEMENT



# BCG

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The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy. We partner with clients from the private, public, and not-for-profit sectors in all regions to identify their highest-value opportunities, address their most critical challenges, and transform their enterprises. Our customized approach combines deep insight into the dynamics of companies and markets with close collaboration at all levels of the client organization. This ensures that our clients achieve sustainable competitive advantage, build more capable organizations, and secure lasting results. Founded in 1963, BCG is a private company with 85 offices in 48 countries. For more information, please visit [bcg.com](http://bcg.com).



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# PREFACE

**C**REATING VALUE THROUGH ACTIVE *Portfolio Management* is the 18th 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 focuses on the role of portfolio management in delivering strong and sustainable value creation. We begin by analyzing this year's large-cap global top-ten ranking and showing just how difficult it is for a company to remain a top performer over time. Next, we explore the increasingly central role of portfolio management in value creation. We then profile a BCG client, the biopharma company Bristol-Myers Squibb, that has set itself up for value creation success through a decade-long effort to reshape its drug pipeline in order to take advantage of new growth areas. We conclude with rankings of the top ten value creators worldwide and in 28 industries for the five-year period from 2011 through 2015.

# THE CHALLENGE OF SUSTAINABLE VALUE CREATION

**E**VERY COMPANY ASPIRES TO be a top value creator. Relatively few actually achieve this—and even fewer are able to sustain top performance over time. Doing so requires continually revisiting a company’s value creation strategy and adapting it to changing circumstances and new starting positions.

One of the most powerful ways to drive continual adaptation is active portfolio management. That is why we focus on that topic in this year’s Value Creators report. We begin by reviewing the world’s leading large-cap

value creators for the five-year period from 2011 through 2015 in order to explore the dynamics that make sustaining superior value creation such a significant challenge.

## The 2016 Large-Cap Value Creators

Exhibit 1 lists the top ten value creators among the world’s 200 largest companies. The ranking is based on average annual total shareholder return (TSR), which measures the combination of the change in share price

**EXHIBIT 1 | The Large-Cap Top Ten, 2011-2015**

	Company	Location <sup>1</sup>	Industry	Average annual TSR (%)	Market value <sup>2</sup> (\$billions)
1	Regeneron Pharmaceuticals	US	Large-cap pharma	75.3	57.6
2	Allergan	US	Large-cap pharma	43.3	123.2
3	Gilead Sciences	US	Large-cap pharma	41.4	145.8
4	Naspers	South Africa	Media and publishing	41.1	59.0
5	Visa	US	Technology	35.6	188.4
6	Biogen	US	Large-cap pharma	35.5	68.3
7	Tencent	China	Media and publishing	35.5	183.2
8	Netflix	US	Media and publishing	35.4	48.9
9	KDDI	Japan	Communication service providers	34.9	66.0
10	MasterCard	US	Technology	34.7	110.2

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = the world’s 200 largest companies by market value as of December 31, 2015.

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

<sup>2</sup>As of December 31, 2015.

and the dividend yield for a company's stock over a specific period. TSR is the most comprehensive metric for value creation and the shareholder's true bottom line. (See the sidebar "The Components of TSR.") Average annual TSR is the amount of TSR that a company delivers, on average, in each of the five years in our analysis.

To make it into the large-cap top ten, these companies had to deliver extraordinary TSR—an average of at least 34.7% per year. That's enough to more than quadruple the value of each dollar invested at the beginning of the period and nearly three times the median TSR of 12.2% of the approximately 2,000 companies in this year's Value Creators database. This year's number one large-cap value creator, Regeneron Pharmaceuticals, delivered a TSR of 75.3%, more than six times the median and more than 30 percentage points greater than the TSR of the number two company, Allergan.

For the second year in a row, biopharma companies lead the global large-cap ranking, taking four of the ten spots, including the top three. This dominance reflects in part the fact that the large-cap pharma sector was the second-best performer of the 28 industries in our analysis (the mid-cap pharma sector was the best). That industry-wide performance is even more striking when one considers that pharma was at the very bottom of the industry rankings in our study of the five-year period from 2006 through 2010.

### Top Performance: Hard to Achieve, Even Harder to Sustain

Another interesting finding in this year's large-cap top-ten ranking is that five of the companies—Regeneron, Netflix, Visa, KDDI, and MasterCard—are all newcomers to the list. Meanwhile, three—Allergan (the successor to Actavis, which acquired Allergan in 2015), Naspers, and Biogen—are appearing in the top ten for the second time; and one, Gilead, for the third. The only company on this year's list that has appeared in our large-cap ranking for more than three years is the Chinese social media powerhouse Tencent, which has made the top ten for six years, five of which were consecutive (2010 through 2014).

That kind of consistency is exceedingly rare. In the 18 years BCG has been publishing the Value Creators rankings, 89 companies have made it into the large-cap top ten. More than half, however—46 companies—have done so only in a single five-year period. In other words, those companies broke into this select group only to disappear from it in subsequent years.

Only 19 companies (roughly 21% of the 89 companies that have made it into the top ten) have appeared on the list for three years or more. (See Exhibit 2.) The only company to surpass Tencent's sustained performance has been Apple, which first appeared in the large-cap top ten in 2006 and stayed on the list for the next eight years, through 2014; however, the company has not appeared in the top ten since then.

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Only 19 companies have appeared on our top-ten list for three years or more.

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Why is it so rare for a company to stay on our top-ten list? To become a superior value creator—the kind that wins a place in our top-ten rankings—a company must massively exceed investors' expectations. We are not talking about beating earnings estimates for a quarter or two. We are talking about delivering results that fundamentally transform the trajectory of the business.

This year's number one large-cap value creator, Regeneron, is a classic example. Regeneron is a drug discovery business in the midst of what appears to be a vertiginous takeoff, thanks to its distinctive technique of placing segments of human DNA in mice and using the genetically engineered animals as a platform for the rapid (and, therefore, relatively cheap) development of medications that work in humans.

During the period from 2011 through 2015, Regeneron achieved a major breakthrough. Previously, the company had been regularly showing negative accounting earnings as it ploughed nearly half its operating income

## THE COMPONENTS OF TSR

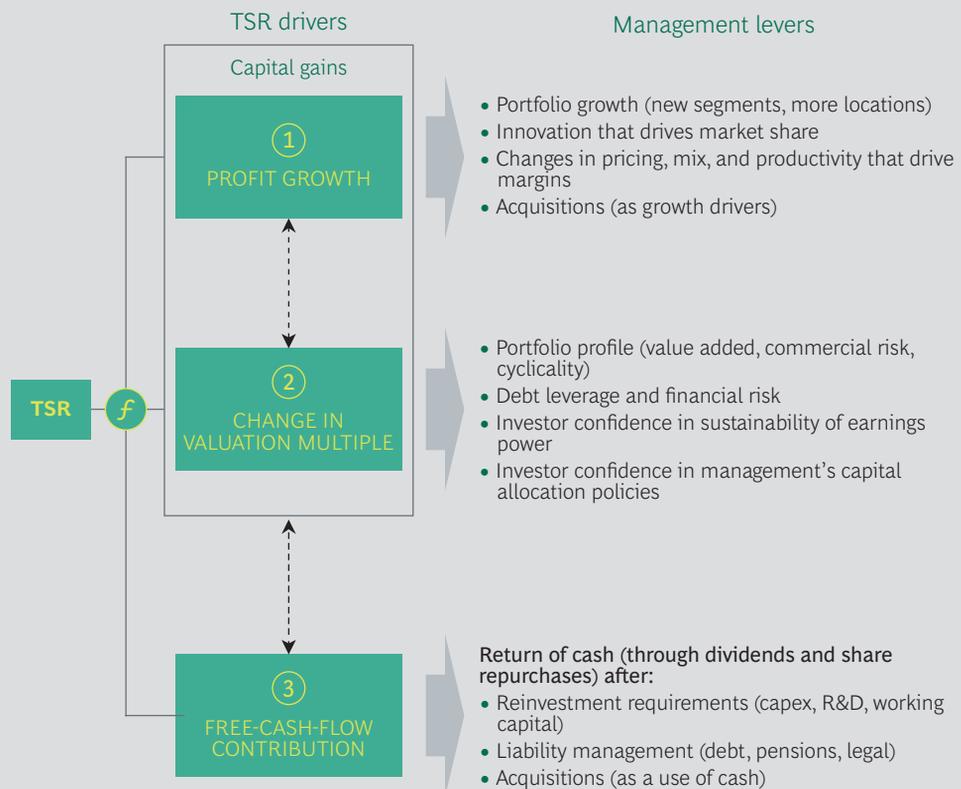
Total shareholder return (TSR) measures the combination of share price gains (or losses) and dividend yield for a company's stock over a given period. It is the most comprehensive metric for assessing a company's shareholder-value-creation performance, preferred by investment funds to measure business performance and, in some locations, a requirement for regulatory compliance.

TSR is the product of multiple factors. Regular readers of the Value Creators report will be familiar with BCG's model for quantifying the relative contributions of TSR's various sources. (See the exhibit below.) The model uses the combination of revenue (sales) growth and change in margins as an indicator of a company's improvement in fundamental value. It then uses the change in the company's valuation multiple to determine the impact of investor

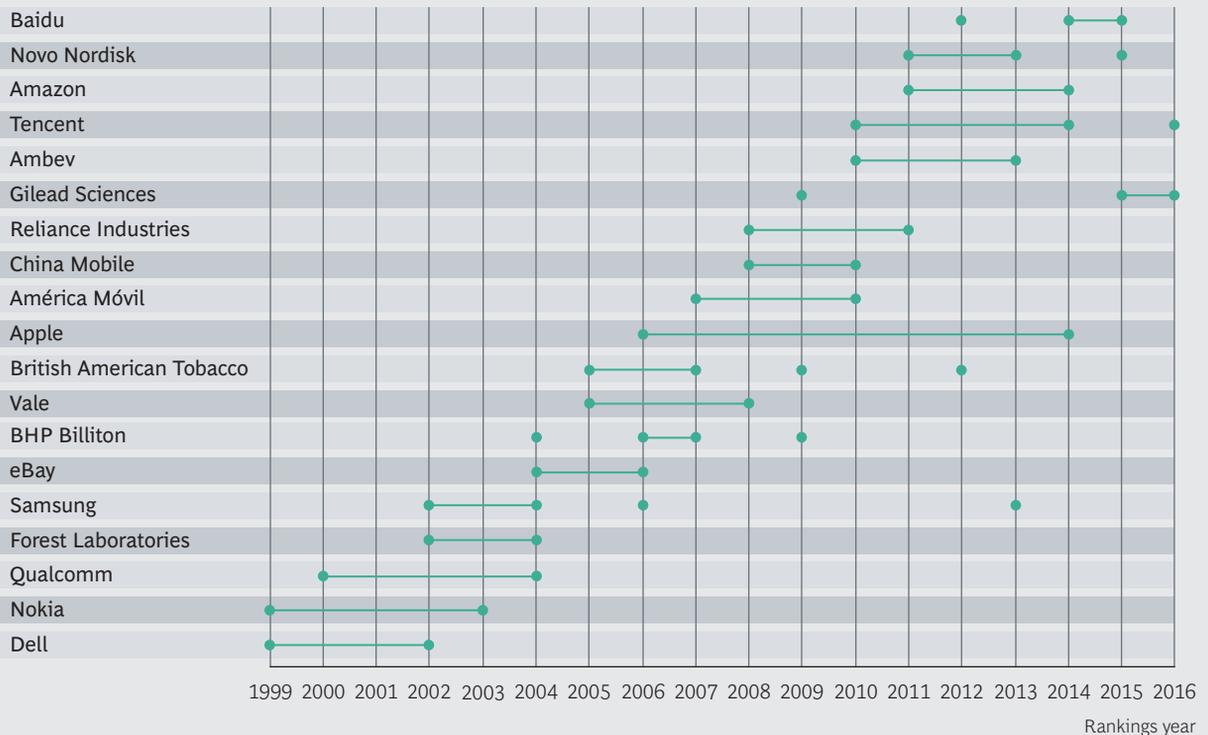
expectations on TSR. Together, these two factors determine the change in a company's market capitalization and the capital gain or loss to investors. Finally, the model tracks the distribution of free cash flow to investors and debt holders in the form of dividends, share repurchases, and repayments of debt to determine the contribution of free-cash-flow payouts to a company's TSR.

All these factors interact with one another—sometimes in unexpected ways. A company may grow its revenue through an EPS-accretive acquisition yet not create any TSR because the acquisition erodes gross margins. And some forms of cash contribution (for example, dividends) have a more positive impact on a company's valuation multiple than others (for example, share buybacks). Because of these interactions, we recommend that companies take a holistic approach to value creation strategy.

### TSR Is the Product of Multiple Factors



## EXHIBIT 2 | Companies in the Large-Cap Top Ten for Three or More Years Are a Select Group



Sources: BCG Value Creators reports, 1999–2015; BCG analysis.

Note: Sample consists of 19 companies that have appeared in the global large-cap ranking for three years or more.

back into R&D. For example, it reported a loss of \$222 million in 2011. But since the introduction that year of its first blockbuster drug, Eylea (a treatment for the most common causes of adult blindness), the company’s revenue has grown rapidly, and net profit in 2015 was \$680 million. The strength of Regeneron’s drug discovery pipeline has led investors to push the company’s stock price to nearly 60 times expected 2016 earnings, an extraordinary valuation multiple.

It is in the nature of capital markets, however, to look forward and to continually capitalize expected future earnings in today’s stock price. As a result, top-performing companies tend to “fade” to average market performance over time. According to consensus estimates, Regeneron should roughly double its earnings by 2018. But if the company’s current stock price already reflects those expectations, then it would grow only at the rate of the risk-adjusted cost of capital for a company of its type (roughly 10%), causing the company’s P/E multiple to decline by about a third. Unless Regeneron can find ways to exceed, not just meet, investors’ expectations once

again or to build new expectations for a subsequent wave of value creation, it will be extremely challenging to deliver the kind of TSR it has during the past five years.

It’s not impossible for a company to “beat the fade” to average performance, but it is a complex act that is difficult to sustain. Apple is the exception that proves the rule. A decade of product and business model innovation that brought the world the iPod, the iTunes online music service, the iPhone, and the iPad transformed Apple from a niche player in the low-growth and low-margin computer business into a consumer electronics juggernaut, putting the company at the center of a market approximately 30 times the size of its original market and fueling a decade of exceptional TSR. But now that Apple’s market capitalization is more than \$500 billion, the company faces the difficult challenge of finding new areas of growth that can sustain its TSR trajectory. Current top-ten performer Tencent, which has increased its market valuation from about \$39 billion to \$183 billion in the six years it has enjoyed top-ten status, may face a similar predicament.

## Active Portfolio Management: A Key to Sustainable Value Creation

The challenge of delivering strong and sustainable value creation has two critical implications for executives. First, as extraordinary as the performance of the top value creators is, it is important to keep in mind that for most companies, it may be more realistic to set a more modest target. A company can create a lot of value by delivering top-third or top-quartile TSR or by consistently beating the median of its peer group by a few percentage points per year—what in the 2015 Value Creators report we termed “value creation for the rest of us.”<sup>1</sup>

Second, because a company’s future value-creation prospects are strongly influenced by its current position, executives should regularly reconsider their value creation strategy

as the company’s position evolves, adapting the strategy to new circumstances and new industry trends. One of the most effective ways for a company to refresh its value creation performance is by actively managing its corporate portfolio—by defining the roles of the businesses, products, and other key assets in the portfolio, allocating capital and other resources according to those roles, among other things, and reshaping the portfolio over time through acquisitions and divestitures.

### NOTE

1. See *Value Creation for the Rest of Us*, BCG’s 2015 Value Creators report, July 2015.

# THE ROLE OF PORTFOLIO MANAGEMENT IN VALUE CREATION

**E**VER SINCE BCG INTRODUCED the growth share matrix, in the 1960s, executives have understood that portfolio management is a critical component of any strategy for superior value creation. As more and more companies must justify the value creation logic of their business portfolios in response to pressure from activist investors, portfolio management is more important than ever.<sup>1</sup> Partly in response to such pressure, spinoffs have become one of the most popular strategic moves in the increasingly active market for corporate transactions.<sup>2</sup>

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Companies increasingly must justify the value creation logic of their portfolios to investors.

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And yet, despite the growing importance of portfolio strategy, it is striking how many large multibusiness companies do not have a systematic one. That is, they do not have a deliberate approach for determining what businesses they should and should not own, why their portfolio of businesses is worth more under common management than the sum of the individual businesses, and how to optimize the value the businesses generate for shareholders. In our experience, many senior executive teams are comfortable with

the businesses they currently own simply because they have “always” owned them. They focus on being good operators of the current portfolio—running those businesses, making them better, and meeting plan—rather than savvy investors of corporate assets.

It is an understandable mindset, but it comes with a major strategic risk. Without a strategic portfolio roadmap, executives are not as prepared as they should be to create strong and sustainable TSR for their investors or to react quickly and responsibly to shocks in the business environment. When such shocks happen—as they increasingly do in today’s dynamic economy—executives often respond in a way that is too reactive or transactional. They rush to make a deal—any deal—to address their problems without thinking enough about the real sources of the company’s competitive advantage.

Between the extremes of doing nothing and doing too much, senior executives need to take a more measured and more strategic approach. It is no coincidence that many of the companies we have profiled in recent Value Creators reports have put the continual reshaping of the corporate portfolio at the center of their value creation strategies. (See the sidebar “Portfolio Reshaping: A Common Contributor to TSR Success.”) There are three steps to doing so: defining an investment thesis, determining the value creation potential

## PORTFOLIO RESHAPING

### A Common Contributor to TSR Success

To get a sense of just how important active portfolio management is to value creation, one must look back at the companies we have profiled in recent Value Creators reports. In the five years since our annual report first included in-depth profiles of BCG clients that are leading value creators, we have featured six companies. In nearly every case, portfolio strategy has been a key factor in value creation performance. Consider the following examples.

**Church & Dwight.** A critical component of the winning value creation strategy developed by the consumer-packaged-goods company Church & Dwight (featured in the 2012 Value Creators report) was a transformation of its brand portfolio.<sup>1</sup> Through a systematic process of investing in organic growth in its core Arm & Hammer brand, selling off weaker brands, and acquiring new ones with greater potential for high-margin growth, the company increased gross margins from 39.1% in 2006 to 44.2% in 2011, and operating margins from 13% to 18.1%. Today, eight of Church & Dwight's brands deliver 80% of the company's revenue and profit.

**VF Corporation.** Apparel company VF Corporation (featured in 2013) went through a similar portfolio transformation, shifting the company's focus from large but relatively low-growth legacy apparel segments to smaller but faster growing businesses in so-called lifestyle brands.<sup>2</sup> Before VF's strategy could gain credibility in the capital markets, however, the company had to make itself more attractive to growth-oriented investors. The steps it took included hiring a senior M&A executive from General Electric to run its acquisitions process, providing investors with greater clarity about its M&A strategy and track record, reporting earnings separately for its lifestyle brands in order to emphasize their higher margins and growth potential, and creating an internal talent-management program to build the

capabilities necessary to manage a stable of high-growth brands.

**Gannett.** Media company Gannett (featured in 2014) has increasingly shifted its portfolio from its traditional newspaper and publishing business into higher-growth media and digital businesses.<sup>3</sup> In 2015, Gannett split its publishing and media businesses into two companies. The publishing business continues to use the Gannett name, while the broadcasting and digital company is called Tegna.

**Alfa.** The Mexican conglomerate Alfa (also featured in 2014) has become a top multibusiness value creator by going through two waves of portfolio transformation.<sup>4</sup> The first, completed in the early 1990s, focused a collection of unrelated businesses on three sectors—steel, petrochemicals, and food—and a small group of diverse businesses. The second, in the early years of this century, focused on businesses with the greatest prospects for growth and profitability. For example, the company exited its legacy steel business in 2005 and in 2006 started a joint venture with Pioneer Natural Resources to explore for natural gas in Texas. By 2008, none of the businesses in Alfa's original portfolio remained. In the process, the company greatly improved the value creation profile of its portfolio and shifted from being primarily in the Mexican domestic market to having a more international presence.

#### NOTES

1. See "Church & Dwight: Keeping a Foot on the Gas," in *Improving the Odds: Strategies for Superior Value Creation*, BCG's 2012 Value Creators report, September 2012.
2. See "VF Corporation's TSR-Led Transformation," in *Unlocking New Sources of Value Creation*, BCG's 2013 Value Creators report, September 2013.
3. See "Gannett: A TSR Turnaround in the Making," in *Turnaround: Transforming Value Creation*, BCG's 2014 Value Creators report, July 2014.
4. See "Alfa: Profile of a TSR Turnaround," in *Turnaround: Transforming Value Creation*, BCG's 2014 Value Creators report, July 2014.

of the portfolio, and developing a robust portfolio strategy.

## Defining an Investment Thesis

Managing a business portfolio for sustained value creation starts with an investment thesis. Senior executives should think about each business in the portfolio as a long-term investor would, asking the following questions: What are our core businesses and why are they good for us? Of the noncore businesses, which should we monetize and when? Where do we expect to take each business over the next three to five years?

An investment thesis is a clear view—grounded in the realities of a company’s competitive situation, strengths, opportunities, and risks—of how the company will allocate capital to compete and create value over time. In contrast to the typical strategic plan, with its lengthy list of actions and targets, a good investment thesis highlights three to six critical levers to deliver strong value creation over a specific period (usually three to five years).

By developing an explicit corporate investment thesis, much as professional investors do, senior executives can more effectively assess the tradeoffs among competing priorities and evaluate the performance of their company’s investments. A clear investment thesis also provides criteria for identifying and assessing acquisition and divestiture candidates.

## Determining the Value Creation Potential of the Portfolio

A robust investment thesis establishes the high-level value creation logic of a company’s portfolio. But it should be informed by a granular understanding of the potential of each business in the portfolio. To develop such an understanding, it is important to evaluate each business from three different but complementary perspectives.

**Market Perspective.** The first perspective is the traditional domain of business strategy: What is the fundamental strategic potential of each business in the portfolio in terms of the economic attractiveness of the served

markets, their growth potential, their margin potential, and the strength of the company’s competitive advantage in the business?

It is not enough that the business in question serve an attractive market. It needs to offer advantages that will give the company a leg up against rivals. Take the example of growth. Too often, in seeking to grow, companies in an industry look in the same places, chasing the same pockets of growth with me-too strategies, assuming that they will end up with strong positions. But investing simply to participate rarely creates meaningful shareholder value. Instead, a company should have a differentiated strategy that is based on defensible competitive advantages in terms of cost position, technology, brands, or scale.

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Executives must think about each business in the portfolio as a long-term investor would.

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**Value Perspective.** Many companies stop with the market analysis. However, while that analysis is necessary, it is far from sufficient. In parallel to addressing the strategic potential of a business, companies should also develop a perspective on the business’s performance as an investment and its ability to create value in the future.

BCG’s approach, called the Value Lens, helps companies understand the value creation profiles of their portfolio businesses by answering two fundamental questions: What is the value to the company of each business today? What is the likely contribution to TSR, share price, market capitalization, and the valuation multiple in the future?

The starting point is to develop a snapshot of how investors would value a business if it were an independent company listed on the stock market. For each business, we identify a peer group of similar businesses that are publicly listed and analyze the impact of various operational and financial drivers on valuation multiples in that peer group. We then apply this valuation model to the portfolio busi-

ness in question. The result is an accurate estimate of what the business’s valuation would be if it were publicly listed.

A key insight that often emerges from this analysis is that the biggest businesses in the portfolio in terms of revenue are not necessarily the biggest value creators. For example, in the client example portrayed in Exhibit 3, business unit 1 is responsible for a full 28% of the company’s revenue but only 16% of the current share price. In contrast, business unit 4 is responsible for only 13% of revenue but nearly a quarter (23%) of the current share price. And two of the five business units (2 and 3) account for more than 60% of their companies’ total valuation. Clearly, investors value a dollar of revenue more highly in some of the businesses in this portfolio than in others.

To estimate the value creation potential of each business, BCG uses a metric we call internal TSR (or iTSR), a direct proxy for how a business is likely to create value and contribute to the company’s overall share price and TSR. (The components of TSR are described in the sidebar on page 6.) Exhibit 4 shows the output of one such analysis for a company with 19 independent business units. The bars

show the iTSR of each business—that is, the sum of the business’s estimated revenue growth, margin improvement, multiple improvement, and generation of free cash flow. The end result of this analysis is a detailed picture of each business’s contribution to the company’s share price, free cash flow per share, and overall TSR.

The power of the iTSR analysis is that it reveals not only how much TSR each business is likely to contribute but also where that will come from—revenue growth, margin improvement, the generation of free cash flow, or an improving valuation multiple. Knowing the sources of each business’s contribution to TSR is critical for determining the role of the business in the company’s overall portfolio strategy. (See the discussion of portfolio roles below.) The iTSR approach can also be used within a business to estimate the impact of specific strategic initiatives on TSR.

**Ownership Perspective.** So far, we have focused on the value creation potential of each business in a portfolio. But it is not enough to consider a business in isolation. Its role in the portfolio as a whole, including strategic and operational linkages and

**EXHIBIT 3 | Two Businesses Were Responsible for More Than 60% of a Company’s Valuation**



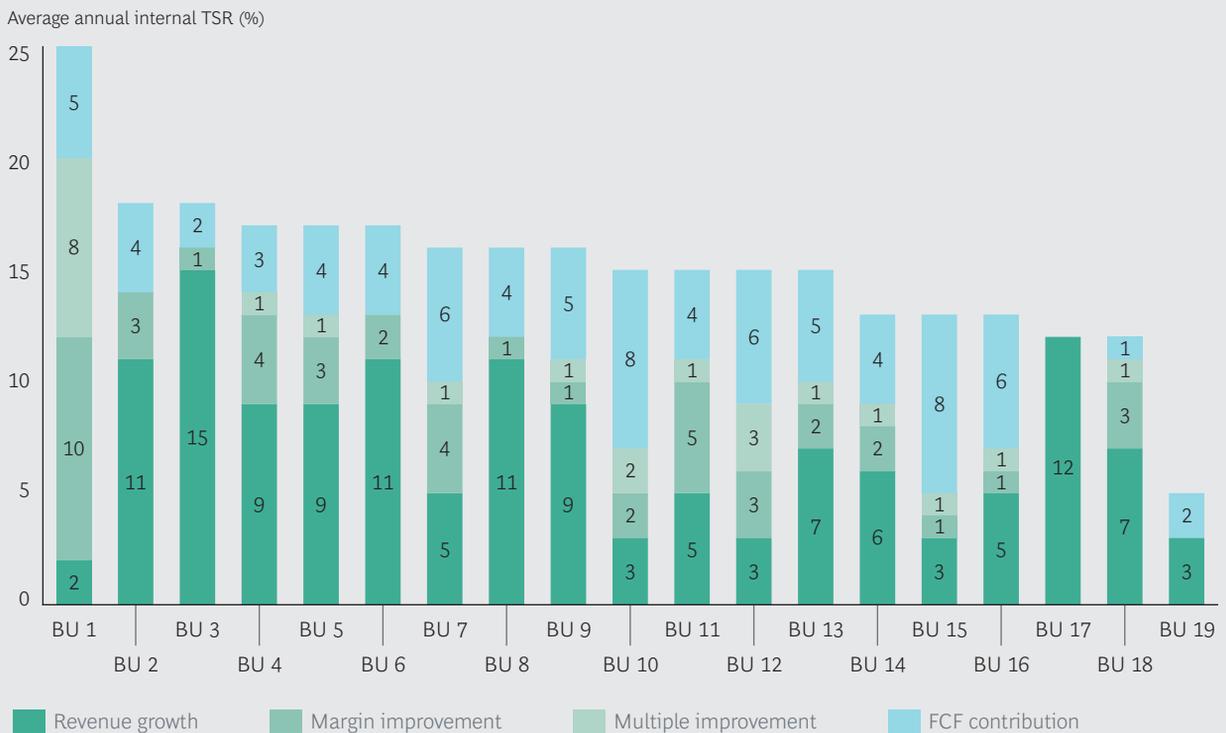
Source: BCG analysis.

Note: This analysis is based on a client example.

<sup>1</sup>Includes corporate interest expenses and other corporate-center costs.

## EXHIBIT 4 | BCG Uses iTSR to Model the Value Creation Potential of Portfolio Businesses

### INTERNAL TSR BY BUSINESS, 2015–2020



Source: BCG analysis.

Note: This analysis is based on a client example. The bars show the contribution of revenue growth, margin expansion, improvement in the valuation multiple, and free cash flow to business unit iTSR.

synergies with other businesses, should also be examined.

This all-important ownership perspective is partly a matter of portfolio balance. Does the portfolio have an appropriate mix, for instance, of businesses that offer short-term growth and those that promise long-term growth? If access to capital is limited, are there enough cash-generating businesses to fund growth businesses? Is the portfolio sensibly diversified in terms of business risk?

Equally important is determining if a company is the best owner of the businesses in its portfolio. For example, do the businesses fit the company's investment thesis and basic style of competition? Are there synergies across them? Can the businesses take advantage of certain assets or capabilities provided by the corporate center to create more value than they could on their own?<sup>3</sup> Is the value of the portfolio, taken as a whole, truly greater than the sum of the parts?

Finally, an important part of determining whether a portfolio as a whole is well designed is understanding how the company's largest and most important investors view it. Many companies have a so-called bimodal portfolio, in which different businesses have different financial characteristics or risk profiles—and therefore attract different types of investors, whose priorities for the company may conflict. As a result, these companies often suffer from a valuation discount in the capital markets. The right move in such situations may be to reshape the portfolio so that the company's business, financial, and investor strategies are aligned to appeal to a single investor type (for instance, growth-at-a-reasonable-price, or GARP, investors). Or, if senior management is confident in the long-term sustainability of the company's investment thesis and portfolio makeup, then the answer may be to do a better job of communicating the underlying logic of the portfolio in order to attract the appropriate investor type.

## Developing a Robust Portfolio Strategy

This three-part analysis sets the stage for developing a robust and actionable portfolio strategy. To develop such a strategy, senior executives must first determine the precise role a business will play for the company and then act accordingly, setting the appropriate budgets, performance targets, and other measures.

**Defining Portfolio Roles.** A business in a company's portfolio can play one of five roles:

- **Growth Engine.** The businesses that create value largely through revenue growth are the portfolio's growth engines and should therefore receive the lion's share of investment. Typically, these businesses grow at least twice as quickly as GDP and consume more cash than they generate. Their goal is to establish market leadership and drive revenue growth organically and through acquisitions, not to generate free cash flow or optimize margins.
- **Growth Funder.** Other businesses, by contrast, generate strong and sustainable cash flows but don't necessarily have much potential for organic growth above the rate of GDP growth. These mature and stable businesses should fund growth elsewhere and help return cash to shareholders. While they should strive to grow with their underlying markets, their main goal is to maintain healthy margins and generate strong free cash flow.
- **Balanced Business.** Some businesses play a role between the extremes of growth engine and growth funder. They have the opportunity to achieve moderate growth and even expand market share, but they also need to generate some cash. While the tradeoffs depend on the business in question, the goal is to achieve the right balance of reinvestment for growth and generation of cash.
- **Harvest Business.** Some businesses generate cash and contribute near-term TSR, but, unlike the growth funders or the balanced businesses, they face competi-

tive pressures and long-term secular decline, which will end up destroying value. These businesses need to be harvested by dramatically reducing (or even eliminating) investment and maximizing free cash flow in order to redirect investment to uses with higher returns. Eventually, these businesses may become divestiture candidates if their remaining value can be monetized.

- **Turnaround.** Last are the businesses that face serious financial and market challenges and are destroying value today. They must be either fixed or sold. The focus should be on margin expansion instead of growth and aggressive cash management that ultimately improves free cash flow.

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Assigning a role to each business should not be a mechanistic process.

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Assigning roles should not be a mechanistic process. This analysis should be thought of as an initial stake in the ground that then needs to be debated and pressure-tested with business unit management. For each business, a detailed fact base should be assembled and debated. The goal of this debate should be to agree on the role each business will play in the portfolio.

In addition to defining the role of each business, this process identifies imbalances or gaps that must be addressed. For instance, a lack of sufficient growth engines to sustain the company's TSR trajectory may call for the acquisition of additional growth businesses or increased investment in organic growth. In this respect, the exercise of assigning portfolio roles also serves as the foundation for the company's M&A and capital allocation strategies. (See the sidebar "Reshaping the Portfolio Through M&A: Lessons from Successful Serial Acquirers.")

**Translating Portfolio Roles into Budgets and KPIs.** Once a company has defined roles for

## RESHAPING THE PORTFOLIO THROUGH M&A

### Lessons from Successful Serial Acquirers

Sooner or later, actively managing the corporate portfolio requires reshaping it through M&A. In our study of the M&A practices of successful serial acquirers, we found that the factor that most often distinguishes these acquirers from the rest is their willingness to invest large amounts of leadership time, money, and organizational focus in support of their M&A strategy—in advance of any particular deal.<sup>1</sup> More specifically, successful serial acquirers invest disproportionately in three key areas.

**Building and Refining a Compelling Investment Thesis.** When it comes to M&A, a clear and compelling investment thesis—a proprietary view of how the company creates value—is an indispensable guide. For a potential acquisition, an investment thesis helps answer the questions, Why us? Why now? and How do we get there?

An investment thesis should be specific enough to clarify where the organization should be looking for transactions and to help the company avoid me-too or off-strategy transactions that are unlikely to add value or do not match the company's style of competition. A high degree of precision in the investment thesis empowers the organization to source transactions proactively, rather than just react to bankers' pitch books (which almost always involve a public auction that drives down returns for acquirers). Finally, by defining precisely how the company will make the acquired business more valuable, an investment thesis gives the buyer confidence in future earnings power. This helps both to define the "walk away" valuation (the price above which a deal will not create value) and to identify situations in which paying an above-average premium will still result in attractive retained value for the buyer.

**Investing in an Enduring M&A Network and Culture.** Successful serial acquirers also invest continually in developing internal capabilities, building their M&A network, and cultivating potential sellers.

This investment starts at the top. The CEOs, presidents, and general managers of businesses are active "hunters" who are expected to spend a significant portion of their time exploring potential business combinations. These executive leaders often oversee the M&A process and mobilize the organization to identify and cultivate potential targets. In the process, they make deal sourcing and the patient cultivation of targets part of the organization's culture.

#### **Distinctive Principles for the M&A Process.**

Most executives today know that effective M&A requires a structured end-to-end process, from deal sourcing through integration. What distinguishes successful serial acquirers, however, is less the existence of such a process ("the letter of the law") than the way that process is endowed with rigor and discipline by underlying principles and policies ("the spirit of the law").

The best acquirers recognize that no two deals are exactly alike. Therefore, rather than develop detailed (and often highly bureaucratic) "cookbooks," they run their M&A process according to a short list of principles designed to take time and cost out of the M&A process and to ensure that each acquisition delivers maximum value.

Such principles focus an organization's M&A teams on the issues that matter most at each stage of the transaction process. For example, during due diligence, agree on the key deal breakers early on and focus the lion's share of effort on resolving them. During bidding, establish a firm "walk away" value. During integration, allocate the majority of resources to activities (innovation, procurement, or pricing, for example) in which most of the value is expected to accrue.

#### NOTE

1. This sidebar is based on "Unlocking Acquisitive Growth: Lessons from Successful Serial Acquirers," BCG Perspectives, October 2014.

its businesses, it must translate those roles into actions by establishing KPIs, performance targets, capital budgets, and, ultimately, detailed business and financial plans. Three factors are especially important:

- Capital Allocation.** Instead of making the common mistake of allocating capital to a business on the basis of its size, previous level of investment, or some principle of equality, a company should base investments on the business’s ability to use capital to create value, as defined by the business’s role in the portfolio. (See the example in Exhibit 5.) A 2014 BCG study found that companies that systematically direct capital to their most attractive businesses can overcome the conglomerate discount many diversified companies face.<sup>4</sup>
- Managerial Attention.** Sometimes, even more important than the allocation of capital is the allocation of scarce management time and attention. Not all businesses have the same needs in this regard. For example, a turnaround typically
- KPIs.** Many companies use the same KPIs to manage each business in the portfolio—usually on the theory that consistency is important or for reasons of fairness. However, a large mature business that generates a lot of cash but has minimal growth prospects shouldn’t be assessed in the same way as a small business that produces far less free cash flow but has strong growth prospects. For the former, a growth funder, generating returns above the weighted average cost of capital will be an important KPI, as will a high free-cash-flow yield. In the latter, a growth engine, delivering value-creating growth by increasing revenues without eroding margins will be the main KPI. Other types of businesses should be evaluated on metrics tailored to their role and competitive situation. (For an example of the KPIs appropriate for three portfolio roles, see Exhibit 6.)

requires substantially more time and attention from senior executives in order to get the business on a positive value-creation track than does a highly stable growth funder.

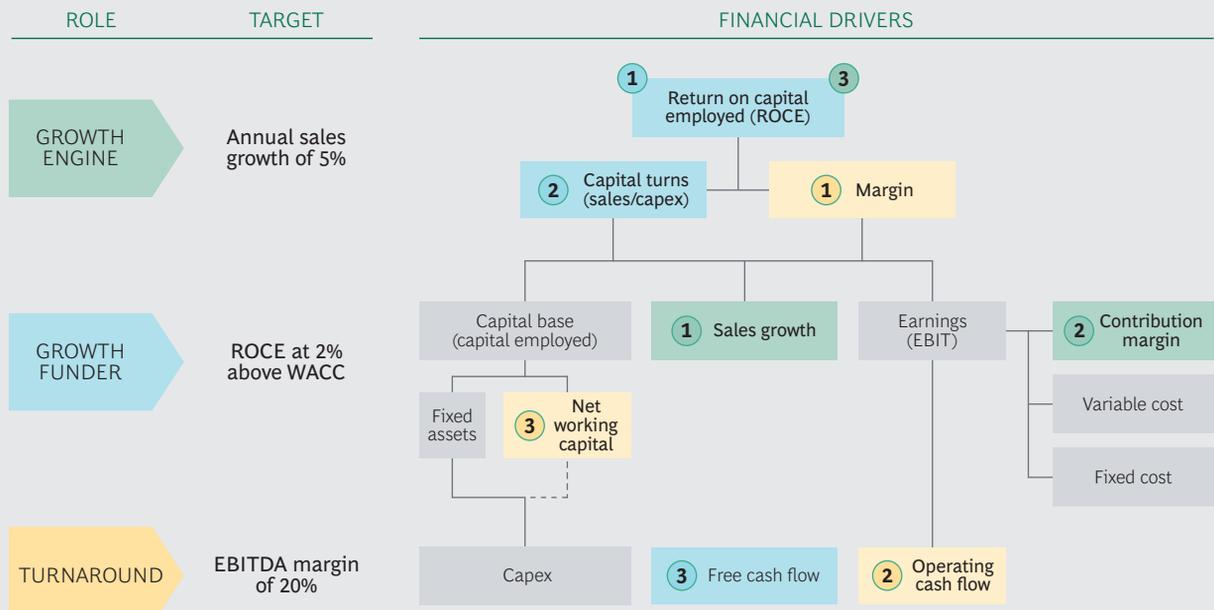
**EXHIBIT 5 | A Business’s Portfolio Role Determines Guidelines for Capital Allocation**

PORTFOLIO ROLE	BUSINESS UNIT	MARKET HEALTH	VALUE POTENTIAL	OWNERSHIP FIT	GUIDELINES FOR CAPITAL ALLOCATION
GROWTH ENGINE	• 1	●	●	●	<ul style="list-style-type: none"> <li>• ~ 50% or more of a company’s total capex is allocated to these businesses</li> <li>• Capex for an individual business may exceed its operating cash flow (OCF)</li> </ul>
	• 2	●	●	●	
	• 3	●	●	●	
	• 4	●	●	●	
	• 5	●	●	●	
GROWTH FUNDER	• 6	●	●	●	<ul style="list-style-type: none"> <li>• A maximum of ~ 20% of total capex</li> <li>• Capex in an individual business should not exceed ~ 75% of OCF</li> </ul>
	• 7	●	●	●	
	• 8	●	●	●	
	• 9	●	●	●	
	• 10	●	●	●	
BALANCED	• 11	●	●	●	<ul style="list-style-type: none"> <li>• A maximum of ~ 30% of total capex</li> <li>• Capex in an individual business up to ~ 100% of OCF</li> </ul>
	• 12	●	●	●	
	• 13	●	●	●	
	• 14	●	●	●	
	• 15	●	●	●	
HARVEST	• 16	●	●	●	<ul style="list-style-type: none"> <li>• Minimal capex; decisions on a project-by-project basis</li> </ul>
	• 17	●	●	●	
TURNAROUND	• 18	●	●	●	<ul style="list-style-type: none"> <li>• Minimal capex; only if high expected return and short payback time</li> </ul>
	• 19	●	●	●	
	• 20	●	●	●	

Source: BCG analysis.

Note: This analysis is based on a client example. Green circles indicate “strong,” yellow “neutral,” and red “weak.”

## EXHIBIT 6 | Different Portfolio Roles Require Different Performance Targets and KPIs



- ⓧ Priority of driver for growth engine (1 = high)
- ⓧ Priority of driver for growth funder (1 = high)
- ⓧ Priority of driver for turnaround (1 = high)

Source: BCG analysis.

Note: Based on a client example. WACC = weighted average cost of capital; EBITDA = earnings before interest, taxes, depreciation, and amortization.

Although the details will vary depending on the business and industry, we believe that all companies should go through some version of the steps outlined above: defining an investment thesis, determining the value creation potential of the portfolio of businesses, and developing a robust portfolio strategy. For an example of a company in which portfolio management is central to value creation strategy, consider Bristol-Myers Squibb.

### NOTES

1. See "Winning Moves in the Age of Shareholder Activism," BCG Focus, August 2015.
2. See "Creating Superior Value Through Spin-Offs," BCG article, February 2016.
3. See *First, Do No Harm: How to Be a Good Corporate Parent*, BCG report, March 2012.
4. See "Invest Wisely, Divest Strategically: Tapping the Power of Diversity to Raise Valuations," BCG Focus, April 2014.

# BRISTOL-MYERS SQUIBB

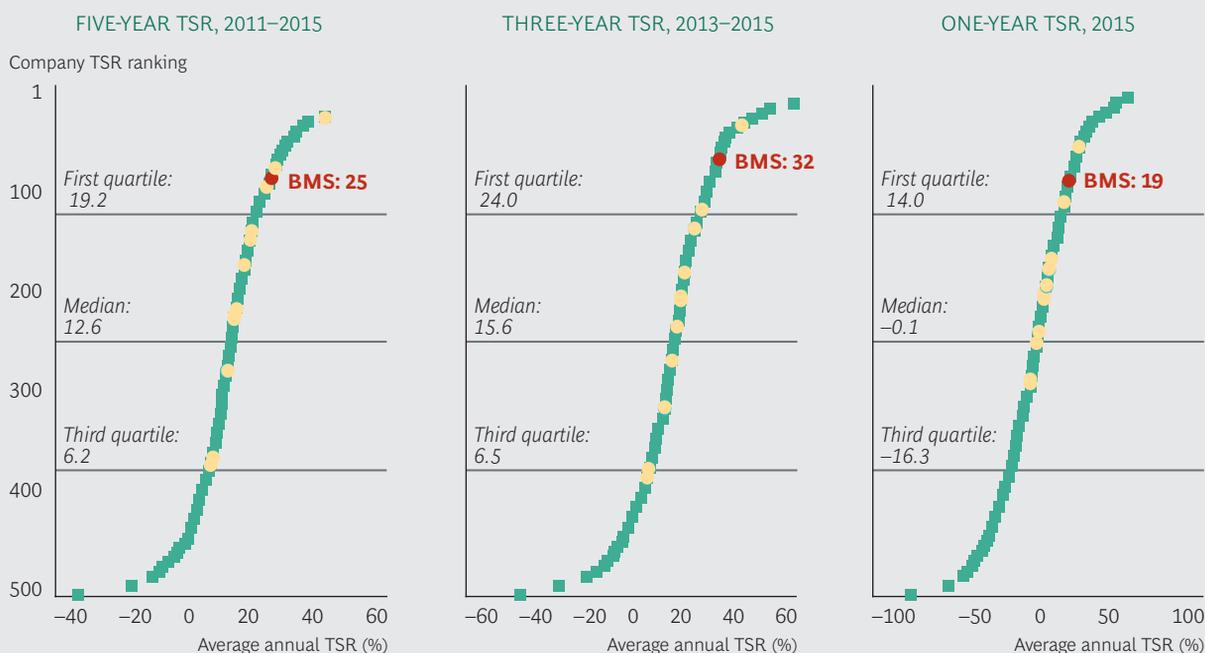
RESHAPING THE PORTFOLIO TO CREATE SUPERIOR SHAREHOLDER VALUE

**W**ITH A MARKET CAPITALIZATION in the neighborhood of \$100 billion, Bristol-Myers Squibb (BMS) is one of the largest companies in the biopharma sector. It is also one of the strongest value creators. The company was number 27 in our ranking of TSR of the world's 200 largest companies. Compared with its biopharma peers, BMS's performance is even more impressive. From

2011 through 2015, the period covered by this year's Value Creators study, the company was the third-best value creator in its peer group; it was the second best for the past three years and the past year. (See Exhibit 7.)

Understanding BMS's excellent recent performance, however, requires a broader time frame: the decade-long story of how the com-

## EXHIBIT 7 | Bristol-Myers Squibb Is a Top Value Creator Among Its Peers



Sources: S&P Global Market Intelligence; BCG analysis.  
 Note: The background curve represents the TSR of the S&P 500. Yellow dots represent BMS peers.

pany's senior management transformed BMS from a diversified health care company into a biopharma pure play by systematically reshaping the company's business and R&D portfolios.

## Biopharma's Value Crisis

Given the success of the biopharma sector during the past five years, it's easy to forget that not too long ago, biopharma companies were exhibiting worrisome signs of secular decline. Traditionally, valuations in the sector have been driven by the success of so-called blockbuster drugs—medicines generating annual global sales of \$1 billion or more. In the 1990s and early years of this century, major pharmaceutical companies relied heavily on the blockbuster model to generate sales. In 2005, blockbuster drugs accounted for about 60% of the \$245 billion in sales of the ten leading pharmaceutical companies.

By the middle of the first decade of this century, however, many industry observers were worried that the blockbuster era was coming to an end. R&D productivity—the capacity to translate scientific advances into business value—was declining. Various factors were to blame, such as lengthening cycle times, rising regulatory hurdles, new barriers to access and reimbursement, tougher competition, and shorter exclusivity periods in developed markets. From 1998 to 2010, R&D productivity (as measured by the number of new molecular entities approved by the FDA per billion dollars invested) declined by approximately 40%.

At the same time, many of the industry's earlier blockbuster drugs were starting to go off patent. And because the vast majority were so-called small molecule drugs (in which the active ingredient is based on chemical synthesis), they were relatively easy to copy and thus vulnerable to competition from low-cost generics. With R&D unable to replenish pipelines because of lower productivity, the industry faced a much discussed "patent cliff," which threatened company valuations.

From 2000 through 2010, the market value of the top 20 pharmaceutical companies decreased by more than 30%—a paper loss of \$720 billion. Interestingly, this decline was

not the result of a decrease in net income. During this period, declines in volume were offset by major cost cutting and price increases, causing the net income of these companies to grow by 140%. Rather, the fall in valuations was due to the dramatic drop in industry price-to-earnings multiples—a sign that investors were scaling back their expectations.

## BMS needed a strategy to cope with long-term threats.

Most large pharmaceutical companies were suffering from these trends, but BMS was hit especially hard. At best only an average performer during the blockbuster era, in 2006 the company saw its pharmaceutical business (which represented 77% of its net sales of \$18 billion) suffer a one-two knockout punch. BMS lost patent exclusivity for Pravachol, a statin used to fight cholesterol, causing sales to drop by \$1.2 billion from 2005 to 2006. What's more, a patent dispute with generics maker Apotex over Plavix, one of BMS's best-sellers, triggered a 15% decline in sales for that drug, resulting in an additional loss of \$1.5 billion. BMS's failed attempt to settle the dispute eventually led to the resignation of the company's CEO. In September 2006, board member Jim Cornelius, the former CEO of medical technology company Guidant, was appointed interim CEO.

## Refocusing the Portfolio: The "Biopharma Transformation"

In addition to resolving the company's short-term problems, Cornelius needed to develop a strategy for coping with long-term threats—in particular, the impending end of patent exclusivity for Plavix and of the comarketing agreement for the company's other bestseller, Abilify. At the time, many biopharma companies were turning to megamergers and portfolio diversification to protect themselves from the industry's value crisis. But Cornelius determined that BMS was not diversified enough to have a truly balanced portfolio, nor did it have a strong enough balance sheet to fund the acquisition of entire new busi-

nesses. So, Cornelius and his senior team decided to go in precisely the opposite direction. BMS made the bold bet to become a pure-play biopharma company.

What the company termed the “biopharma transformation” had three main components:

- Divesting the company’s nonpharma assets—specifically, a nutritionals business and a wound-care and a diagnostic-imaging business that together represented nearly 25% of net sales
- Focusing the company’s strong R&D organization on developing transformational medicines in areas of unmet patient need that could serve as reliable engines of growth
- Accelerating the transition by assembling a “string of pearls”: externally developed assets that fit the new strategy and would benefit from BMS’s R&D and commercialization capabilities

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## BMS made the bold bet to focus on biopharma.

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The goal was to combine in one company the development and commercialization strengths of big pharma with the agility and innovative approaches to drug discovery (focused on biologics, or “large molecule” drugs) emerging from the biotech sector.

### Earning the Right to Grow

Before BMS could execute its new strategy, however, it had to demonstrate that it could deliver results to shareholders while freeing up funds for new investments. In 2007, the company announced a productivity improvement initiative that over the next five years took some \$2.5 billion out of the business—with the majority of the savings coming from cuts in SG&A expenses. This major improvement in cost structure not only helped fund the new strategy but also made possible modest annual increases in the company’s dividend, which signaled to investors the compa-

ny’s growing financial strength and put a floor under its valuation multiple.

In parallel, the company began shedding businesses that were not part of the new focus on biopharma. BMS closed its imaging business in 2007, sold its wound care business to a private equity company in 2008, and spun off its nutritionals business in an IPO in 2009. These divestitures not only freed up additional funds for investment in the most promising new therapeutic areas; they also allowed the senior executive team to focus their time and attention on assembling a new biopharma portfolio.

One area the company decided to target was immuno-oncology (I-O), an innovative approach that fights cancer by harnessing the body’s immune system. Because I-O therapies, in effect, train the immune system to recognize and fight any growth in cancer cells, even after remission, they have the potential to provide long-term, high-quality survival to patients suffering from types of cancer for which the prognosis has been very poor. Moreover, the scientific mechanisms underlying I-O drugs are broadly applicable to multiple types of cancer, meaning that a single drug, used either individually or in combination with others, could have a huge market and be easier to protect from competition than traditional drugs.

Since 2004, BMS had been collaborating with Medarex, a biopharma company founded by immunologists from Dartmouth’s medical school that was using transgenic mice with a humanized immune system as a testing platform for the development of I-O drugs. Despite a failed Phase II clinical trial, BMS scientists saw enough promise in the results to become convinced that Medarex’s assets had serious potential. In 2009, BMS spent \$2.4 billion to acquire the company and brought its capabilities in-house. Two drugs developed at Medarex and acquired by BMS—Yervoy and Opdivo—were among the first I-O drugs approved by the FDA (in 2011 and 2014, respectively) for use in treating certain cancers. The acquisition was the start of a major bet on immuno-oncology. In the past ten years, BMS has invested \$8.3 billion in the space.

## Transforming the Organization: From Originator to Science Hub

BMS has done far more, however, than simply acquire new assets. In addition to transforming its business portfolio, BMS has transformed its organization in order to manage that portfolio for value. Although Cornelius stepped down as CEO in 2010, he and his successors, Lamberto Andreotti and Giovanni Caforio (appointed in 2015), have understood that in order for BMS to take advantage of recent innovations in I-O and other promising new areas, the company had to fundamentally change how it did business.

Although changes have taken place across the organization, some of the most important have occurred in the company's R&D organization. In particular, R&D had to see itself not primarily as the originator of new drugs but as a science hub, responsible for making smart tradeoffs across the portfolio of potential drugs in the company's R&D pipeline.<sup>1</sup>

**Building a Team of Expert Leaders.** The first step was to build the right team of senior R&D leaders both to assemble the company's new assets and to nurture their development. At many biopharma companies, senior R&D managers are too far from actual drug development work to be able to function effectively as leaders. BMS, under the leadership of then R&D head Elliott Sigal and his successor, Francis Cuss, developed a cadre of what Sigal termed "expert leaders," hands-on R&D managers who combined a deep understanding of the science in the new therapeutic areas the company was focusing on with an ability to generalize from that understanding in order to create business value.

**Revamping the Governance Model.** The next step was to make a commitment to effective management of the company's R&D pipeline. At any given moment, an R&D pipeline consists of drug candidates at different stages of development, so it requires a regular series of decisions about initiating new development projects or advancing or terminating existing ones. The quality of these decisions is absolutely critical to R&D productivity and to the overall success of the drug portfolio. Yet at many pharma companies, the process for making these decisions is ineffec-

tive, slow, bureaucratic, and sometimes highly political.

To address this concern, BMS has, over time, completely revamped its governance model—in particular, the all-important leadership committees that make decisions about initiation, progression, and termination. The new process emphasizes constructive engagement on the part of senior R&D leaders, the surfacing of tough issues, fast decision making, and a focus on serving the interests of the entire portfolio, not just individual drug candidates. The approach has allowed BMS to better compare assets across the portfolio, resolve competing interests, and allocate resources more effectively. It has also helped BMS continually prune its portfolio in order to focus capital on the most promising areas. As the full scale of the immunoncology opportunity has become apparent, the company has exited some of its more traditional therapeutic areas. For example, it sold its global diabetes business to AstraZeneca in 2014.

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## R&D teams now follow the science, wherever it leads.

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**Following the Science.** The company has also made changes in the ways that drug development teams are managed and rewarded. In biopharma R&D, it's only natural for a team to want its candidate to succeed. As a result, teams tend to engage in what is known as progression-seeking behavior—championing their candidate through the steps of the development process. Progression seeking is a rational response to traditional incentives in the industry: raises, job security, and prestige in biopharma have typically been associated with the progression of a drug. But it can come at a high cost: teams sometimes aggressively champion their candidate even when progression may not be justified for scientific, strategic, or financial reasons.

To address this issue, BMS has created mechanisms to encourage project teams to "follow the science," even when it might mean the termination of their projects. By rewarding

truth seeking—following the science wherever it leads—over progression seeking, BMS ensures that R&D personnel have incentives to make the tough business decisions that maximize the value of the entire portfolio.

**Leveraging External Innovation.** The more R&D managers became expert leaders who followed the science, the more BMS was in a position to start taking advantage of scientific developments outside the company. By seeking external partners through a strategy that reinforced the company’s overall R&D strategic direction, the company has been able to leverage the most promising new approaches to drug development, many of which are found in university research labs and startups.

To emphasize the new focus on external innovation, the company beefed up its business development capabilities. It also “underfunded” its internal drug discovery effort to compel R&D leaders to pursue a combination of internally and externally discovered assets in order to meet their goals. Constraints on funding pushed scientists to routinely consider external partnerships as potentially better, faster, or cheaper routes to assembling the capabilities necessary to develop and test new drugs and bring them to market.

In addition to traditional acquisitions or in-licensing deals, BMS has created a vast array of partnerships with other companies to leverage their technologies for drug discovery against BMS targets or to develop companion diagnostics to the BMS drug portfolio. The company has also set up collaborative alliances for codiscovery in order to pool resources and expertise and leverage academic expertise and talent. It has even partnered with competitors to develop combination treatments.

**Encouraging Cross-Functional Cooperation.** Finally, BMS has recently created organizational mechanisms to increase cooperation across R&D functions and drug development teams. With the rapid advances in medical science, biopharma R&D has become increasingly specialized, resulting in the proliferation of new organizational units and the continued dominance of the functions over new-

drug project teams. Because the functions frequently have more power than the project teams, they often push for decisions that optimize their own interests rather than doing what is best for the particular asset or the portfolio as a whole.

To shift the balance, BMS has reduced the functions’ control of personnel, budget, and other key decisions, giving relatively more power to project leaders responsible for determining the future development of a given drug candidate. “Focus on the asset” has become the mantra for cross-functional cooperation.

## On the Edge of Breakout Growth

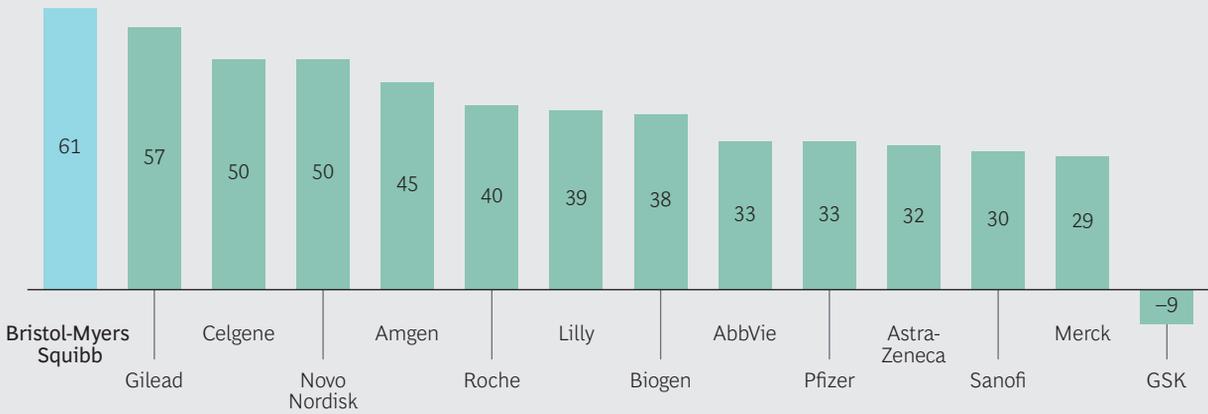
The moves BMS has made to reshape its portfolio and transform the organization in order to manage the portfolio for value have put the company on the edge of breakout growth.

BMS’s current R&D productivity is among the highest in the industry. In 2015, the company’s late-stage pipeline and total R&D expenditure were responsible for a larger share of enterprise value than those of any other large biopharma company. (See Exhibit 8.)

BMS has also been a first mover in the commercialization of immuno-oncology drugs precisely as I-O has emerged as the next wave of innovation in oncology drug development. Current estimates put the overall market opportunity in I-O at more than \$30 billion. Since 2011, the company’s I-O business has grown from 0% to 15% of total sales, and it is expected to quadruple, to more than 50%, by 2021. Opdivo alone generated nearly \$1 billion in sales in 2015, becoming a new-generation blockbuster that has helped the company outperform the industry in revenue growth for the first time since 2008. According to consensus estimates, Opdivo is expected to generate between \$8 billion and \$9 billion in sales by 2020, revising investors’ expectations for BMS’s share price and boosting the company’s valuation multiple. As a result, over the past six years, the company’s TSR has outpaced that of its peers by an average of 5 percentage points per year. (See Exhibit 9.)

**EXHIBIT 8 | In 2015, BMS's R&D Contributed the Highest Share of Enterprise Value of All Peer R&D Organizations**

SHARE OF ENTERPRISE VALUE CONTRIBUTED BY R&D (%)

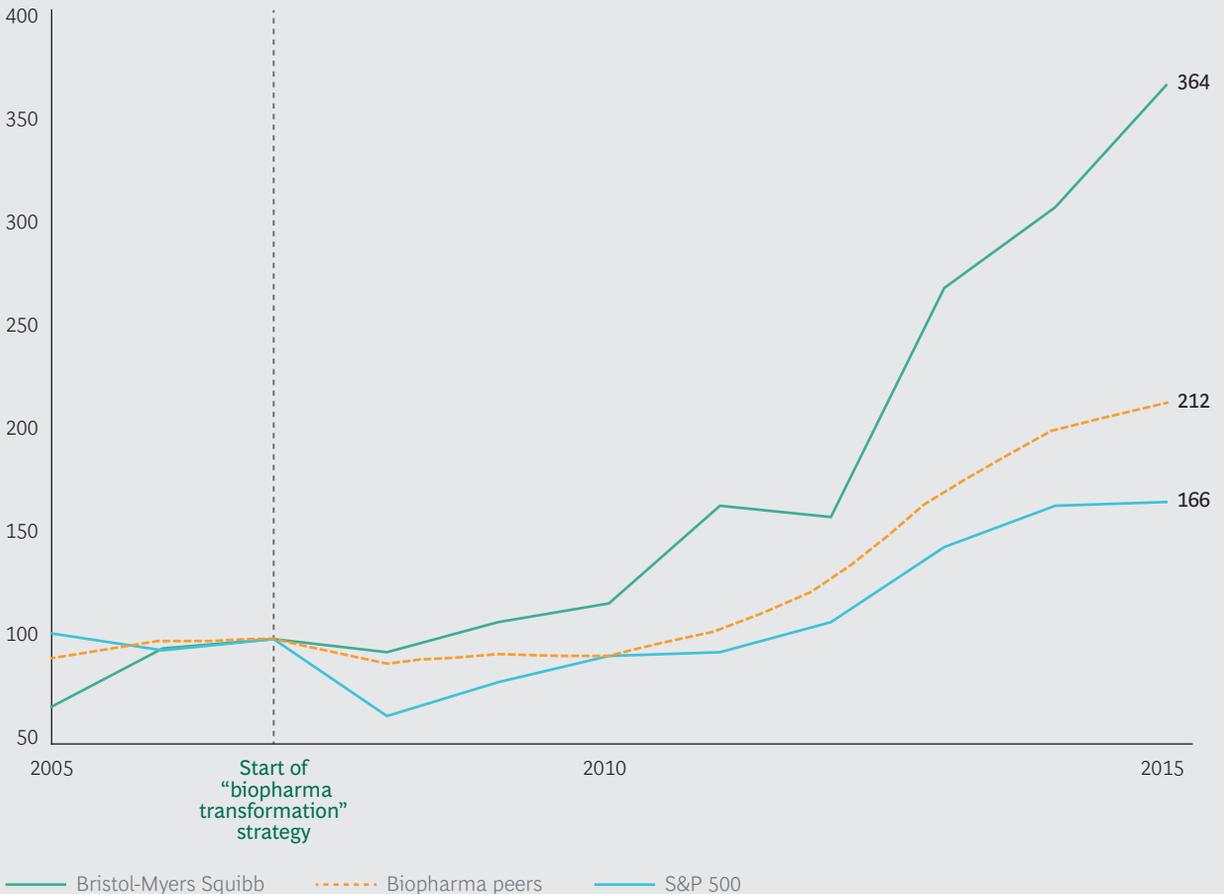


Sources: S&P Global Market Intelligence; EvaluatePharma; BCG analysis.

Note: Data is from October 2015. The analysis includes companies with a market capitalization of at least \$50 billion and in which at least 75% of the business is devoted to the discovery, development, and commercialization of branded prescription biopharmaceuticals.

**EXHIBIT 9 | Since 2010, BMS Has Outperformed Its Peers by Approximately 5 Percentage Points of TSR per Year**

TSR index (2007 = 100)



Sources: Deluxe; S&P Global Market Intelligence; BCG analysis.

Of course, BMS still faces major challenges. Other big-pharma companies are adopting versions of the company's focused strategy. And there is growing competitive intensity in the I-O space, as other players look to capture the opportunity. Perhaps most important, now that investors have bid up BMS's stock in anticipation of rapid revenue growth from the company's new blockbusters, BMS will have to deliver on those expectations and find new ways to beat them—by rapidly increasing revenue and introducing additional new drugs. All this in a field—drug development—that is inherently risky: the announcement of a failed clinical trial in which Opdivo was tested as an initial treatment for lung cancer caused BMS's share price to drop 16% on a single day in August 2016.

But BMS isn't standing still. It continues to follow the science, testing Opdivo and Yervoy in combination with other therapies for a

wide range of cancers. And in September 2016, the company announced a major initiative to further transform how it does business. The goal: to drive growth from Opdivo and other leading drugs in the portfolio and to develop the company's pipeline of next-generation oncology and specialty medicines for the next wave of growth.

NOTE

1. For more on the transformation of BMS's R&D organization, see *Unlocking Productivity in Biopharma R&D: The Key to Outperforming*, BCG report, January 2016.

# APPENDIX

## THE 2016 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 2016 rankings are based on an analysis of TSR at approximately 2,000 companies worldwide from 2011 through 2015.<sup>1</sup>

To arrive at this sample, we began with TSR data for nearly 44,000 companies provided by S&P Global Market Intelligence. We eliminated all companies that 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 28 industry groups and establishing an appropriate market valuation hurdle to eliminate the smallest companies in each industry. (The size of the hurdle for each industry can be found in the tables under “Industry.”) In addition to our comprehensive global top-ten ranking, we separated out the 200 largest companies by market valuation. We have included a ranking of these large-cap companies under “Global.”

The global and industry rankings are based on five-year TSR performance from 2011 through 2015.<sup>2</sup> We also show TSR performance from January 1 through June 30, 2016. In addition, for all but two of the industry rankings, we break down TSR performance

into the six investor-oriented financial metrics used in the BCG TSR model: sales growth, margin change, multiple change, dividend yield, change in the number of shares outstanding, and change in net debt. For two industries, banking and insurance, we use a slightly different approach to TSR disaggregation because of the analytical problems involved in measuring value creation in those sectors.

### NOTES

1. BCG released a preliminary version of its 2016 Value Creators rankings in May 2016. Since then, adjustments in financial reporting have caused slight changes in the reported TSR for some companies in the rankings and, in five cases, the replacement of a company in an industry top-ten ranking. We have indicated the exhibits in which there have been changes in the rankings.

2. TSR is a dynamic ratio that includes price gains and dividend payments for a specific stock during a given period. To measure performance from 2011 through 2015, 2010 end-of-year data must be used as a starting point in order to capture the change from 2010 to 2011, which determines 2011 TSR.

# GLOBAL

## LARGE-CAP COMPANIES

### THE LARGE-CAP TOP TEN, 2011–2015

					TSR Disaggregation <sup>1</sup>							
					Profit growth		Valuation	Cash flow contribution				
					+		+	+				
	Company	Location <sup>2</sup>	Industry	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	2016 TSR <sup>6</sup> (%)
1	Regeneron	US	Large-cap pharma	57.6	75.3	NA <sup>7</sup>						-35.9
2	Allergan	Ireland	Large-cap pharma	123.2	43.3	33	16	18	0	-20	-4	-26.2
3	Gilead Sciences	US	Large-cap pharma	145.8	41.4	33	7	-1	0	2	0	-17.8
4	Naspers	South Africa	Media and publishing	59.0	41.1	20	-27	48	1	-2	0	3.3
5	Visa	US	Technology	188.4	35.6	11	3	19	1	3	-1	-0.7
6	Biogen	US	Large-cap pharma	68.3	35.5	18	6	11	0	1	-1	-22.0
7	Tencent	China	Media and publishing	183.2	35.5	39	-6	2	1	0	-1	18.5
8	Netflix	US	Media and publishing	48.9	35.4	26	-23	36	0	-3	0	-20.4
9	KDDI	Japan	Communication service providers	66.0	34.9	6	3	17	3	1	6	-0.2
10	MasterCard	US	Technology	110.2	34.7	12	2	20	1	3	-2	-5.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = the world's 200 largest global companies by market value as of December 31, 2015.

<sup>1</sup>Contribution of each factor shown in percentage points of five-year average annual TSR. Any apparent differences to TSR totals are due to rounding.

<sup>2</sup>Location refers to the location of the company's corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible for this company because of negative or minimal EBITDA in either the start year or end year of the analysis.

# INDUSTRY

## AEROSPACE AND DEFENSE

### THE AEROSPACE AND DEFENSE TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	TransDigm Group	US	12.3	35.8	27	-2	5	10	-2	-3	14.2
2	Sichuan Chengfa Aero-Science & Technology	China	2.6	30.9	12	-3	28	0	-7	0	-25.8
3	Airbus	France	52.9	30.8	7	9	18	2	1	-6	-14.2
4	Lockheed Martin	US	66.7	30.4	0	5	15	5	3	2	14.0
5	Northrop Grumman	US	34.4	29.8	-8	7	17	6	10	-2	16.0
6	Raytheon	US	37.5	25.7	-2	4	16	4	4	0	9.7
7	Aerojet Rocketdyne	US	1.0	24.8	15	2	7	0	-2	2	14.2
8	Thales Group	France	15.6	24.6	1	38	-20	3	-1	3	9.9
9	AVIC Aviation Engine	China	13.5	23.9	31	5	1	0	-11	-2	-23.1
10	Changchun UP Optotech	China	1.3	23.2	11	-16	29	1	0	-3	-14.9

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 67 global companies with a market valuation greater than \$1 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

## AUTOMOTIVE COMPONENTS

### THE AUTOMOTIVE COMPONENTS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Toyo Tire & Rubber	Japan	2.5	47.6	7	20	-1	4	0	18	-53.9
2	Brembo	Italy	3.2	46.2	14	9	11	4	0	8	10.3
3	Motherson Sumi Systems	India	5.9	41.6	37	-1	6	1	0	-1	-4.6
4	MRF	India	2.6	41.2	19	4	15	0	0	3	-16.2
5	Plastic Omnium	France	4.7	40.9	9	3	15	3	-1	12	-12.5
6	Gentherm	US	1.7	34.2	50	6	-10	0	-10	-3	-29.0
7	Koito Manufacturing	Japan	6.7	33.5	13	-2	17	2	0	4	-6.3
8	Continental	Germany	48.9	32.9	9	0	13	2	0	9	-23.4
9	Linamar	Canada	3.5	31.2	18	6	2	2	0	4	-38.4
10	Valeo	France	12.0	30.9	9	1	15	4	-1	4	-14.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 78 global companies with a market valuation greater than \$1 billion as of December 31, 2015. The order of companies in this ranking has shifted slightly since our preliminary publication in May 2016 because of adjustments in five-year average annual TSR.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

# AUTOMOTIVE OEM

## THE AUTOMOTIVE OEM TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Eicher Motors	India	6.9	69.9	22	13	40	1	0	-6	14.0
2	Tesla Motors	US	31.4	55.2	NA <sup>7</sup>						-12.4
3	Fuji Heavy Industries	Japan	32.6	54.4	15	18	6	3	0	12	-29.6
4	Changan Automobile	China	11.8	37.5	15	9	16	2	-2	-2	-35.5
5	Maruti Suzuki India	India	21.1	27.3	11	1	18	1	-1	-2	-10.5
6	Great Wall Motors	China	14.8	25.8	28	-1	-2	3	-2	-1	-24.4
7	Toyota Motor	Japan	190.4	21.1	8	12	-5	3	1	3	-31.3
8	Renault	France	29.5	19.2	3	4	4	3	-1	7	-24.0
9	Mazda Motor	Japan	12.6	17.5	8	13	-10	1	-10	16	-45.7
10	Fiat Chrysler	UK	18.1	15.3	25	-3	-21	19	-1	-4	-37.4

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 39 global companies with a market valuation greater than \$3 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

# BANKING

## THE BANKING TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>					2016 TSR <sup>6</sup> (%)
					Profit growth		Valuation	Cash flow contribution		
					+	+	+	+	+	
					Equity-growth	ROE change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	
1	Kotak Mahindra Bank	India	19.9	26.1	32	-14	13	0	-4	4.7
2	FirstRand	South Africa	15.4	22.6	14	5	-1	6	-1	7.0
3	China Minsheng Banking	China	51.0	21.9	24	-3	0	4	-3	-4.8
4	First Gulf Bank	United Arab Emirates	15.5	21.4	8	4	5	6	-2	2.6
5	Swedbank	Sweden	24.5	20.5	5	9	-1	6	1	0.2
6	KBC Group	Belgium	26.2	19.4	-3	4	20	2	-4	-23.9
7	Bank Rakyat Indonesia	Indonesia	20.4	19.3	25	-7	-1	3	0	-3.9
8	HDFC Bank	India	41.3	19.1	24	2	-6	1	-2	8.0
9	Shanghai Pudong Development Bank	China	52.5	19.0	18	3	-8	5	0	-14.8
10	Natixis	France	17.7	17.5	-2	1	11	9	-2	-30.1

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 87 global companies with a market valuation greater than \$15 billion as of December 31, 2015. The order of companies in this ranking has shifted slightly since our preliminary publication in May 2016 because of adjustments in five-year average annual TSR.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

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

<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, 2016.

## BUILDING MATERIALS

### THE BUILDING MATERIALS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Lucky Cement	Pakistan	1.5	50.7	27	8	4	5	0	6	31.0
2	Shree Cement	India	6.0	42.5	12	-11	37	1	0	4	27.1
3	Sanwa Holdings	Japan	1.8	33.5	9	16	-6	3	1	10	-2.8
4	Taiheiyo Cement	Japan	3.6	30.3	3	11	-11	3	-5	30	-31.1
5	Kingspan Group	Ireland	4.7	28.2	18	5	4	2	-1	0	-19.2
6	NIBE Industrier	Sweden	3.7	24.5	15	3	9	2	-3	-2	-0.7
7	Lennox International	US	5.6	23.3	2	8	9	2	4	-1	11.0
8	Sumitomo Osaka Cement	Japan	1.5	21.5	4	5	-2	2	1	12	-0.4
9	UltraTech Cement	India	11.5	21.2	28	-8	3	1	0	-2	22.7
10	James Hardie Industries	Ireland	5.7	18.4	8	5	2	6	-0	-1	22.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 62 global companies with a market valuation greater than \$1.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

## CHEMICALS

### THE CHEMICALS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	PI Industries	India	1.3	68.6	29	5	33	1	-5	6	12.0
2	Hexpol	Sweden	3.7	48.0	24	8	7	5	-5	10	-3.6
3	Boai NKY Pharmaceuticals	China	2.7	39.7	12	11	25	1	-8	-2	-38.9
4	Frutarom Industries	Israel	3.1	39.1	14	1	26	1	-1	-2	-12.1
5	Nippon Paint	Japan	7.9	38.4	16	7	14	2	-4	4	-14.8
6	Guangdong Sky Dragon Printing Ink Group	China	1.9	38.4	45	-10	16	1	-7	-6	-31.2
7	Chr. Hansen	Denmark	8.2	33.7	8	1	18	3	1	3	1.7
8	Ciech	Poland	1.1	33.2	-2	16	5	5	-12	21	-41.8
9	Grupa Azoty	Poland	2.5	32.1	39	6	-7	7	-17	5	-30.0
10	SK Kaken	Japan	1.3	31.3	6	0	34	2	1	-11	-18.7

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 189 global companies with a market valuation greater than \$1 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

# COMMUNICATION SERVICE PROVIDERS

## THE COMMUNICATION SERVICE PROVIDERS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Charter Communications	US	20.6	36.3	7	-1	23	0	1	7	12.3
2	KDDI	Japan	66.0	34.9	6	3	17	3	1	6	-0.2
3	Level 3 Communications	US	19.4	29.9	18	7	1	0	-21	25	-7.1
4	Time Warner Cable	US	52.6	26.1	5	-2	10	3	5	6	NA <sup>7</sup>
5	NTT	Japan	84.4	25.4	2	-3	10	4	5	7	0.4
6	BT	UK	58.2	25.3	-2	5	9	4	-2	11	-13.1
7	Telstra	Australia	49.9	23.0	2	-2	13	8	0	2	2.1
8	Comcast	US	138.0	23.0	15	-3	6	2	3	0	14.3
9	DiGi.Com	Malaysia	9.8	22.8	5	0	12	6	0	0	-9.6
10	Iliad	France	14.0	22.3	17	-3	8	0	-1	1	-16.9

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 53 global companies with a market valuation greater than \$7.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>In May 2016, Time Warner Cable was acquired by Charter Communications and is no longer publicly listed.

# CONSTRUCTION

## THE CONSTRUCTION TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Dycom Industries	US	2.3	36.5	17	12	8	0	3	-4	27.5
2	Pinfra	Mexico	5.6	36.0	22	-5	14	0	-5	11	10.4
3	Taisei	Japan	7.8	35.7	5	27	-22	2	-1	24	6.3
4	Shandong Qixing Iron Tower	China	1.9	33.8	11	-3	34	0	-5	-3	-16.3
5	Haseko	Japan	3.4	30.6	11	8	-9	0	0	20	-23.2
6	Kajima	Japan	6.3	29.4	5	11	-10	2	0	21	-1.0
7	Ferrovial	Spain	16.6	29.0	-5	-13	9	6	0	31	-15.5
8	Obayashi	Japan	6.7	26.6	NA <sup>7</sup>						-1.9
9	Shimizu	Japan	6.5	25.4	5	16	-5	2	0	8	-2.3
10	Salini Impregilo	Italy	2.1	25.1	19	0	-3	11	-4	2	-36.4

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 83 global companies with a market valuation greater than \$1.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## CONSUMER DURABLES

### THE CONSUMER DURABLES TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Hanssem	South Korea	3.5	78.8	22	7	50	3	2	-6	-31.3
2	De' Longhi	Italy	4.5	44.0	3	5	27	8	0	1	-22.3
3	Rastar	China	3.0	42.1	39	4	5	1	-3	-3	-10.3
4	Howden Joinery	UK	5.0	40.4	9	6	20	2	0	4	-26.0
5	Casio Computer	Japan	6.2	37.8	-1	27	2	4	1	6	-48.1
6	Shimano	Japan	14.4	36.5	12	7	18	2	0	-2	-16.8
7	Zhonglu	China	2.4	34.6	1	19	13	0	0	1	-39.1
8	Jarden	US	12.5	33.3	7	2	18	0	-1	7	NA <sup>7</sup>
9	Toto	Japan	6.0	31.9	6	9	8	3	1	6	-4.3
10	Middleby	US	6.2	30.8	21	2	8	0	-1	1	7.3

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 54 global companies with a market valuation greater than \$2 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>In April 2016, Jarden was acquired by Newell Rubbermaid and is no longer publicly listed.

## CONSUMER NONDURABLES

### THE CONSUMER NONDURABLES TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 ytd TSR <sup>6</sup> (%)
					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	
1	Constellation Brands	US	28.0	45.3	14	12	10	0	2	8	12.4
2	Universal Robina	Philippines	8.6	43.4	13	3	26	4	-1	-2	13.7
3	Meiji Holdings	Japan	12.3	42.7	2	7	21	2	0	11	4.5
4	Monster Beverage	US	30.2	41.6	16	7	22	0	-3	-1	6.0
5	Amorepacific	South Korea	22.6	30.1	16	-1	14	1	0	0	4.1
6	Ajinomoto	Japan	14.0	29.6	-1	5	17	2	4	2	-16.0
7	Reynolds American	US	66.0	29.3	5	4	20	6	-4	-2	16.5
8	Japan Tobacco	Japan	66.6	28.1	-2	9	10	4	1	5	-8.2
9	Hormel Foods	US	20.9	27.6	6	4	15	2	0	0	-10.0
10	Tyson Foods	US	21.1	26.6	8	1	19	1	-2	-1	21.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 85 global companies with a market valuation greater than \$7.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

## FASHION AND LUXURY

### THE FASHION AND LUXURY TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Under Armour	US	17.4	42.5	30	-1	16	0	-1	-2	-1.4
2	Hanesbrands	US	11.5	36.9	7	7	14	1	-1	9	-9.9
3	Skechers USA	US	4.7	35.3	9	3	25	0	-1	-1	-0.6
4	Next	UK	15.9	34.7	4	4	18	5	4	1	-31.8
5	L Brands	US	27.7	33.4	5	5	14	8	2	0	-27.1
6	Foot Locker	US	8.9	30.0	8	19	-1	3	2	0	-14.7
7	Sports Direct International	UK	5.1	29.2	13	7	5	0	-1	5	-44.6
8	Ross Stores	US	21.8	29.1	9	4	13	1	3	-2	4.2
9	Fast Retailing	Japan	36.2	28.3	17	-9	22	1	0	-1	-35.6
10	The TJX Companies	US	47.5	27.6	7	2	14	2	4	-1	8.3

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 39 global companies with a market valuation greater than \$4.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

## FOREST PRODUCTS

### THE FOREST PRODUCTS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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	
1	Stella-Jones	Canada	2.6	46.0	23	3	19	1	-2	2	-8.3
2	MCC Meili Paper Industry	China	1.3	34.7	NA <sup>7</sup>						-22.8
3	BillerudKorsnäs	Sweden	3.9	32.2	20	-2	18	10	-13	-2	-17.5
4	Guandong Guanhao High-Tech	China	2.2	31.0	8	-2	31	0	-5	0	-24.5
5	Klabir	Brazil	6.6	30.7	9	6	15	4	0	-4	-39.7
6	Smurfit Kappa	Ireland	5.9	29.1	4	4	-1	3	14	5	-14.2
7	Mondi	UK	9.5	28.9	2	7	10	4	0	6	-5.7
8	Neenah Paper	US	1.0	28.5	6	4	10	3	-3	8	14.0
9	DS Smith	UK	5.5	27.4	11	10	4	13	-15	4	-1.7
10	Graphic Packaging	US	4.2	27.3	0	5	6	0	1	15	-3.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 51 global companies with a market valuation greater than \$1 billion.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## HEALTH CARE SERVICES

### THE HEALTH CARE SERVICES TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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					
1	Bumrungrad International Hospital	Thailand	49.0	4.3	12	5	27	3	0	1	-12.9
2	Centene <sup>7</sup>	US	39.0	7.8	22	NA	21	0	-4	NA	7.4
3	Town Health International Medical Group	Hong Kong	38.6	1.5	NA <sup>8</sup>						-20.6
4	Bangkok Dusit Medical Services	Thailand	38.2	9.6	22	-1	19	1	-4	1	8.4
5	Mediclinic International	South Africa	37.2	7.4	NA <sup>8</sup>						NA <sup>9</sup>
6	Ramsay Health Care	Australia	33.6	9.9	18	0	11	3	0	2	6.4
7	Ryman Healthcare	New Zealand	32.6	2.9	15	-5	19	3	0	0	10.7
8	Cigna <sup>7</sup>	US	32.0	37.7	13	NA	18	0	1	NA	-11.9
9	athenahealth	US	31.5	6.3	30	-14	19	0	-3	-2	-15.6
10	Mouwasat Medical Services	Saudi Arabia	30.7	1.6	11	-1	17	3	0	0	6.9

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 56 global companies with a market valuation greater than \$1 billion as of December 31, 2015.

<sup>1</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>2</sup>Location corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<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, 2016.

<sup>7</sup>Because both Centene 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>8</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

<sup>9</sup>In February 2016, the Al Noor Hospitals Group did a reverse takeover of Mediclinic International, using the name for the new combined entity. The old Mediclinic International is no longer listed on the Stock African stock exchange; the new Mediclinic International is listed in the UK.

## INSURANCE

### THE INSURANCE TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>				2016 TSR <sup>6</sup> (%)
					Profit growth	Valuation	Cash flow contribution		
					+	+	+	+	
	Equity growth	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>					
1	Legal & General Group	UK	23.4	28.5	6	17	6	0	-25.7
2	Hannover Rück	Germany	13.9	27.8	12	9	6	0	-7.9
3	Sampo Group	Finland	28.6	24.4	5	13	6	0	-18.2
4	Swiss Re	Switzerland	33.5	21.8	6	7	9	0	-1.6
5	Prudential	UK	57.8	21.5	10	8	4	0	-15.6
6	Axa Group	France	66.4	21.0	7	9	6	-1	-25.7
7	The Chubb Corporation	US	30.1	19.9	2	10	3	6	NA <sup>7</sup>
8	Markel	US	12.3	18.5	20	6	0	-7	6.6
9	Standard Life	UK	11.3	18.3	1	9	10	-1	-22.0
10	Allianz	Germany	80.9	18.3	7	6	5	0	-18.2

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 49 global companies with a market valuation greater than \$10 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

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

<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, 2016.

<sup>7</sup>In January 2016, The Chubb Corporation was acquired by ACE Limited and is no longer publicly listed.

## MACHINERY

### THE MACHINERY TOP TEN, 2011–2015

					TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					Profit growth		Valuation	Cash flow contribution			
					+		+	+			
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	
1	Siasun Robot & Automation	China	7.5	42.0	25	0	19	0	-2	-1	-18.4
2	Hoshizaki Electric	Japan	4.6	39.7	9	6	36	2	0	-13	32.1
3	A.O. Smith	US	6.7	33.8	11	13	3	2	1	5	12.5
4	Zhengzhou Yutong Bus	China	7.7	28.7	18	9	1	5	-9	4	-5.5
5	Tontec Technology Investment Group <sup>7</sup>	China	4.3	27.7	9	9	24	0	-15	0	-28.7
6	Daikin Industries	Japan	21.6	27.0	13	8	2	2	0	3	-3.6
7	Shanghai Mechanical & Electrical Industry	China	4.4	25.8	8	2	18	2	0	-4	-35.8
8	Assa Abloy Group	Sweden	23.4	25.4	13	-1	10	2	0	1	-1.8
9	Rational	Germany	5.2	24.2	10	-1	12	4	0	-1	0.9
10	Gamesa	Spain	4.7	23.6	5	8	14	1	-3	-1	9.1

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 75 global companies with a market valuation greater than \$4 billion, as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

<sup>7</sup>In May 2016, Tontec Technology Investment Group changed its name to Avic Aviation High-Technology.

## MEDIA AND PUBLISHING

### THE MEDIA AND PUBLISHING TOP TEN, 2011–2015

					TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					Profit growth		Valuation	Cash flow contribution			
					+		+	+			
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	
1	Leshi Internet Information & Technology (LeEco)	China	16.8	74.2	123	-62	17	0	-1	-2	-10.0
2	East Money Information	China	14.9	64.4	74	20	-26	1	-2	-2	-23.1
3	Emtek	Indonesia	4.2	56.2	14	2	39	3	-2	0	-4.3
4	Hithink RoyalFlush Information Network	China	5.9	52.2	46	10	-1	1	0	-4	16.2
5	M3	Japan	6.8	50.2	33	-6	23	1	-1	-1	41.2
6	Guangdong Alpha Animation and Culture	China	10.1	48.7	23	2	25	1	-1	-2	-42.0
7	Hangzhou Shunwang Technology	China	4.6	48.6	49	0	2	1	0	-3	-15.2
8	Rightmove	UK	5.8	41.4	19	3	17	2	2	-1	-11.0
9	Naspers	South Africa	59.0	41.1	20	-27	48	1	-2	0	3.3
10	NetEase	China	23.7	39.5	33	-8	17	2	0	-4	3.3

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 84 global companies with a market valuation greater than \$4 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

## MEDICAL TECHNOLOGY

### THE MEDICAL TECHNOLOGY TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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					
1	Sartorius	Germany	5.1	63.6	11	10	32	2	0	8	-8.5
2	Abiomed	US	3.8	56.5	NA <sup>7</sup>						19.8
3	DaAn Gene	China	4.2	46.8	32	-12	27	0	0	0	-25.7
4	Cantel Medical	US	2.6	43.5	16	7	22	1	-2	0	10.0
5	Dexcom	US	6.7	43.1	NA <sup>7</sup>						-3.5
6	Sysmex	Japan	13.5	42.2	15	6	20	1	0	0	-10.4
7	Coloplast	Denmark	17.1	32.5	8	5	16	3	0	1	-9.8
8	Nihon Kohden	Japan	2.1	29.7	8	1	21	2	0	-2	-1.9
9	Fisher & Paykel Healthcare	New Zealand	3.4	29.0	9	6	9	6	-2	1	14.2
10	Natus Medical	US	1.6	27.6	11	6	13	0	-2	0	-22.4

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 76 global companies with a market valuation greater than \$1.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## METALS

### THE METALS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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					
1	Ternium Siderar	Argentina	3.0	38.4	20	0	11	12	0	-5	-8.4
2	Jiangxi Ganfeng Lithium	China	3.7	31.8	30	0	7	1	-5	-2	-46.8
3	Zhejiang Jiuli Hi-Tech Metals	China	2.0	24.3	9	4	14	1	-2	-1	-24.2
4	China Minmetals Rare Earth	China	3.1	22.9	NA <sup>7</sup>						-36.3
5	Maruichi Steel Tube	Japan	2.5	18.9	6	-4	18	3	1	-5	1.0
6	Aluar	Argentina	2.5	17.8	17	-10	9	1	0	1	-18.2
7	Inner Mongolia Baotou Steel Union	China	18.1	14.0	NA <sup>7</sup>						-20.8
8	Erdemir	Turkey	3.6	13.3	12	-3	-10	8	0	6	45.1
9	Kaiser Aluminum	US	1.5	13.0	5	15	-11	2	2	-1	6.2
10	Worthington Industries	US	1.9	12.9	6	2	0	3	3	-1	27.3

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 86 global companies with a market valuation greater than \$1 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## MINING

### THE MINING TOP TEN, 2011–2015

				TSR Disaggregation <sup>1</sup>							2016 TSR <sup>6</sup> (%)	
				Profit growth		Valuation	Cash flow contribution					
				+		+	+					
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change		
1	Semirara Mining and Power	Philippines	3.1	21.8	2	9	7	5	0	1	-5.4	
2	Wintime Energy	China	8.2	11.1	31	15	1	1	-27	-10	-17.4	
3	Saudi Arabian Mining	Saudi Arabia	10.3	10.5	73	18	-66	2	-5	-12	12.5	
4	Washington H. Soul Pattinson	Australia	3.0	10.2	-10	-7	31	3	0	-8	-1.5	
5	Shanxi Meijin Energy	China	3.8	9.4	33	-25	33	0	-32	0	-2.9	
6	Imerys	France	5.6	8.3	4	-1	4	3	-1	-1	-8.1	
7	Franco-Nevada	Canada	7.2	8.0	23	-13	6	2	-6	-4	63.9	
8	Boliden	Sweden	4.6	4.0	2	-3	2	3	0	0	16.6	
9	Sdic Xinji Energy	China	3.7	-1.1	NA <sup>7</sup>							-60.5
10	Zhongjin Lingnan Nonfemet	China	5.0	-3.7	12	-24	10	0	-1	-1	-25.6	

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 44 global companies with a market valuation greater than \$3 billion as of December 31, 2015. The order of companies in this ranking has shifted slightly since our preliminary publication in May 2016 because of adjustments in five-year average annual TSR.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## MULTIBUSINESS

### THE MULTIBUSINESS TOP TEN, 2011–2015

				TSR Disaggregation <sup>1</sup>							2016 TSR <sup>6</sup> (%)
				Profit growth		Valuation	Cash flow contribution				
				+		+	+				
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	
1	JG Summit Holdings	Philippines	11.2	30.7	14	0	14	1	-1	4	17.3
2	CJ Corporation	South Korea	5.8	26.9	14	-2	10	1	0	4	-19.5
3	DCC	Ireland	7.4	26.6	8	0	16	4	-1	0	17.5
4	Alfa	Mexico	10.1	23.9	14	2	5	2	1	1	-8.3
5	SK Holdings C&C	South Korea	14.4	23.9	-15	-2	23	1	-7	24	-15.8
6	Aditya Birla Nuvo	India	4.3	21.6	2	-10	35	1	-5	-2	16.9
7	Investor	Sweden	28.0	21.4	3	-12	25	4	0	2	-6.1
8	Remgro	South Africa	8.2	20.5	17	-2	5	4	0	-3	3.6
9	The Bidvest Group	South Africa	6.9	19.5	11	-1	6	4	0	0	52.7
10	Ayala	Philippines	10.0	19.3	17	3	2	1	-1	-2	12.3

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 71 global companies with a market valuation greater than \$4 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

# OIL

## THE OIL TOP TEN, 2011–2015

				TSR Disaggregation <sup>1</sup>							
				Profit growth		Valuation	Cash flow contribution				
				+		+	+				
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	2016 TSR <sup>6</sup> (%)
1	Cheniere Energy	US	8.8	46.5	NA <sup>7</sup>						-0.6
2	Tesoro	US	12.7	43.3	7	44	-15	2	4	2	-27.4
3	Valero Energy	US	34.0	30.1	2	18	-3	5	3	4	-25.1
4	Magellan Midstream Partners	US	15.4	24.3	7	9	2	5	0	1	14.9
5	Tatneft	Russia	9.4	20.8	3	12	-3	4	0	5	3.5
6	Ultrapar Holdings	Brazil	8.3	20.8	12	5	1	3	0	0	18.3
7	Enbridge	Canada	28.4	13.7	17	-4	5	3	-2	-6	21.4
8	Lukoil	Russia	23.0	12.1	12	-2	-4	6	2	-2	13.7
9	Energy Transfer Equity	US	14.4	12.1	45	-18	-5	5	-3	-12	13.7
10	Novatek	Russia	24.8	11.8	32	-9	-11	2	0	-2	11.6

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 64 global companies with a market valuation greater than \$8 billion as of December 31, 2015. The order of companies in this ranking has shifted slightly since our preliminary publication in May 2016 because of adjustments in five-year average annual TSR.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

# LARGE-CAP PHARMA

## THE LARGE-CAP PHARMA TOP TEN, 2011–2015

				TSR disaggregation <sup>1</sup> (p.p. contributions)							
				Profit growth		Valuation	Cash flow contribution				
				+		+	+				
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	2016 TSR <sup>6</sup> (%)
1	Regeneron	US	57.6	75.3	NA <sup>7</sup>						-35.9
2	Incyte	US	20.2	45.6	35	-18	38	0	-8	-1	-27.4
3	Allergan	Ireland	123.2	43.3	33	16	18	0	-20	-4	-26.2
4	Gilead Sciences	US	145.8	41.4	33	7	-1	0	2	0	-17.8
5	Alexion Pharmaceuticals	US	43.0	36.5	37	2	4	0	-4	-2	-40.1
6	Biogen	US	68.3	35.5	18	6	11	0	1	-1	-22.0
7	Celgene	US	94.1	32.3	21	-2	12	0	4	-3	-17.5
8	Valeant Pharmaceuticals	Canada	33.7	29.2	55	2	-19	0	-3	-6	-80.1
9	Vertex Pharmaceuticals	US	30.9	29.1	NA <sup>7</sup>						-32.4
10	Novo Nordisk	Denmark	147.0	28.2	12	6	6	2	2	-1	-8.9

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 30 global companies with a market valuation greater than \$20 billion, as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

## MID-CAP PHARMA

### THE MID-CAP PHARMA TOP TEN, 2011–2015

TSR Disaggregation <sup>1</sup>											
				Profit growth		Valuation		Cash flow contribution			
				+		+		+			
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	2016 TSR <sup>6</sup> (%)
1	Anacor Pharmaceuticals	US	5.0	83.9	NA <sup>7</sup>						NA <sup>8</sup>
2	Dyax	US	5.5	77.1	NA <sup>7</sup>						NA <sup>8</sup>
3	Genmab	Denmark	7.9	69.5	NA <sup>7</sup>						31.9
4	Medivation	US	7.9	66.4	NA <sup>7</sup>						26.1
5	Taro Pharmaceuticals	Israel	6.6	60.5	19	22	18	0	-2	3	-6.1
6	Hanmi Pharmaceuticals	South Korea	6.4	59.8	14	39	0	1	-2	8	-3.0
7	Alnylam Pharmaceuticals	US	8.0	57.0	NA <sup>7</sup>						-40.9
8	Shanghai RAAS Blood Products	China	16.9	53.8	33	0	26	1	-7	0	-5.1
9	Neurocrine Biosciences	US	4.9	49.2	NA <sup>7</sup>						-19.8
10	Aurobindo Pharma	India	8.0	47.1	30	0	12	1	0	4	-14.9

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 55 global companies with a market valuation greater than \$4 and less than \$20 billion as of December 31, 2015. The order of companies in this ranking has shifted slightly since our preliminary publication in May 2016 because of adjustments in five-year average annual TSR.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>Meaningful TSR disaggregation is not possible because this company had negative or minimal EBITDA in either the first or final year of the analysis.

<sup>8</sup>In June 2016, Anacor was acquired by Pfizer and is no longer publicly listed.

<sup>9</sup>In January 2016, Dyax was acquired by Shire and is no longer publicly listed.

## POWER AND GAS UTILITIES

### THE POWER AND GAS UTILITIES TOP TEN, 2011–2015

TSR Disaggregation <sup>1</sup>											
				Profit growth		Valuation		Cash flow contribution			
				+		+		+			
	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	Sales growth	Margin change	Multiple change <sup>4</sup>	Dividend yield	Share change <sup>5</sup>	Net debt change	2016 TSR <sup>6</sup> (%)
1	Huadian Power International	China	9.7	30.2	10	23	-22	3	-7	24	-18.1
2	China Gas Holdings	Hong Kong	7.2	28.3	16	6	2	1	-3	6	6.2
3	NiSource	US	6.2	27.3	-6	3	4	25	-3	4	34.4
4	APA Group	Australia	7.0	24.8	13	5	9	8	-13	3	6.5
5	SDIC Power Holdings	China	8.7	24.7	14	13	-12	2	-7	15	-21.0
6	Red Eléctrica de España	Spain	11.3	21.9	7	1	3	5	0	6	2.5
7	Atmos Energy	US	6.4	19.2	-4	11	7	4	-2	4	26.0
8	NextEra Energy	US	47.8	18.8	3	5	5	4	-2	4	24.8
9	Petronas Gas	Malaysia	10.5	18.7	5	-1	13	3	0	-2	-1.7
10	CMS Energy	US	10.0	18.6	0	3	7	4	-2	6	26.2

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 84 global companies with a market valuation greater than \$5.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EV/EBITDA multiple.

<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, 2016.

# RETAIL

## THE RETAIL TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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		
1	Rite Aid	US	8.2	54.8	3	10	8	0	-3	37	-2.4
2	Ryohin Keikaku	Japan	5.4	51.9	12	8	32	3	1	-4	1.6
3	Domino's Pizza	US	6.1	50.9	7	4	20	3	2	15	14.7
4	Dollarama	Canada	7.2	41.8	13	6	17	1	3	2	13.8
5	Ulta Salon, Cosmetics & Fragrance	US	11.8	40.6	22	9	11	0	-2	1	30.1
6	Hotai Motor	Taiwan	6.3	38.3	8	5	17	5	0	4	-17.1
7	Alimentation Couche-Tard	Canada	25.0	37.9	14	9	15	1	0	-1	-2.9
8	Woolworths Holdings	South Africa	6.2	35.9	20	9	10	6	-5	-5	-15.8
9	The Home Depot	US	167.7	33.4	5	7	12	3	5	1	-2.7
10	O'Reilly Automotive	US	25.0	33.2	8	6	12	0	7	0	8.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 94 global companies with a market valuation greater than \$4.5 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

# TECHNOLOGY

## THE TECHNOLOGY TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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		
1	Avago Technologies <sup>7</sup>	Singapore	40.8	40.8	27	9	8	2	-3	-2	7.5
2	FleetCor Technologies	US	13.2	35.8	32	0	9	0	-3	-1	0.1
3	Visa	US	188.4	35.6	11	3	19	1	3	-1	-0.7
4	MasterCard	US	110.2	34.7	12	2	20	1	3	-2	-5.0
5	Cielo	Brazil	16.0	33.4	23	-7	17	5	0	-5	22.0
6	Acuity Brands	US	10.2	33.2	11	6	13	1	0	2	5.6
7	NXP Semiconductors	Netherlands	19.4	32.1	7	7	12	0	2	5	-7.0
8	Alliance Data Systems	US	16.9	31.2	18	-3	10	0	-3	9	-29.9
9	Total System Services	US	9.2	28.3	10	2	16	2	1	-2	3.5
10	Largan Precision	Taiwan	9.2	27.9	35	4	-15	2	0	1	29.7

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 101 global companies with a market valuation greater than \$9 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>In February 2016, Avago Technologies acquired Broadcom and changed its name to that of its new acquisition.

## TRANSPORTATION AND LOGISTICS

### THE TRANSPORTATION AND LOGISTICS TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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		
1	Macquarie Infrastructure	US	5.8	34.3	14	-4	20	6	-11	8	4.3
2	DFDS	Denmark	2.3	30.3	6	4	4	4	4	8	11.2
3	Sinotrans Air Transportation Development	China	3.8	27.9	5	14	9	3	0	-2	-35.4
4	Central Japan Railway	Japan	35.4	27.2	3	4	-2	1	0	21	-15.8
5	Bahri	Saudi Arabia	4.9	26.4	30	2	-9	5	-4	3	-10.8
6	West Japan Railway	Japan	13.5	25.7	4	1	4	3	0	15	-22.2
7	Canadian Pacific Railway	Canada	19.6	23.8	6	8	4	2	2	2	-6.7
8	Bolloré	France	13.4	23.6	9	10	7	2	-6	1	-28.1
9	Sotetsu Holdings	Japan	2.9	23.2	0	7	1	2	0	14	-18.2
10	Old Dominion Freight Line	US	5.0	22.6	15	9	-3	0	0	2	0.6

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 98 global companies with a market valuation greater than \$2 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

## TRAVEL AND TOURISM

### THE TRAVEL AND TOURISM TOP TEN, 2011–2015

	Company	Location <sup>2</sup>	Market value <sup>3</sup> (\$billions)	Average annual TSR (%)	TSR Disaggregation <sup>1</sup>						2016 TSR <sup>6</sup> (%)
					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		
1	Airports of Thailand	Thailand	13.7	57.7	13	7	22	3	0	12	12.7
2	Alaska Air Group	US	10.2	42.3	8	10	15	1	3	6	-27.8
3	Expedia	US	18.7	41.0	15	-17	25	21	-2	-1	-15.8
4	Paddy Power	Ireland	5.8	37.9	20	-8	23	6	-1	-2	-21.5
5	Six Flags Entertainment	US	5.0	37.7	5	4	13	6	4	6	8.7
6	Cedar Fair	US	3.1	37.0	5	0	10	7	0	15	4.9
7	Japan Airport Terminal	Japan	3.7	34.9	9	-3	21	1	0	7	-31.8
8	EasyJet	UK	10.2	34.6	9	19	3	5	0	-2	-35.2
9	Betfair Group	UK	5.3	34.3	6	23	0	6	2	-3	NA <sup>7</sup>
10	Ryanair	Ireland	21.5	34.0	12	7	6	3	2	4	-24.6

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.

Note: n = 73 global companies with a market valuation greater than \$3 billion as of December 31, 2015.

<sup>1</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>2</sup>Location of corporate headquarters.

<sup>3</sup>As of December 31, 2015.

<sup>4</sup>Change in EBITDA multiple.

<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, 2016.

<sup>7</sup>In September 2016, Betfair was acquired by Paddy Power and is no longer publicly listed.

# 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.

## **Corporate Venturing Shifts Gears**

A Focus by The Boston Consulting Group, April 2016

## **How to Successfully Manage Joint Ventures in China**

An article by The Boston Consulting Group, March 2016

## **Creating Superior Value Through Spin-Offs**

An article by The Boston Consulting Group, February 2016

## **Shareholder Activism in Silicon Valley**

A Focus by The Boston Consulting Group, February 2016

## **To Centralize or Not to Centralize?**

An article by The Boston Consulting Group, December 2015

## **From Buying Growth to Building Value: Increasing Returns with M&A**

A report by The Boston Consulting Group, October 2015

## **Gearing Up for the New Era of China's Outbound M&A**

A Focus by The Boston Consulting Group, September 2015

## **Winning Moves in the Age of Shareholder Activism**

A Focus by The Boston Consulting Group, August 2015

## **Value Creation for the Rest of Us**

BCG's 2015 Value Creators report, July 2015

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## **M&A in China: Getting Deals Done, Making Them Work**

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## **Unlocking Acquisitive Growth: Lessons from Successful Serial Acquirers**

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## **Taking a Portfolio Approach to Growth Investments**

BCG Perspectives, July 2014

## **Turnaround: Transforming Value Creation**

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## **Growth for the Rest of Us**

BCG Perspectives, January 2014

# NOTE TO THE READER

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