McKinsey & Company

McKinsey on Investing

Perspectives and research for the investing industry

Number 5, November 2019

McKinsey on Investing is written by experts and practitioners in McKinsey's global investor-focused practices, including our Private Equity & Principal Investors, Wealth & Asset Management, and Capital Projects & Infrastructure Practices.

To send comments or request copies, email us: Investing@McKinsey.com.

Cover image:
© Mike_Kiev/Getty Images

Contents

Introduction

Welcome to the fifth volume of *McKinsey on Investing*, developed to share the best of our recent research and thinking relevant to investors. Colleagues from around the world and across many disciplines—including asset management, infrastructure, institutional investing, and private equity—collaborated to develop these insights. We hope this combination of perspectives will provoke reflection and dialogue and prove an insightful guide to some of the best current practice in the investment industry.

We begin with a pair of articles drawn from our latest research on responsible investing. The first piece looks into investors' desire for greater consistency and reliability in sustainability metrics—an urgent need as sustainable-investment strategies swell to more than $30 trillion in assets. The second draws on interviews with more than 100 investors and others to sketch out what a true impact economy might look like.

Four more articles offer a range of strategies for private investing. One explores how leading asset managers are already deriving considerable benefits from advanced analytics. Another investigates pricing, a lever that many GPs have not fully tapped. As the economic cycle winds down, exits are top of mind for many GPs; the third article in this section offers insights into how to craft a persuasive exit narrative. And a fourth article considers the current state of leverage across the corporate landscape.

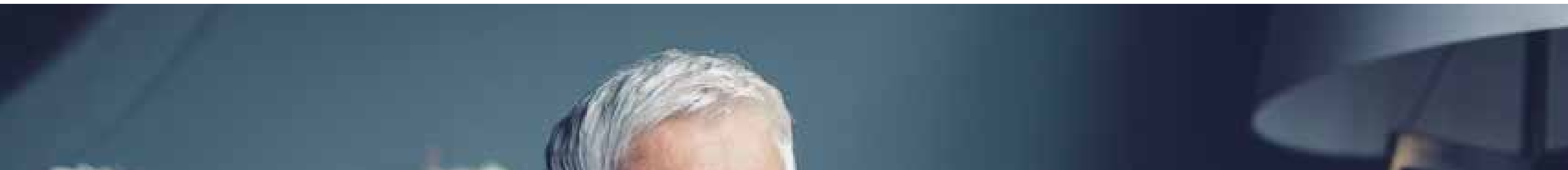
Finally, we are pleased to offer in-depth looks at opportunities for private managers in three sectors: European healthcare technology, US financial services, and global real estate. We close the issue with capsule summaries of some of the most investor-relevant industry research published by McKinsey in 2019.

We hope you enjoy these articles and find in them ideas worthy of your consideration. Please let us know what you think: you can reach us at Investing@McKinsey.com. You can also view these articles and many others relevant to investing at McKinsey.com and in our McKinsey Insights app, available for Android and iOS.

More than values: The value-based sustainability reporting that investors want

Nonfinancial reports helped stimulate the growth of sustainable investing. Now investors are questioning current reporting practices—and calling for changes that executives and board members must understand.

by Sara Bernow, Jonathan Godsall, Bryce Klempner, and Charlotte Merten



© Vgajic/Getty Images

As evidence mounts that the financial performance of companies corresponds to how well they contend with environmental, social, governance (ESG), and other nonfinancial matters, more investors are seeking to determine whether executives are running their businesses with such issues in mind. When companies report on ESG-related activities, they have largely continued to address the diverse interests of their many stakeholders—a long-standing practice that involves compiling extensive sustainability reports and filling out stacks of questionnaires. Despite all that effort, a recent McKinsey survey uncovered something that should concern corporate executives and board members: investors say they cannot readily use companies' sustainability disclosures to inform investment decisions and advice accurately.[1]

What's unusual and challenging about sustainability-focused investment analysis is that companies' sustainability disclosures needn't conform to shared standards in the way their financial disclosures must. Years of effort by standard-setting groups have produced nearly a dozen major reporting frameworks and standards, which businesses have discretion to apply as they see fit (see sidebar, "A short glossary of sustainability-reporting terms"). Investors must therefore reconcile corporate sustainability disclosures as best they can before trying to draw comparisons among companies.

Corporate executives and investors alike recognize that sustainability reporting could improve in some respects. One advance that executives and investors strongly support, according to our survey, is reducing the number of standards for sustainability reporting. Many executive respondents said they believe this would aid their efforts to manage sustainability impact and respond to sustainability-related trends, such as climate change and water scarcity. And many investors said they expect greater standardization of sustainability reports to help them allocate capital and engage companies more effectively. While these findings might not surprise readers involved with sustainable investing or sustainability reporting, it was striking to learn that investors also support legal mandates requiring companies to issue sustainability reports (Exhibit 1). In this article, we offer executives, directors, and investors a look at how sustainability reporting has evolved, what further changes investors say they want, and how investors can bring about those changes.

Reporting today: Focused on externalities, inconsistent, yet informative

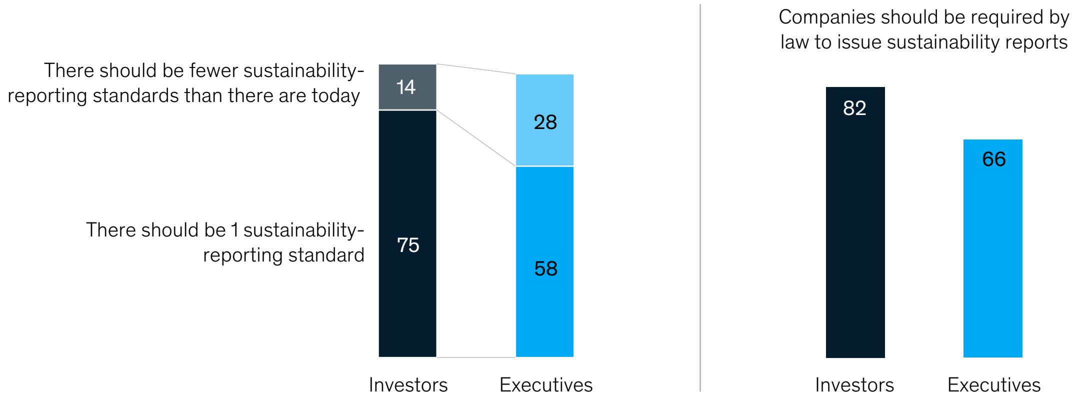
The current practice of sustainability reporting developed in the 1990s as civil-society groups, governments, and other constituencies called on companies to account for their impact on nature and on the communities where they operate. A milestone was passed in 2000, when the Global Reporting Initiative (GRI) published its first sustainability-reporting guidelines. The following year, the World Business Council for Sustainable Development and the World Resources Institute released the Greenhouse Gas Protocol. The same period also saw the creation of voluntary initiatives, such as the UN Global Compact and the Carbon Disclosure Project (now CDP), encouraging corporations to disclose information on sustainability. Since the financial crisis, additional frameworks and standards have emerged to help companies and their investors develop a greater understanding of the risks and benefits of ESG and nonfinancial factors. For example, the International Integrated Reporting Council (IIRC) advocates integration of financial and nonfinancial reports, the Sustainability Accounting Standards Board (SASB) identifies material sustainability factors across industries, and the Embankment Project for Inclusive Capitalism assembles investors and companies to define a pragmatic set of metrics to measure and demonstrate long-term value to financial markets.

[1] For this research, we conducted a survey of 107 executives and investors, representing 50 companies, 27 asset managers, and 30 asset owners. The survey, carried out in January and February of 2019, covered Asia, Europe, and the United States. We also conducted interviews with 26 representatives of asset managers, asset owners, corporations, standard-setting organizations, nonprofit organizations, and academic institutions.

Exhibit 1

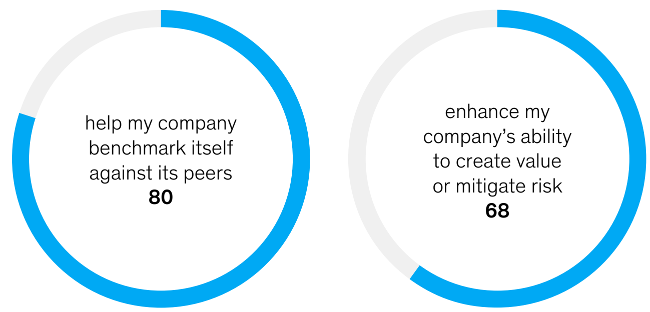
Investors and executives say that reducing the number of sustainability-reporting standards would be beneficial—and even that there should be legal mandates for reporting.

Respondents who agree with statement,[1] %



% of investors who agree or strongly agree that more standardization of sustainability reporting would enable the following actions[1]:

% of executives who agree or strongly agree that more standardization of sustainability reporting would enable the following actions[1]:



[1] Respondents who answered "agree" or "strongly agree." For investors, n = 57; for executives, n = 50.
Source: McKinsey Sustainability Reporting Survey

Given the proliferation of reporting frameworks and standards, companies have had to decide for themselves which ones to apply. These frameworks and standards allow businesses considerable freedom to choose their sustainability disclosures. Many companies select their disclosures by consulting members of stakeholder groups—consumers, local communities, employees, governments, and investors, among others—about which externalities, or impacts, matter most to them and then tallying the stakeholders' interests in some way. More recently, stakeholders have asked for increased disclosure about how companies address opportunities and risks related to sustainability trends, such as climate change and water scarcity, which can meaningfully affect a company's assets, operations, and reputation.

The scope and depth of these disclosures differ considerably as a result of the subjective choices companies make about their approaches to sustainability reporting: which frameworks and standards to follow, which stakeholders to address, and which information to make public. According

A short glossary of sustainability-reporting terms

In this article, we use the following terms for certain elements of sustainability reporting:

— *Sustainability disclosure.* This disclosure is an item of qualitative or quantitative information about a company's performance on a topic not addressed by standard financial and operational disclosures. Sustainability disclosures ordinarily relate to environmental, social, and governance matters, including companies' sustainability impact and responses to external sustainability trends. These disclosures sometimes encompass other topics, too, such as HR and intellectual property.

— *Sustainability report.* This report is a document containing a set of sustainability disclosures from an organization for a period of time. It can be a stand-alone document or a component of the annual report.

— *Sustainability-reporting requirement.* This requirement is a mandate from an authority (such as a regulator, a stock exchange, or a civil-society group) about a sustainability report's content and nature. Some requirements apply to all companies in a given jurisdiction—for example, Directive 2014/95/EU of the European Parliament and the European Council, requiring some large companies to issue nonfinancial disclosures. Others, such as the UN Global Compact, apply only to companies that have voluntarily pledged to abide by them.

— *Sustainability-reporting framework.* This framework is a set of guidelines for determining what topics and disclosures a sustainability report should cover. The International Integrated Reporting Framework, published by the International Integrated Reporting Council (IIRC), is one example.

— *Sustainability-reporting standard.* This standard is a set of specifications for measuring and disseminating sustainability disclosures. Examples include the Global Reporting Initiative's GRI Standards and the 77 industry-specific standards published by the Sustainability Accounting Standards Board.

to the executives and investors we surveyed, the diversity of these disclosures is a defining feature of sustainability reporting as we know it—and a source of difficulty, as we explain in the following section of this article.

Thirty-odd years of sustainability reporting have produced a trove of useful data. Stakeholders can use this information to track the relative sustainability performance of companies from year to year. By aggregating data from many companies, stakeholders can not only discern patterns and trends in companies' responses to sustainability issues but compare and rank businesses as well.

Analysts in academia, government, and the private sector have also used these sustainability disclosures to examine the link between sustainability performance and financial performance. A substantial body of research shows that companies that manage sustainability issues well achieve superior financial results.[2] (Research has shown only that these two phenomena are correlated, not that effective sustainability management leads to better financial outcomes.)

[2] Alexander Bassen, Timo Busch, and Gunnar Friede, "ESG and financial performance: Aggregated evidence from more than 2000 empirical studies," *Journal of Sustainable Finance & Investment*, 2015, Volume 5, Issue 4, pp. 210–33; Robert G. Eccles, Ioannis Ioannou, and George Serafeim, "The impact of corporate sustainability on organizational processes and performance," *Management Science*, 2014, Volume 60, Issue 11, pp. 2835–57; Gordon L. Clark, Andreas Feiner, and Michael Viehs, *From the stockholder to the stakeholder: How sustainability can drive financial outperformance*, a joint report from Arabesque and University of Oxford, March 2015, insights.arabesque.com; "Sustainability: The future of investing," BlackRock, February 1, 2019, blackrock.com.

Investors and asset owners appear to be taking note of corporate sustainability disclosures and adapting their investment strategies accordingly. The Global Sustainable Investment Alliance has found that the quantity of global assets managed according to sustainable-investment strategies more than doubled from 2012 to 2018, rising from $13.3 trillion to $30.7 trillion.[3] BlackRock reports that assets in sustainable mutual funds and exchange-traded funds in Europe and the United States increased by more than 67 percent from 2013 to 2019 and now amount to $760 billion.[4] And research by Morgan Stanley indicates that a majority of large asset owners are integrating sustainability factors into their investment processes. Many of those asset owners started to do so only during the four years before the survey.[5]

What investors want: Financial materiality, consistency, and reliability

With so much capital at stake, investors have begun to question prevailing sustainability-reporting practices. The shortcomings investors now highlight have existed for some time but were mostly acceptable to early sustainable investors and the diverse civil-society stakeholders that used to be the primary readers of sustainability reports. But now that more asset owners and asset managers are making investment and engagement decisions with sustainability in mind, a louder call has gone out for sustainability disclosures that meet the following three criteria.

Financial materiality

Investors acknowledge that their expectations for sustainability disclosures have shifted. As the head of responsible investing at a large global pension fund remarked, "The early days of sustainable investing were values based: How can our investing live up to our values? Now, it is *value* based: How does sustainability add value to our investments?"

From our interviews and survey results, it is apparent that investors want companies to provide more sustainability disclosures that are material to financial performance. According to a senior sustainable-investing officer at one top 20 asset manager, "Corporations do not provide systematic data on one-third of the sustainability factors [that we consider] material." This could change as more companies issue reports in line with the sector-specific standards that SASB created in consultation with industry experts and investors.

Government authorities and civil-society organizations also appear to be coming around to investors' views about the material connection between a company's handling of sustainability factors and its financial performance. The European Union's 2014 directive on nonfinancial reporting and the Financial Stability Board's creation of the Task Force on Climate-related Financial Disclosures in 2015 are two signals that financial regulators realize sustainability-related activities can materially affect the financial standing of companies and should be reported accordingly.

Consistency

With so many reporting frameworks and guidelines to choose from and so many potential stakeholder interests to address, companies rarely make sustainability disclosures that can be compared as neatly as their financial disclosures can. This circumstance makes the job of investors more difficult, as they indicated in response to our survey (Exhibit 2). As the head of sustainable investing at a major asset manager explained, "We have positions in over 4,500 companies. Unless [sustainability information] is comparable, hard data, it is of little use to us."

Inconsistencies among sustainability disclosures, which arise through no fault of the companies producing them, can also create problems for the

---

[3] *Global Sustainable Investment Review 2012* and *Global Sustainable Investment Review 2018*, Global Sustainable Investment Alliance, gsi-alliance.org.
[4] "Sustainability: The future of investing," BlackRock, February 1, 2019, blackrock.com.
[5] "Sustainable signals: Asset owners embrace sustainability," Morgan Stanley, June 18, 2018, morganstanley.com.

many investors that obtain sustainability data from third-party services rather than individual sustainability reports. These services use different methods to estimate missing information, so there are discrepancies among data sets. Some services normalize sustainability information, replacing actual performance data (such as measurements of greenhouse-gas emissions) with performance scores calculated by methods the services don't reveal. Research shows a low level of correlation among the data providers' ratings of performance on the same sustainability factor.[6]

Similarly, proprietary indexes and rankings of sustainable companies, which some asset managers use to construct index-fund portfolios, can also diverge greatly. It is not unusual for a company to be rated a top sustainability performer by one index and a poor performer by another.[7] And some data services fail to include sustainability data companies have disclosed.[8]

Reliability

As the head of responsible investing for one of the world's five largest pension funds put it, "Many companies do not have the systems in place to collect quality data for [sustainability] reporting." For certain tangible sustainability factors, such as greenhouse-gas emissions, performance-measurement systems are generally well established. For other factors, such as corporate culture, human capital, and diversity and inclusion, clear ways to gauge performance are more elusive.

Investors also harbor doubts about corporate sustainability disclosures because few of them undergo third-party audits. Nearly all the investors we surveyed—97 percent—said that sustainability disclosures should be audited in some way, and 67 percent said that sustainability audits should be as rigorous as financial audits (Exhibit 3).

Refining the practice of sustainability reporting

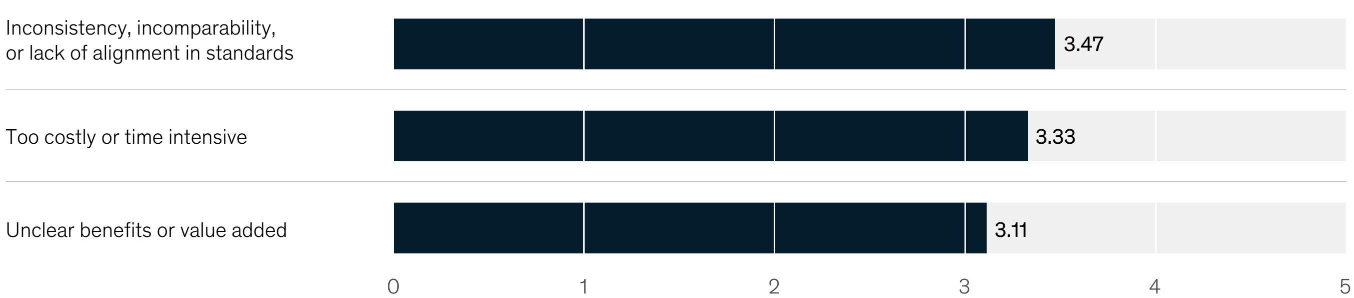
In our survey and interviews, one priority for improving sustainability reporting stood out: ironing out the differences among reporting frameworks and standards. When we asked survey respondents to assess the challenges of sustainability reporting,

[6] Gregor Dorfleitner, Gerhard Halbritter, and Mai Nguyen, "Measuring the level and risk of corporate responsibility—an empirical comparison of different ESG rating approaches," *Journal of Asset Management*, 2015, Volume 16, Issue 7, pp. 450–66. The correlation between ratings of the same performance factor is typically less than 0.6 and can fall to as low as 0.05. By comparison, credit ratings are highly correlated (0.9).
[7] James Mackintosh, "Is Tesla or Exxon more sustainable? It depends whom you ask," *Wall Street Journal*, September 17, 2018, wsj.com.
[8] "Sustainability: The future of investing," BlackRock, February 1, 2019, blackrock.com.

Exhibit 2

Investors report that the main shortcomings of current sustainability-reporting practices are inconsistency, incomparability, and lack of alignment in standards.

Top challenges associated with current sustainability-reporting practices,[1] mean rating on 1–5 scale, where 5 is most challenging



[1] n = 57.

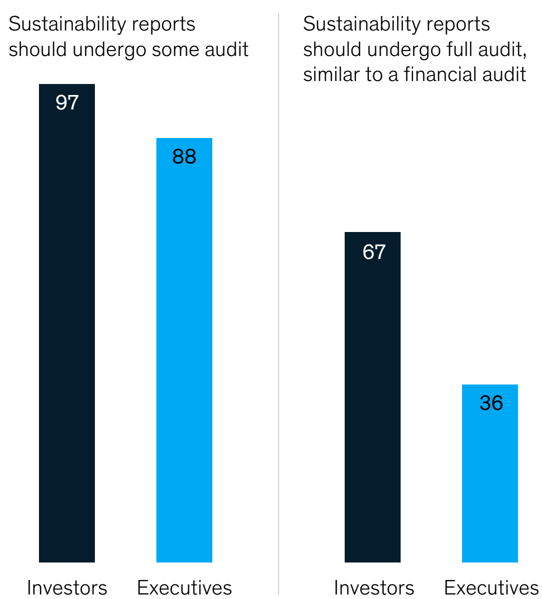
Source: McKinsey Sustainability Reporting Survey executives and investors both rated "inconsistency, incomparability, or lack of alignment in standards" as the most significant challenge. A majority of respondents to our survey—67 percent—said there should be only one standard, and an additional 21 percent said there should be fewer than exist now.

The investors and executives who participated in our research also described several benefits of making reporting frameworks and standards more uniform. Investors expect greater uniformity to help companies disclose more consistent, financially material data, thereby enabling investors to save time on research and analysis and to arrive at better investment decisions. Some efficiency gains would accrue as third-party data providers begin aggregating sustainability information as consistent as the information they get from corporate financial statements.

Exhibit 3

More investors believe that sustainability reports should be audited and that the audits should be full audits, similar to financial ones.

Respondents who agree with statement,[1] %



[1] Respondents who answered "agree" or "strongly agree." For investors, n = 57; for executives, n = 50.

Source: McKinsey Sustainability Reporting Survey

Most of the investors we surveyed—63 percent—also said they believe that greater standardization will attract more capital to sustainable-investment strategies. However, about one-fifth of the surveyed investors said that uniform reporting standards would level the playing field, diminishing their opportunities to develop proprietary research insights or investment products (Exhibit 4).

Executives made clear, in our conversations, that they devote excessive effort and expense to answering numerous specialized requests for what is essentially the same information, such as greenhouse-gas emissions data that must be tabulated in different ways to conform to different standards.

This kind of burden would be lessened if the providers of reporting frameworks and standards combined or rationalized their rules and thereby reduced the number of major frameworks and standards to one or two. Companies could then use the same disclosures to fulfill the reporting demands of multiple authorities. (They could still develop additional sustainability disclosures if they chose to address stakeholder queries or concerns that the main mechanism didn't cover.) Establishing one or two reporting standards would also simplify the task of auditing sustainability disclosures, making it more economical for companies to have their reports independently verified.

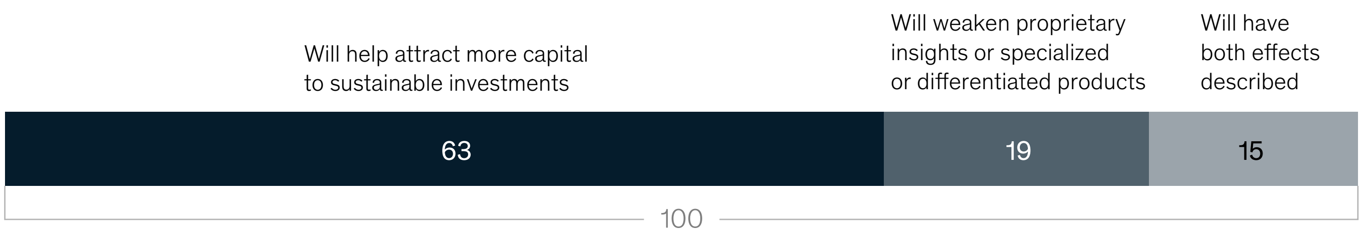
How investors can help effect change

Reducing the number of reporting frameworks and standards will probably involve several more years of effort by businesses, investors, and standard-setting organizations—which have begun to identify gaps and redundancies among disclosures—and by other stakeholders, such as civil-society groups and regulators. As it is, many investors avoid participating in standard-setting efforts. Some we interviewed said they distance themselves because they feel that standard setting should address their needs as a matter of course. Yet some standard setters told us they assume that investors can readily obtain the sustainability information they value and therefore focus on the interests of other stakeholders.

Exhibit 4

Many investors believe that harmonized sustainability-reporting standards will attract more capital to sustainable investors, though some express concern about losing an edge.

Investors who agree with statement about effect of harmonized standards, % of respondents[1]



Note: Figures may not sum to 100%, because of rounding.
[1] Respondents who answered "agree" or "strongly agree"; n = 57.

Source: McKinsey Sustainability Reporting Survey

Our conversations lead us to believe that there's some truth to both viewpoints. Yet our survey findings and interviews also suggest that investors could make valuable contributions to standard-setting efforts if they chose to increase their participation. Active investors are likelier to do so, since they pay more attention than index investors to the sustainability disclosures of individual companies. Until investors clarify which sustainability disclosures they want and help to rationalize frameworks and standards, sustainability reports might continue to deliver less material information than they would like.

Investors can do several other things to make better use of the sustainability-related information companies now make available. First, they can articulate the sustainability disclosures that matter most for their investment decisions and convey these interests to businesses. Going a step further, more investors could engage companies (through direct dialogue and shareholder voting) about their approach to managing sustainability issues.

More investors could also adopt the still-uncommon practice of collecting and analyzing data from sources other than corporate sustainability reports and disclosures. Some investors have developed algorithms that automatically gather nonfinancial data from public sources (such as government databases of health and safety incidents or websites where people post comments about their employers) and scan these data for patterns that relate meaningfully to corporate financial performance.

As the market for sustainable investments expands, more investors are taking a keen interest in sustainability reports from companies. Yet the information these investors find seldom meets their expectations. From an investor's standpoint, sustainability disclosures tend to be loosely related to financial performance, difficult to compare from one company to another, and less than reliable. Investors who take part in efforts to improve sustainability-reporting practices could gain an edge over their more detached peers. Executives and board members should stay attuned to these efforts, and even participate in them, to maintain their companies' standing with shareholders.

Sara Bernow is a partner in McKinsey's Stockholm office, where **Charlotte Merten** is a consultant; **Jonathan Godsall** is a partner in the New York office; and **Bryce Klempner** is a partner in the Boston office.

The authors wish to thank Lisen Follin, Conor Kehoe, and Taylor Ray for their contributions to this article.

Catalyzing the growth of the impact economy

A mature impact economy would help power economic growth while solving global social and environmental challenges. Here's what it will take to accelerate the impact economy's development.

by David Fine, Hugo Hickson, Vivek Pandit, and Philip Tuinenburg

Since the term "impact investment" was introduced in 2007, the field of impact investing has grown and diversified in notable ways. Impact-fund managers have amassed record sums, continuing a trend that can be traced back at least five years. Funds have streamed money to impact investments from a variety of sources, and asset managers are making more investments outside the sectors that formerly attracted the lion's share of capital. Researchers have engineered novel ways of tracking and reporting impact, giving investors greater confidence that their money is producing social benefits and helping entrepreneurs make more effective decisions about their strategies and business models.

Amid these encouraging developments, it is possible to define a sharper vision for a healthy, mature impact economy that involves a wider range of actors and institutions than today's impact-investing industry. In an impact economy, the norms—practices, policies, and standards—that are attached to the pursuit of social impact would be as widely accepted, consistent, and stable as the norms that are associated with the pursuit of profit. Encouraged by the added measure of certainty and transparency surrounding their activities, investors large and small would allocate more capital to the financing of social initiatives, and entrepreneurs would devise business models whose ambition and growth potential match investor and market demand. Consumers would direct greater shares of their spending to social enterprises, thereby spurring large mainstream companies to measure and pursue impact. Overall, the impact economy would achieve breakthrough increases in scale and productivity, with capital delivering higher risk-adjusted levels of social impact than we now see in many cases.

In this article, which incorporates findings from our in-depth interviews with more than 100 investors, fund managers, social entrepreneurs, and other impact-economy stakeholders, we consider what it will take for the impact economy to reach maturity. We begin by exploring the vision for the impact economy outlined above. We then look at the roles that various impact-economy constituencies—investors, asset managers, entrepreneurs, governments, and philanthropists foremost among them—would play in a mature impact economy. Finally, we present three potential developments that would enable the impact economy to mature fully:

— instituting public policies that provide incentives and disincentives and create certainty

— achieving a broad commitment to mutually reinforcing operational, measurement, and reporting norms for fund managers, social entrepreneurs, and impact-economy intermediaries

— creating an industry body that promotes policies and standards of excellence and moves all participants to adopt them

These changes would enable and encourage stakeholders to reset some of capitalism's assumptions and rules so that two goals receive equal priority: powering economic growth and wealth creation while also solving global social and environmental challenges.

Envisioning a mature impact economy

Although some of the ideas and practices that are fundamental to impact investment and social entrepreneurship originated decades ago, it was in 2007 that a group of foundations and investors convened by the Rockefeller Foundation originated the term "impact investing," which was later defined as "investments intended to create positive impact beyond financial return."[1] (Others have proposed varying definitions of impact investment, although we do not seek to join that debate.[2]) Extending the idea at the heart of that definition—the creation of social or environmental impact in addition to financial return—to all other economic activities makes it possible to define an impact economy as a system in which institutions and individuals give equal priority to social impact and financial impact when making decisions about how to allocate resources.

[1] Margot Brandenburg, Antony Bugg-Levine, Christina Leijonhufvud, Nick O'Donohoe, and Yasemin Saltuk, "Impact investments: An emerging asset class," JPMorgan Chase, the Rockefeller Foundation, and Global Impact Investing Network, November 29, 2010, jpmorganchase.com.
[2] For example, the Global Impact Investing Network defines impact investments as "investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return." American Development Bank, 2017, publications.iadb.org.

An impact economy is thus a very different kind of system from a traditional capitalist economy that prioritizes only financial returns. In an impact economy, consumers and shareholders will challenge entrepreneurs and executives to show that they generate their profits in a manner that contributes to the public good. This approach to doing business is already being enacted by some organizations on several levels—in making strategic choices, in managing their supply chains, in allocating funds to investments—and by some municipal authorities. But we have yet to see it embraced comprehensively by entire industries or national economies. As such, we determined the major dimensions of a full-fledged impact economy to be investment deployment, asset management, delivery of solutions, and measurement and reporting.

Investment deployment

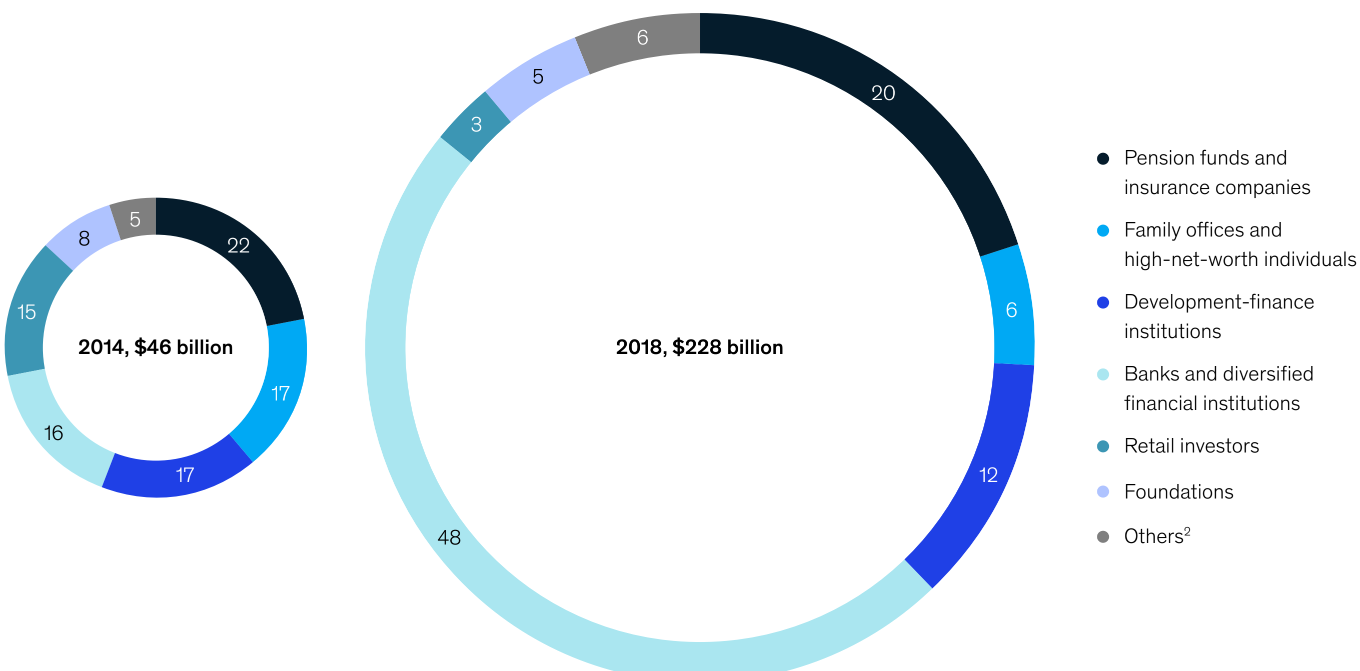
The past few years have seen capital flow into impact investments from a wide variety of sources (Exhibit 1). Overall, impact fund managers have amassed record quantities of assets under management: more than $228 billion, according to one estimate.[3] Yet even this amount of money is small compared with the annual capital outlay—estimated at $1.4 trillion to $2.5 trillion of additional spending—required to achieve the Sustainable Development Goals (SDGs) set forth by the United Nations by 2030. To close the gap, asset owners and fund managers will need to adopt investment strategies that put still more emphasis on positive social outcomes, rather than strategies that merely seek to minimize or prevent negative outcomes.

[3] Rachel Bass, Hannah Dithrich, and Abhilash Mudaliar, *Annual impact investor survey 2018*, Global Impact Investing Network, June 2018, thegiin.org.

Exhibit 1

Capital flows into impact investments from a variety of sources.

Impact investing assets under management by investment source,[1] % of total



[1] Assets under management reported as of beginning of year. Figures combine direct investments into companies, projects, or real assets and indirect investments made through intermediaries such as fund managers. Data are based on the Global Impact Investing Network's annual investor surveys and not intended to be exhaustive.
[2] Includes funds of funds, sovereign-wealth funds, and others.

Source: Global Impact Investing Network; McKinsey analysis

Investment trends appear to be moving in that direction. Based on surveys showing that a substantial number of investors, including "mainstream" investors, are seeking impact-investment products, there may be significant latent demand for impact investments. In a mature impact economy, then, we would expect to see more asset owners prioritizing the financing of solutions to environmental and social challenges, and a major increase in commitments of capital to impact-seeking investment vehicles.

Asset management

Considering that the 17 SDGs address a wide range of issues—from human-development challenges such as poverty, health, and gender equality to environmental concerns such as climate change and water scarcity—asset managers in a mature impact economy might be expected to back enterprises with a correspondingly diverse variety of ambitions. The past few years have seen a trend in this direction, as asset managers have directed an increasing proportion of investments beyond the financial-services and microfinance sectors (Exhibit 2).

We would argue that a mature impact economy will also be characterized by a wide variety in the types of investment instruments that asset managers offer clients. Impact-investing assets under management are more evenly spread among different types of investment instruments than they were just three years ago, with private placements of debt and equity making up a considerably smaller share of the market (Exhibit 3).

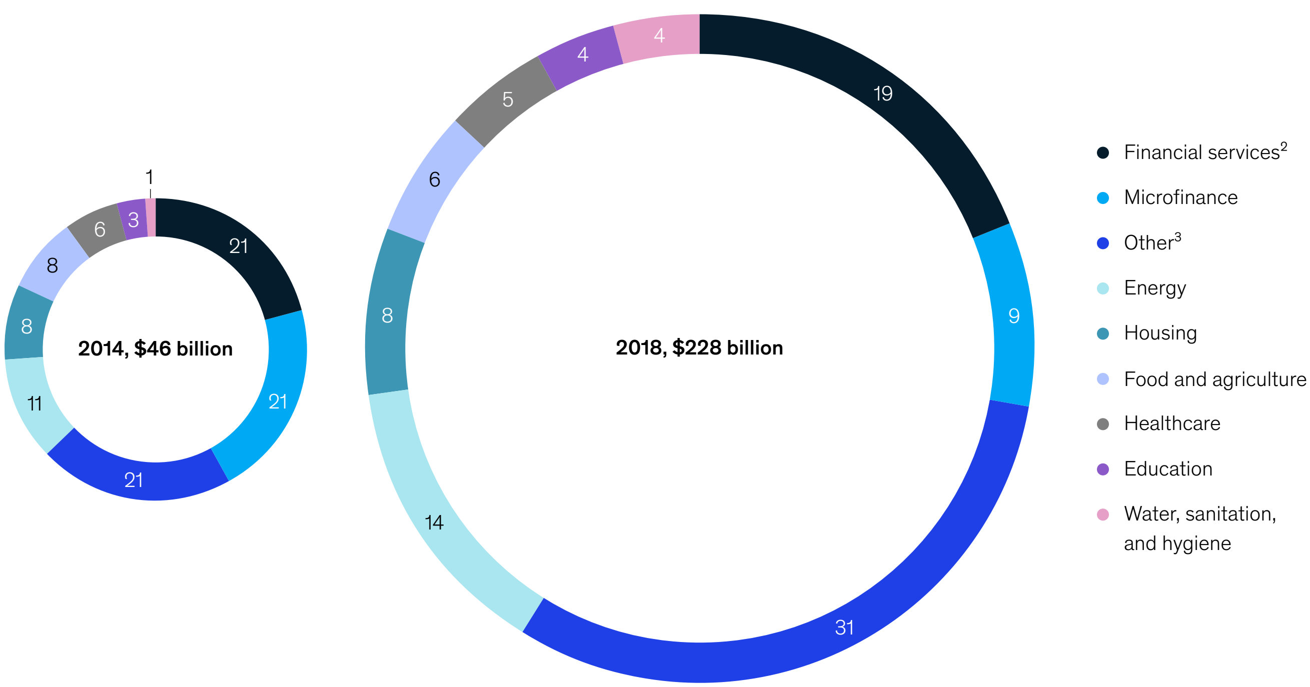
Delivery of solutions

A mature impact economy would feature a market-clearing quantity of solutions to social

Exhibit 2

Impact investors are broadening into sectors beyond financial services and microfinance.

Impact investing assets under management by investment sector,[1] % of total



[1] Assets under management reported as of beginning of year. Data are based on the Global Impact Investing Network's annual investor surveys and not intended to be exhaustive.
[2] Other than microfinance.
[3] Includes arts and culture, conservation, information and communication technologies, manufacturing, and others.
Source: Global Impact Investing Network; McKinsey analysis

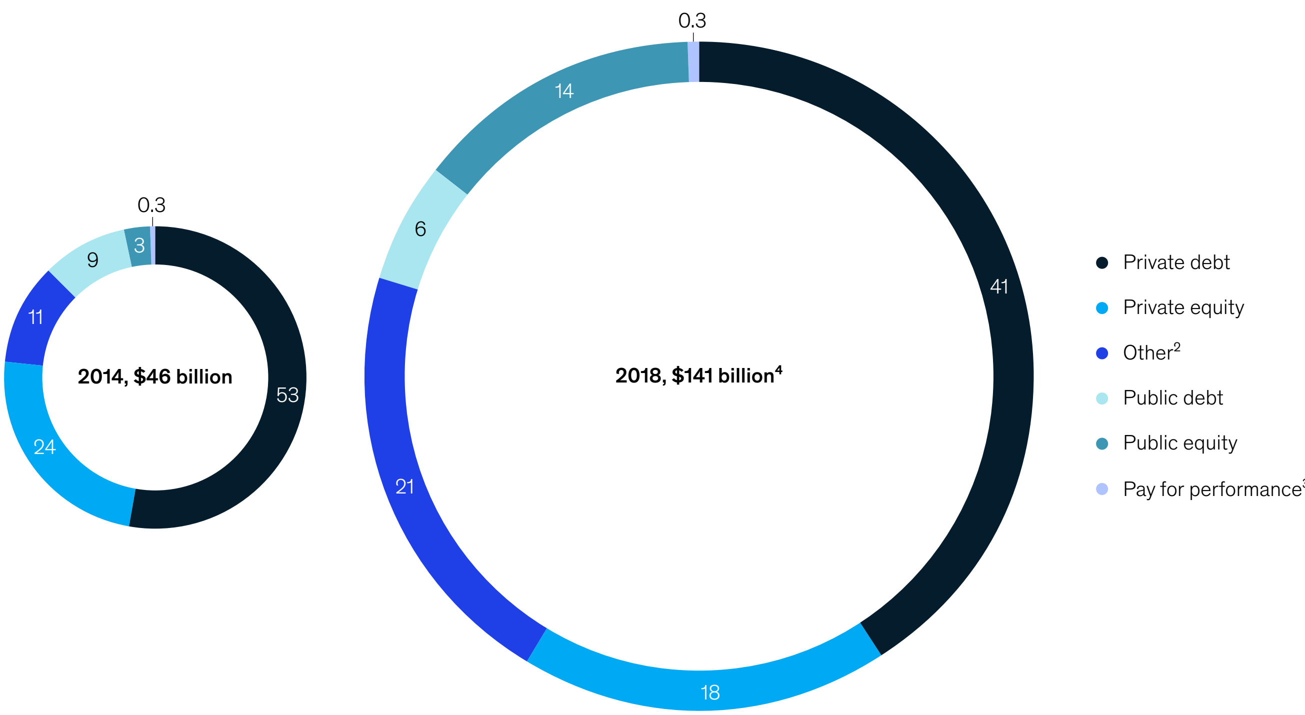
and environmental challenges. In other words, impact enterprises would crop up to address environmental or social challenges that might be profitably addressed, although there will remain a large set of such challenges that cannot be solved with for-profit models. Moreover, these social enterprises would be no more likely to go unfunded than enterprises that measure their returns strictly in terms of profit (see sidebar, "A glimpse into the future of the impact economy"). This is not the situation today. Impact-focused enterprises have proliferated, and many of them operate on a modest scale, solving a particular problem in a single locale or a small number of locales. In the United Kingdom, for example, which has a relatively well-developed cohort of impact investors and social enterprises, more than 80 percent of social enterprises have annual revenues of less than £1 million.

In addition, the "buy side" of the "market" for social impact remains underdeveloped. Consumers are increasingly aware of the social and environmental impact of businesses, and more consumers have stated a preference for goods and services that help make a positive impact. This preference has become prevalent enough that companies can no longer afford to ignore it. Indeed, we are seeing large companies make greater efforts to align their market strategies with their customers' social compass, while new enterprises are emerging that have social impact built into their business models.

Exhibit 3

While various investment instruments are in use, government pay-for-performance services remain underdeveloped.

Impact investing assets under management by type of instrument,[1] % of total



[1] Assets under management reported as of beginning of year. Data are based on the Global Impact Investing Network's annual investor surveys and not intended to be exhaustive. Figures may not sum, due to rounding.
[2] Including real assets, guarantees, and leases.
[3] Outcome-based contracts, such as social-impact bonds, that pay investors when enterprises achieve preagreed social outcomes.
[4] The 2018 total given here differs from the 2018 total given in Exhibits 1 and 2 of this article because it excludes the particularly large pools of capital managed by two respondents to the Global Impact Investing Network survey.

Source: Global Impact Investing Network; Social Finance; McKinsey analysis

A glimpse into the future of the impact economy

Even when social entrepreneurs can show potential investors that their companies have good prospects of achieving profitability, they sometimes have difficulty raising funds if they cannot offer a clear exit strategy. Adobe Capital, an impact-investment company focused on small Mexican companies with strong growth potential, developed a new financing structure for early-stage enterprises that have begun to generate revenue: a revenue-based mezzanine loan with flexible schedules and a repayment grace period.

Because the payments are revenue-based, the peso-denominated loan allows an enterprise to avoid large loan payments during periods when revenues are low. (Some loans have a minimum monthly payment; enterprises can reduce the principal they owe by paying more than the minimum.) The loan also includes an equity-conversion option at a predefined multiple. The convertible amount decreases as the principal is repaid, which allows the founder to retain more equity. And if the enterprise surpasses expectations and chooses to prepay the loan at the fixed multiple, the investment's internal rate of return (IRR) increases. An underperforming enterprise can still produce an IRR of 20 percent in US dollars.

Adobe Capital launched its $20 million Adobe Social Mezzanine Fund I (ASMF I) in 2012 to make investments in the form of these revenue-based mezzanine loans and other quasi-debt instruments. The fund invested in seven small and medium-size impact businesses in the healthcare, education, low-income-housing, and alternative-energy sectors. One of these businesses, NatGas, converts vehicles to engines that run on gasoline and natural gas and operates compressed-natural-gas filling stations. It also offers a financing program that helps its customers, mostly taxi and bus drivers with unstable incomes, to make smaller up-front investments. ASMF I made an 18 million peso investment in 2014. The company achieved profitability that year and saw its revenues grow through 2016. In 2017, ASMF I exited NatGas, realizing a 22 percent IRR and a 1.5 multiple of the original investment.[1]

[1] Andrea Armeni and Miguel Ferreyra de Bone, *Innovations in financing structures for impact enterprises: Spotlight on Latin America*, Inter-American Development Bank, 2017, publications.iadb.org.

At the institutional level, though, there is only modest demand for what social enterprises can provide. Social enterprises are not yet widely recognized as potential bidders for public tenders or as partners for large companies, and government pay-for-performance schemes (outcome-based contracts such as social-impact bonds) have limited uptake. In a mature impact economy, where social enterprises will come to be seen as reliable producers of social goods, we might expect such pay-for-performance schemes to account for more of the impact-investing market.

Measurement and reporting

A mature impact economy would operate according to generally accepted sets of standards for measuring and reporting social and environmental impact, which would help to quantify the value of social outcomes, support accurate tracking of progress toward the SDGs, and create the transparency that stakeholders need to make effective resource-allocation decisions. Such standards would represent the impact-economy equivalent of the Generally Accepted Accounting Principles to which US companies adhere, or the International Financial Reporting Standards used in many countries across the world. (It is worth noting that even for financial accounting and reporting, there are still multiple sets of standards in use.) Impact-economy standards would ideally supersede or harmonize existing frameworks, such as the Impact Reporting and Investment Standards (IRIS) and Social Return on Investment (SROI).

It is reasonable to expect that even in a mature impact economy some enterprises and investors will choose to define their impact goals in unique ways that don't conform to generally accepted standards and track their performance against those goals. Such idiosyncratic approaches, however, will likely become much less prevalent than they are today and occur only in contexts where generally accepted standards can't be applied easily.

Redefining the roles of impact-economy stakeholders

Transitioning to a mature impact economy will involve significant changes in the ways that its various constituencies, or stakeholders, conduct their business. Governments, for example, would pay for social outcomes that have been measured and verified, instead of paying service providers to do work that may or may not have the sought-after impact. Some stakeholders will find that a mature impact economy no longer requires them to perform the same functions they performed when the impact economy was less developed, and so they will take on different roles (Exhibit 4).

Asset allocators, such as foundations and pension funds, would gradually progress from screening companies or sectors out of their portfolios depending on whether they fail to meet specific thresholds for social or environmental performance (a "no negatives" requirement) and toward actively targeting companies that intend to help solve social and environmental challenges (a "positive" or "positive offset" requirement).

Fund managers, responding to the needs and expectations of asset allocators, would devote less time and effort to seeding and nurturing early-stage impact models and more time to financing the expansion of organizations with large-scale impact potential. Some fund managers would also consider financing carve-outs and major transformations of organizations that can have a disproportionate impact on social or environmental opportunities. For fund managers, the ability to help impact enterprises scale up their activities to a significant degree would become an enduring source of what might be called "impact alpha"—social and environmental performance that consistently exceeds industry benchmarks.

Social entrepreneurs would undergo a radical change in composition: away from the private-sector stars whom many investors and fund managers now hope to attract into executive roles, and toward proven "public-sector champions." These are seasoned government officials and civil servants who have firsthand experience dealing with environmental and social problems that are rooted in market failures and therefore resistant to market-based solutions. As executives and managers at social enterprises, these public-sector champions not only commit to developing their own skills as leaders, they also assemble capable teams to pursue major opportunities for both revenue and impact, tapping into an expanding pool of millennials who are interested in impact-economy careers.

Governments would make a significant change to their operating model that sees them partner actively with private-sector organizations to deliver social outcomes. Amid rising costs (government spending is more than one-third of global GDP) and strained budgets (the global public-sector deficit is nearly $4 trillion a year), governments' long-standing approach to financing and implementing public services appears increasingly unsustainable. In a mature impact economy, governments would work with other stakeholders to produce social outcomes that governments lack the capacity to deliver and to boost the productivity of public spending on core services. This approach would require policy makers and civil servants to first adopt the mind-set that private-sector collaboration offers a means of increasing governments' effectiveness. Governments will also need the ingenuity to finance the delivery of social outcomes in a way that aligns the interests of private investors and enterprises with the interests of citizens. That will mean reassigning their most talented and creative people to engineer governments' collaborations with the private sector.

Just as important, governments would enact public policies that favor the continued development of the impact economy by providing incentives and reducing uncertainty for investors, entrepreneurs,

Exhibit 4

Each stakeholder's part will change as the impact economy matures.

Stakeholders by level of maturity	Seedling	Burgeoning	Mature
Asset allocators	Major allocators adopt screening requirements	Allocators of all sizes apply “no negatives” requirements at minimum	Broad targeting and support of impact enterprises
Fund managers	Narrow range of investment products for institutional clients, targeting relatively few sectors	Wider array of investment products, including some retail offerings; broader sector coverage	Comprehensive array of institutional and retail products; sophisticated financing models
Social entrepreneurs	Small-scale enterprises with limited public profiles	Large- and small-scale enterprises with greater visibility	Numerous large social enterprises with strong reputations and experienced leaders
Governments	Desire to learn from other countries and to introduce pilot programs supporting the impact economy	Substantial reliance on pay-for-performance schemes; increased support of social enterprises	Policies that incentivize the continuous development of impact economy
Social-sector organizations	Small-scale efforts to seed and launch enterprises according to proven models	Greater investment in R&D to drive business innovation and talent acquisition	Consistent generation of ideas for large-scale enterprises; endowments are invested for impact
Intermediaries	Primary function is defining and explaining “rules of the road”	Major functions include convening stakeholders and promoting knowledge exchange	Independent rating agencies and professional-certification bodies create transparency and establish economy-wide norms
Consumers	Participation largely limited to communication and dialogue; some spending directed toward social enterprises	Closer alignment of stated preferences and spending patterns signals the narrowing of the attitude-behavior gap	Impact-oriented purchasing is a mainstream practice; active engagement with companies regarding key causes
Media and analysts	Intermittent coverage that treats impact enterprises as curiosities	Serious coverage of impact economy featured frequently in business press	High-profile coverage of impact economy, on par with coverage of traditional businesses

and other stakeholders about the viability of the social sector. For example, the National Institution for Transforming India (also known as NITI Aayog), a think-tank-style branch of India's government, has mapped the activities of various government ministries against the SDGs and tracks the social outcomes they produce.

Social-sector organizations would pursue fewer innovations in cost containment and excellence in donor management, and more innovations in scaling and excellence in outcomes. This would represent a significant shift away from the risk-averse mode in which many social-sector organizations now operate, by which they adhere to such practices as keeping employees' salaries low to avoid criticism for excessive spending on administrative activities. Instead, social-sector organizations in an impact economy would increase their spending in research and development or use part of their long-term endowment to make impact investments. These approaches would embolden impact investors and social entrepreneurs to invest more in their own institutional capabilities and people.

Intermediaries would move beyond merely explaining how to use various impact measures and instead compile and publish impact ratings in a new role as independent rating agencies. This activity would create greater transparency across the impact economy and reinforce demand for consistent, reliable ratings among asset allocators, investors, impact organizations, and policy makers. Highly rated agencies would be rewarded for their work and interventions, such that they would receive more or lower-cost funds. Taking this activity further, intermediaries might develop and administer professional-certification programs for fund managers and other impact-economy participants, thereby acting as gatekeepers for the impact economy.

Consumers would shift out of their relatively passive roles, in which they have weak affiliations with organizations that support progress toward positive environmental and social outcomes, and adopt patterns of actively consuming goods and services from social enterprises and sustainable brands. This shift would represent the closure of the so-called attitude-behavior gap that separates consumers' stated preferences from their spending habits. Consumers would also help drive the development of an impact economy by engaging in local communities and political systems and expressing their views directly to institutions through traditional media, social media, and other channels.

Media organizations and analysts would take a more sophisticated approach to appraising and documenting the impact economy and its stakeholders. As the impact economy matures, media organizations would have less need to publish stories about the market distortions caused by traditional capitalism and could offer more stories about the positive outcomes produced by social enterprises and sustainability-focused enterprises. Top-tier media outlets would offer serious and high-profile coverage of the impact economy, as they do for the rest of the business world—think of an "Impact 500" business ranking that commands as much attention as annual rankings of the largest companies, wealthiest individuals, and

Some stakeholders will find that a mature impact economy no longer requires them to perform the same functions they performed when the impact economy was less developed, and so they will take on different roles.

fastest-growing businesses. Similarly, analysts in the financial and other sectors would reexamine their assumptions and make a renewed effort to evaluate impact-economy organizations on their merits and make their findings understandable to mainstream audiences. For their part, impact-economy stakeholders have an essential part to play in setting acceptable cultural and behavioral norms, demystifying concepts such as impact investment, and challenging the myths that surround these norms and concepts.

Redefining the impact economy's potential

Among the impact-economy stakeholders we have interviewed or spoken with, there seems to be general agreement on what a mature impact economy will look like. There is also a broad consensus on this point: the impact economy will not reach maturity until it develops policies, practices, and standards to govern the social dimension of impact-related economic activities.

Such norms are readily observed in mature sectors of the service economy such as accounting and finance. For example, when mainstream investors estimate their returns on potential deals and managers make choices for their businesses, they can compare the financial aspects of their options according to common accounting principles—norms that have taken the better part of a century to develop. But when investors and managers come to evaluating the impact-related aspects of their options, no such norms exist. And while impact investors are supposed to maintain professional certifications and abide by regulations in their roles as managers of other people's money, no such norms pertain to managing the social impact of their clients' investment holdings.

Certain other conditions, such as a limited flow of funding, also limit the growth of the impact economy, although targeted government interventions could correct these with relative ease. (For example, the UK government used funding from dormant bank accounts and four large UK banks to provide seed capital to new impact-investment managers.[4]) The lack of norms governing the social dimension of impact investing, then, arguably stands out as the most powerful constraint. As such norms are established, we anticipate that the transition to an impact economy will accelerate and flows of capital, talent, and knowledge will increase. Three activities can help establish the norms that stakeholders say they need to devote more of their time and resources to the impact economy.

Instituting public policies that provide incentives and disincentives and create certainty for stakeholders

Governments can consider instituting policies that would encourage impact investments and the expansion of social enterprises. One such policy is incentives—for example, tax deductions for social investments that are similar to tax deductions for charitable donations. The United Kingdom has had this kind of tax-relief scheme in place since 2014 and expanded it in 2017. Incentives would also help attract wider interest in impact investments and stimulate the emergence of investment products for retail investors.

Other policy options include those that level the playing field for social enterprises, such as regulations that permit nonprofit organizations to earn revenues from the provision of services. Policy makers can also consider additional ways of creating demand for enterprise-created social impact. New approaches to contracting for public services could let government entities act as "purchasers" of social outcomes that could be funded with social-impact bonds or other impact investments.

Achieving a broad commitment to mutually reinforcing operational, measurement, and reporting norms for fund managers, social entrepreneurs, and impact-economy intermediaries

As in other fields, professional requirements and standards for conduct would help increase the quality and consistency of services provided by fund

[4] "Launch of Big Society Capital—the world's first ever social investment market builder," Cabinet Office and Rt Hon David Cameron, April 4, 2012, gov.uk.

managers, social entrepreneurs, and other impact-economy stakeholders, just as they do in other fields. Industry associations could help by defining the competencies that these professionals must possess and developing programs to test and accredit those who wish to do business in the field.

Widely accepted standards and norms are especially needed for measuring and reporting impact. It is not uncommon for impact-fund managers to track social impact with metrics taken from numerous sets of standards. In a survey of fund managers, only 24 percent of respondents said they use a set of standard metrics across all the investments in their portfolios.[5] The overwhelming majority select particular sets of metrics for each investment, sector, impact, or customer-specific objective. Social enterprises, too, have multiple sets of impact indicators to choose from. These disparate approaches to measurement impose administrative burdens: asset owners must figure out how to compare the effectiveness of fund managers that report impact in different ways, and fund managers and social entrepreneurs must spend time studying different sets of indicators and deciding how to apply them. A single set of indicators, covering the many sectors, themes, and contexts in which impact can be tracked, would alleviate this burden and help promote accountability and transparency. One recent idea of this kind, proposed by the Global Steering Group for Impact Investment, is that of "impact-weighted financial accounts," which use multipliers to estimate a company's social impact based on ordinary financial measures.

Creating an industry body that promotes policies and standards of excellence and moves all participants to adopt them

Some impact-economy constituents, particularly among asset managers and entrepreneurs, are relatively new to the tasks of financing and creating social impact. It is also apparent that these relative newcomers spend a lot of time developing the systems and processes to operate impact-economy organizations. (Investors have picked up on this; some have shared concerns that fund managers lack the skills required to deliver social returns on investment.) Foundations and investors have done a great deal to assist fund managers and entrepreneurs by setting up organizations where they can exchange knowledge and ideas. A well-organized industry body could now streamline the adoption of policies and standards by acting as a clearinghouse for this kind of knowledge.

Given the extent of the world's social and environmental challenges, a major increase in the scale and reach of the impact economy is urgently needed—and will be hard to achieve. Investors, entrepreneurs, governments, and other stakeholders will need to overcome their own practical constraints and prepare themselves to assume new roles. These individual efforts will be complicated by the dynamics of convincing multiple stakeholders to agree on the shifts that have to take place and compelling them to work together rather than pursue individual agendas. An essential first step will be to agree on a shared vision for the impact economy, along the general lines proposed in this article. With such a vision in mind, impact-economy stakeholders can together start to carry out the three main tasks described above and register initial successes that will provide motivation for a continued, sustained effort. None of this will be easy, but as the impact economy matures, it will bring new rewards to stakeholders while enhancing the welfare of people worldwide.

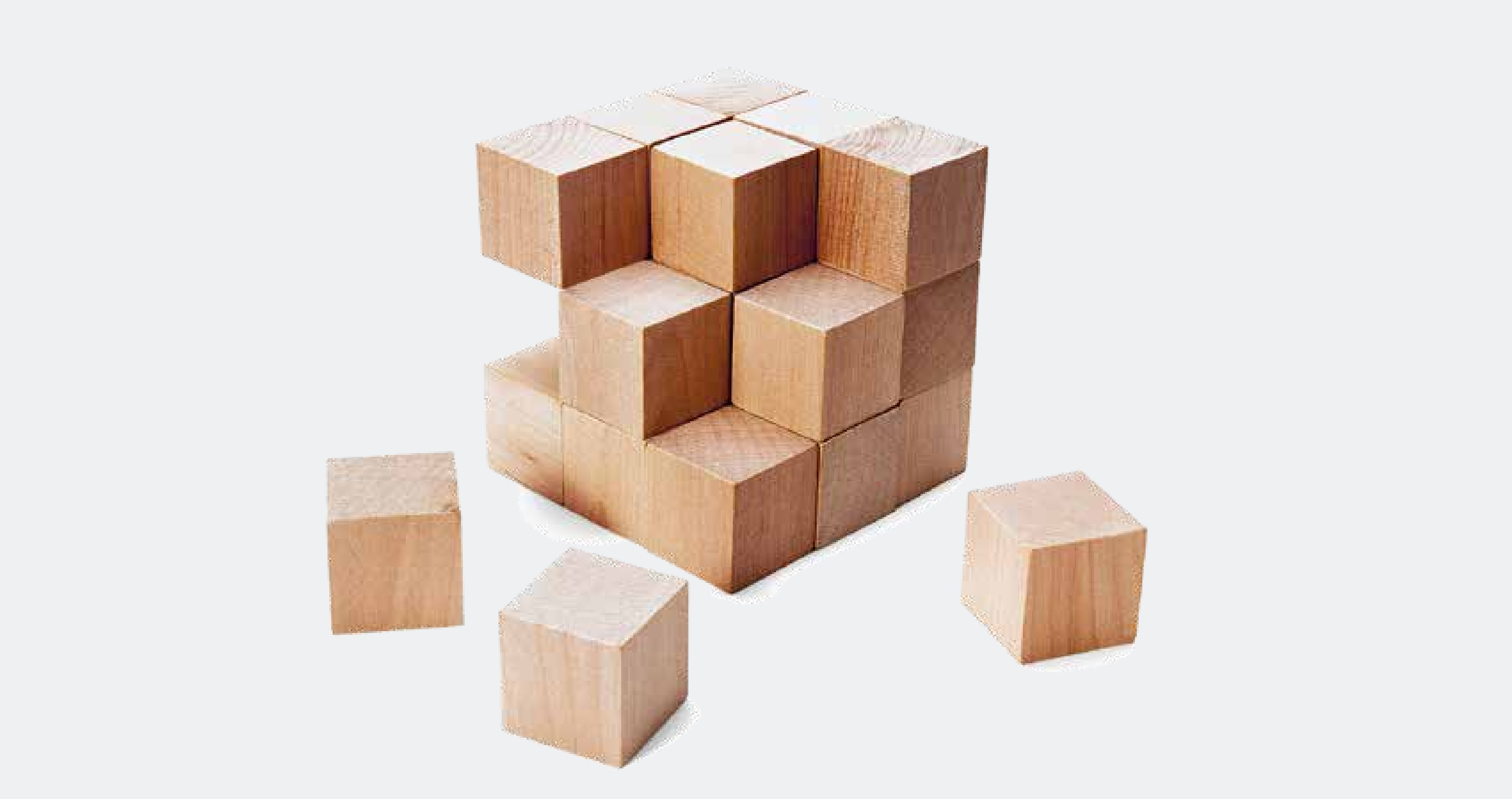
[5] Rachel Bass, Hannah Dithrich, Abhilash Mudaliar, and Aliana Pineiro, *The state of impact measurement and management practice*, Global Impact Investing Network, December 2017, thegiin.org.

David Fine is a senior partner in McKinsey's London office, **Hugo Hickson** is a consultant in the Geneva office, **Vivek Pandit** is a senior partner in the Mumbai office, and **Philip Tuinenburg** is a consultant in the New York office.

Advanced analytics in asset management: Beyond the buzz

Leading firms are applying advanced analytics across the full asset-management value chain—and getting results.

by Sudeep Doshi, Ju-Hon Kwek, and Joseph Lai



News reports and social media have been buzzing with the notion of robots making humans obsolete in a host of industries, including asset management. Business conversations are often peppered with terms like big data and advanced analytics. Indeed, a vast intellectual ecosystem of think thanks, professorships, and consultants has emerged focused on the impact of artificial intelligence on the future of work and commerce. In 2017, there were almost 14,000 research publications in the asset-management industry that contained big data or analytics as keywords—four times the number in 2012.

Faced with this deluge, it can be difficult for asset-management leaders to get a clear perspective on what they actually need to do differently in this new "machine age." Five years ago, the answer would have been: "Not much." Granted, some firms—notably hedge funds—have been pursuing analytics-driven quantitative or systematic investing for a while, but most traditional asset managers with fundamental investing teams were content to let other industries take the lead. Some were experimenting with accessing alternative sources of data and building small data-science teams, but little had been achieved at scale to alter the traditional way of delivering value in the industry.

But the thinking on how—and whether—to use data science in asset management has changed. Over the past couple of years, the application of advanced analytics to specific business problems has started to deliver value for traditional asset managers—not by replacing humans but by enabling them to make better decisions quickly and consistently. A broad set of firms is embracing new methods for gathering and analyzing data at multiple points across the asset-management value chain—beyond the alpha-generating use cases favored by quant firms—resulting in increased sophistication in distribution, better investment decision making, and greater middle- and back-office productivity (Exhibit 1).

More sophisticated distribution

Against a backdrop of tepid growth (US organic net flows of 1.1 percent per year between 2013 and 2018, driven almost entirely by passive strategies), asset managers have been questioning traditional "feet on the street" distribution models. Some are now using data and advanced analytics to reinvent their distribution models, while others are using these tools to turbocharge their existing distribution forces and create greater operating leverage. Regardless of the extent of the transformation, the evolution toward a more data-driven approach to sales and marketing is now well under way and continues to gain momentum. At present, asset managers are primarily applying advanced analytics to improve distribution along three vector.

Optimizing distribution and service models

A number of asset managers are building vast data reservoirs containing multidimensional client characteristics to design distribution and service models that better enable them to cover the right clients, through the right channels, at the right time. Rather than relying on client type or size to determine whether and how a client should be covered, asset managers are now using data to achieve more fine-grained segmentation: for example, between the digitally savvy financial adviser who almost exclusively follows model portfolios and the "sales rep as portfolio builder" who is eager for in-person portfolio-construction advice. In our experience, this type of behavioral-based segmentation of clients and subsequent adaptation of sales efforts can free up 15 percent or more of sales-force capacity and increase sales from priority client relationships by up to 30 percent.

Improving productivity through precision targeting

Asset managers are also investing in analytics to generate actionable client insights and improve the productivity of sales and marketing efforts. Examples range from predictive algorithms that identify specific product cross-sell opportunities to those that identify

Exhibit 1

Asset-management firms are applying advanced-analytics techniques across the full value chain.

Asset acquisition: Sales and marketing	Investment management: Production	Asset administration: Middle and back office
5–30% higher revenues due to:	Meaningful improvement in performance due to:	10–30% lower costs due to:
Behavioral segmentation of clients	Debiased investment decisions	Increased process automation
Data-driven client prospecting and retention	New sources of alpha through alternative data	Automated trade surveillance
Predictive algorithms to improve sales productivity	Automated big data ingestion for research	Decreased costs for data management
Personalized digital marketing	Improved trade-execution algorithms	Increased administrative efficiency

Improved organizational effectiveness (eg, talent acquisition and performance management)

clients at risk of redemption for specific strategies. In multiple instances, these algorithms have proved to have greater than 80 percent accuracy, with sales results up to ten times better than those of the control groups that did not use the analytical tools.

Enhancing performance management

Distribution leaders are also using advanced analytics to effectively manage team performance. The data provide the transparency so that executives can closely monitor the effectiveness of sales and marketing activities and campaigns, and quickly address those that are not working. Some leading-edge asset managers are also applying advanced analytics to talent management, using it to identify the characteristics of high performers and then incorporating the criteria into hiring, retention, and professional-development processes.

The foundation for these use cases is a robust multidimensional data repository that combines the best of external and internal data on individual clients—for example, third-party research combined with transaction and customer-relationship-management history (Exhibit 2).

Better investment decision making

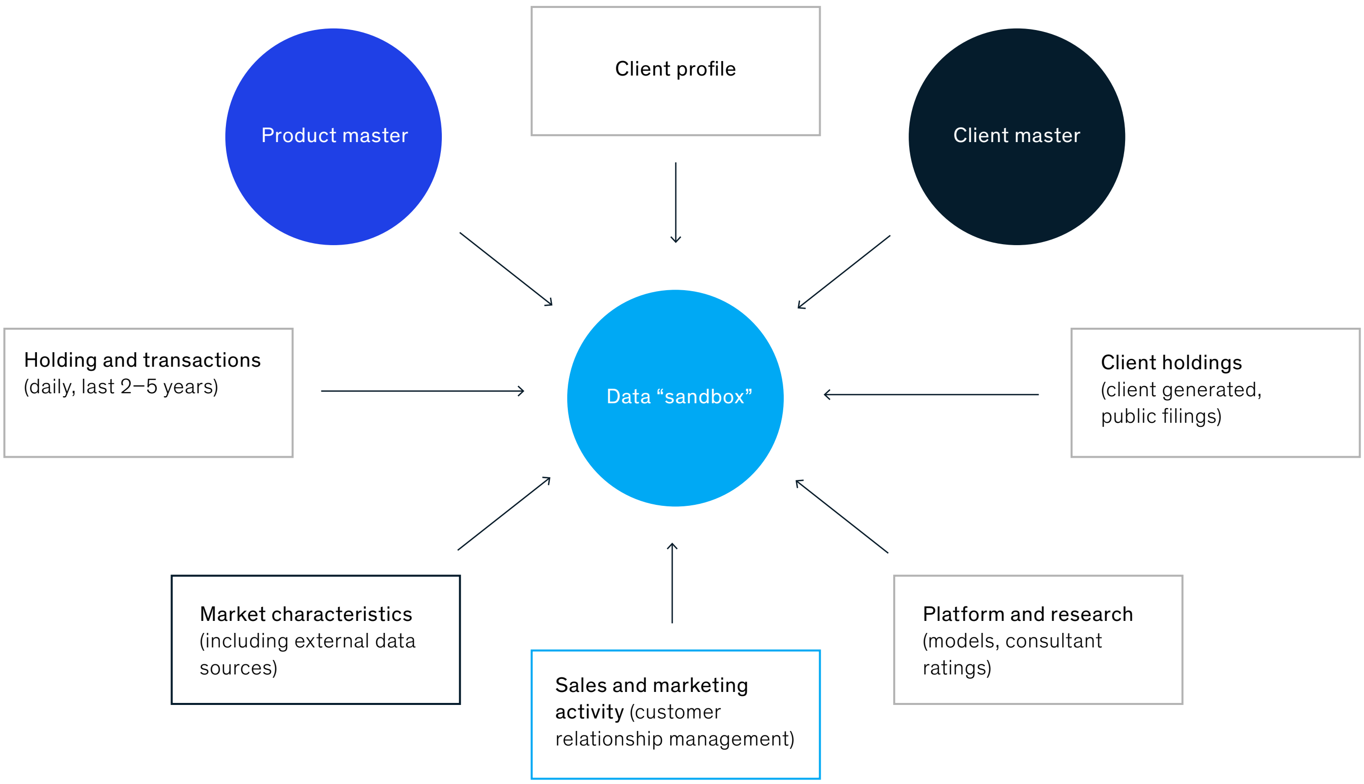
On the investment side, some traditional asset managers are now engaging more fully in advanced analytics. These efforts are focused in three areas: debiasing investment decisions, generating alpha through alternative data sources, and enhancing research processes.

Debiasing investment decisions

Eliminating systematic biases from the investment decision-making process has long been a topic of interest to investors. The ability to stitch together a broad set of data sources about an individual or team's trading history, communication patterns, psychometric attributes, and time-management practices allows firms to identify drivers of performance and behavioral root causes at a more granular and individualized level than previously. Managers can then make operational improvements

Exhibit 2

A robust client-data repository includes the best of internal and external data sources.



based on the insights; for example, by flagging trades that fit predefined patterns and double-checking them before execution.

Using alternative sources of data to generate alpha

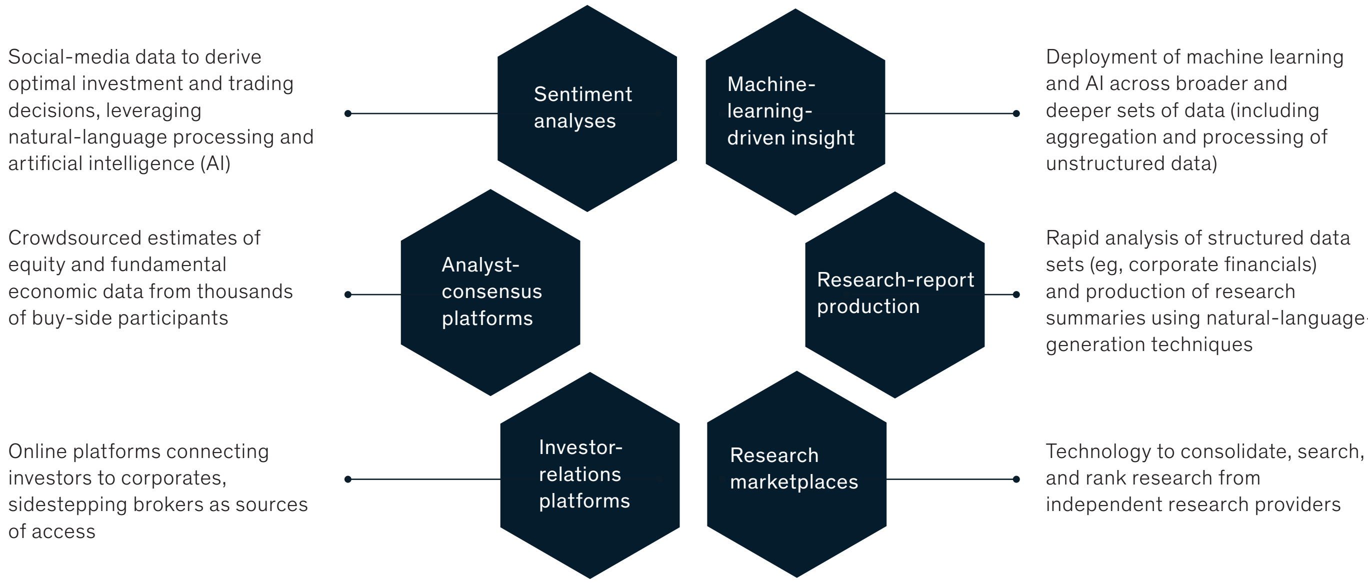
The availability of greater quantities of data is putting a premium on having both data-acquisition capabilities and the data-science skills to weave the sources into predictive models that improve decision making. This approach is being applied in real estate, to give one example, where the prevalence of location-specific data from a variety of sources is helping investors predict key metrics such as rent and vacancy rates with much greater precision. At one leading real estate investment manager, the combination of online reviews, information on traffic flows, and credit-card-spending data with traditional property- and market-level characteristics improved the predictive accuracy of three-year-forward rent forecasts from 60 to 70 percent to more than 95 percent. And while the predictive model was not used to replace the existing underwriting process, it was incorporated as an additional test before investment decisions were made.

Enhancing research processes

The application of techniques such as natural-language processing (NLP) is also helping asset managers process vast amounts of information more quickly than before—for example, by automating the ingestion and analysis of public filings and flagging changes in sentiment that a research analyst can focus on (Exhibit 3). This is an example of machines complementing the human process instead of replacing it: the technology helps

Exhibit 3

Asset managers are turning to new sources of investment research.



narrow down what is relevant in much the same way that a recommendation engine on Amazon or Netflix would and allows the investor to spend more of their time on high-value decisions. One leading alternatives asset manager has invested heavily in this concept by building an investment-research engine that enables investment analysts to seamlessly record everything about a potential deal or portfolio through a front-end system. The data are then enriched with relevant proprietary historical data and structured data from third-party providers, resulting in a research and portfolio-management tool that provides a rich, real-time view of potential opportunities.

Not all asset managers are embracing big data and advanced analytics in the ways described above. Many still trust more traditional processes. Yet some firms and portfolio managers are taking this seriously and have begun to make investments in these capabilities.

More productive middle and back offices

As firms contend with the growing complexity of products, legal entities, vehicles, and markets, economies of scale are coming under pressure. In response, asset managers are looking for ways to increase the productivity of their middle- and back-office functions through advanced-analytics-driven solutions. Two particular areas of focus are process automation and risk management.

Process automation of time-consuming tasks

Asset-management firms are using NLP and other techniques to analyze text and voice communications and to recommend optimal actions for certain processes, such as deploying machine-assisted conversations to answer common operational questions. One leading asset manager recently implemented a solution that automatically uploads hundreds of documents into a central repository and uses NLP techniques to transfer relevant information into a customizable and searchable reporting interface. The solution extracts more than four million unique data elements and has led to a 60 percent reduction in the time required to generate relevant reports. This type of analytics-driven automation has the potential to significantly improve the efficiency of core functions within asset management.

Improving quality of risk management
New US trading regulations (for example, those preventing traders from benefiting from old proprietary trades) are leading to a need for heightened compliance in asset management. Some firms are deploying forensic analytics to monitor traders and cross-check transactions with personal data to uncover instances of misconduct, scanning communications for anomalies or breaches of ethical divides, and building data sets across trading data, external data, and personal employee data to expand the number of checks or run different scenarios. Asset managers that have implemented these techniques have seen a 55 to 85 percent reduction in time spent on trade-surveillance activities and, more important, improved risk identification. In one case, an asset manager found that its machine-learning algorithm was significantly better at detecting risks than a seasoned expert reviewing the same underlying materials.

Markers of success

Asset managers that have extracted meaningful value from data and advanced analytics share several characteristics.

Ruthlessly prioritize based on business value
Asset managers that have derived value from analytics begin with a focus on a small set of analytics use cases where there is business demand and potential for measurable business impact. They typically rely on multiple stakeholders to rigorously prioritize potential use cases against a set of "hard" criteria, such as business value, time to implementation, data availability, and the existence of a committed business sponsor.

Recognize that analytics is a team sport
Successful analytics efforts require cross-functional skills (for example, business, data, technology, operations, and compliance) and work best when led by small, agile teams with end-to-end responsibility for delivering an analytics product. Teams are most effective when the product owner is a businessperson who will be the direct beneficiary or user of the product, and when analytics resources are embedded within and seen as part of these teams, as opposed to operating in a more centralized model.

Focus on 'last mile' adoption
A common pitfall in the development of analytics capabilities by asset managers is focusing on underlying data and model building but treating the adoption of analytics assets by end users as an afterthought. The question of how end users will actually engage with analytics should be addressed at the very beginning of the process. Thinking these questions through and planning for how analytics will be integrated into existing work flows—and what chain of actions they should trigger—significantly increases the likelihood of sustained long-term impact. Visible sponsorship by key influencers (for example, portfolio managers or top sales professionals) is also vital in the change-management effort. The power of advanced analytics is unleashed when data and models are adopted by end users to deliver business impact (Exhibit 4).

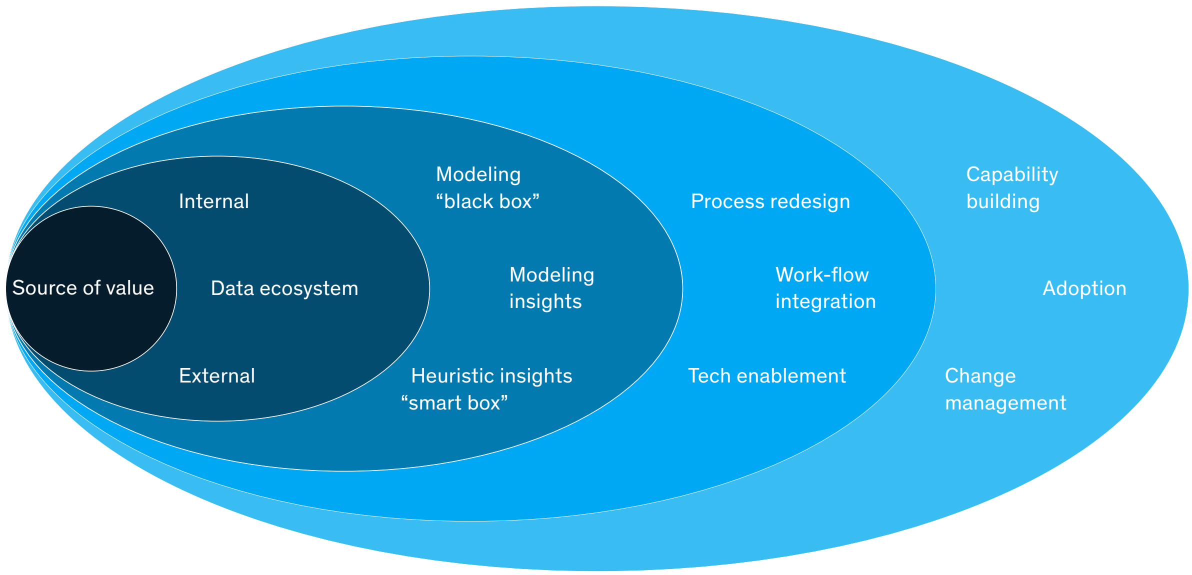
Adopt a 'minimum viable product' mentality
Successful data and advanced-analytics capabilities rely on a test-and-learn mind-set. Rather than waiting until they have the full set of talent and data resources needed to build a robust model, leading asset managers have a bias to action and are willing to test and learn—and fail—quickly. Firms learn more from playing the game than from standing on the sidelines.

Invest in next-level data and analytics talent
One of the greatest challenges asset managers face is in recruiting and retaining distinctive data and analytics talent. Those who get it right recognize that business-as-usual analytics resources are typically not sufficient, and that attracting and retaining distinctive talent typically requires a vibrant community and a strong talent plan (for example, career paths and robust professional development).

Create an integrated target-state vision for data and analytics
The most mature organizations go beyond individual use cases to create a self-sustaining data and analytics engine that drives measurable business

Exhibit 4

The full power of analytics is only unleashed when tools are embraced by end users.



value. While the development of a capability typically happens incrementally, having a clear vision of what the integrated target end state looks like—across data management and governance, analytical tools, technology development, and business adoption—helps avoid duplication and speeds up development.

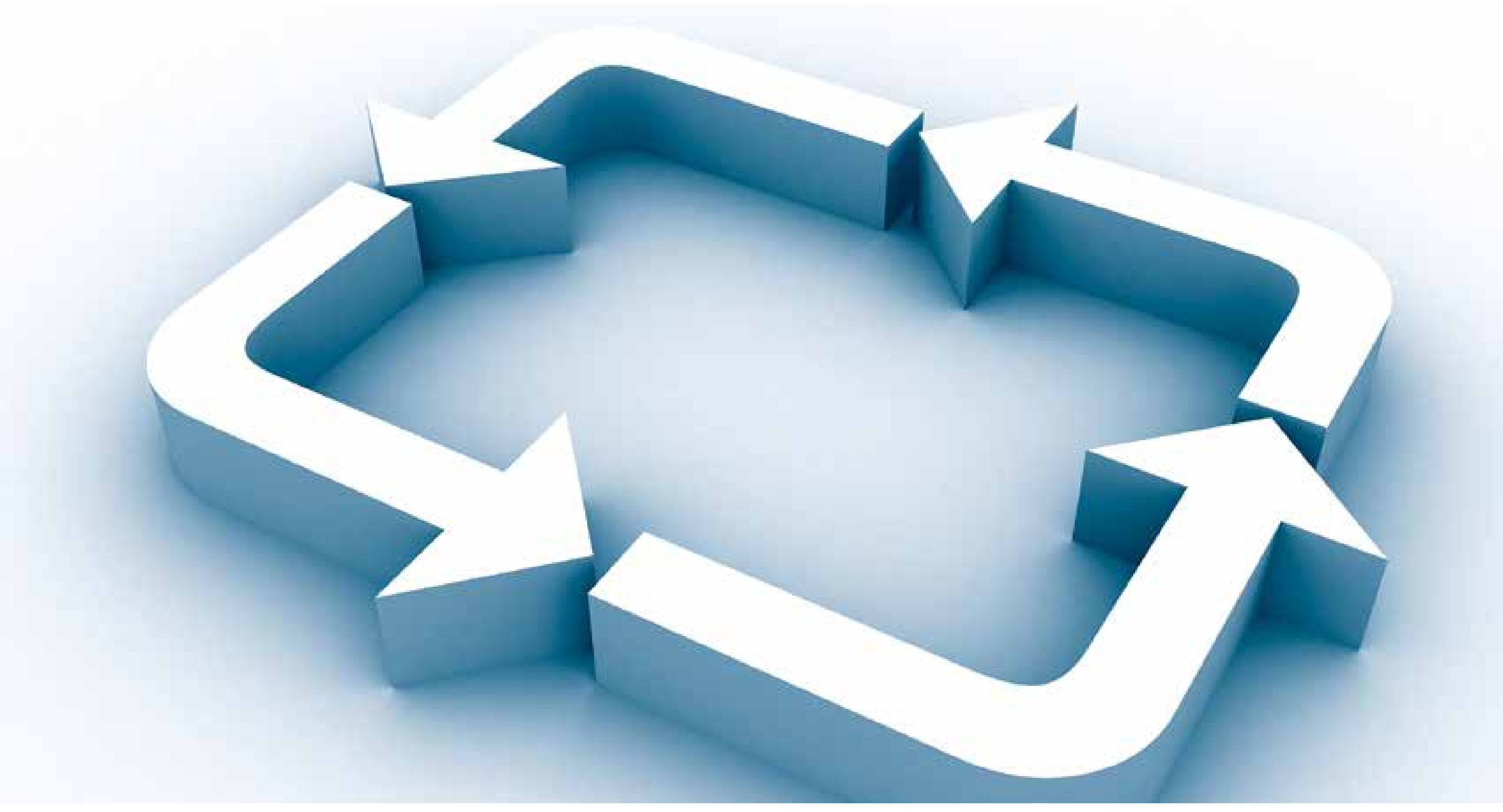
In the past few years, the application of advanced analytics in asset management has moved from the realm of science fiction to, simply, science. Leading firms are applying these tools and insights to improve distribution effectiveness, investment performance, and productivity in the middle and back offices. While some firms are using analytics to make existing practices more effective, others are taking advantage of these new capabilities to ask more fundamental questions about their operating models. What could an analytics-driven distribution approach look like? How might research organizations change with the use of new tools and the availability of alternative sources of data? While there is still some uncertainty regarding to what extent and at what pace analytics will affect asset management, it is clear that superior analytics capabilities will be a key driver of success in the industry going forward.

Sudeep Doshi is an associate partner in McKinsey's New York office, where **Ju-Hon Kwek** and **Joseph Lai** are partners.

Pricing: The next frontier of value creation in private equity

Few private equity firms focus on pricing transformations, though such programs can create substantial value. Here's how pricing value can be captured at any stage in the deal cycle.

by Walter Baker, Manish Chopra, Alexandra Nee, and Shivanand Sinha



Over the years, private equity (PE) firms have mastered the art of creating value for their portfolio companies through cost reduction, talent upgrades, and financial engineering. Moreover, they have built valuable experience in recognizing patterns that allow them to spot and invest in the best portfolio targets. In contrast, most PE owners do not display the same level of fluency or confidence in commercial productivity—especially in pricing.

In our experience, commercial improvements—such as those in a company's pricing, customer and product mix, or sales volume growth—can create tremendous value for both the portfolio company and the PE owner. Specifically, when PE firms tackle pricing in their portfolio companies, we typically see margin expansion of between 3 and 7 percent within one year. Factoring in potential pricing improvements can allow PE firms to be more confident in potential upside and differentiate themselves in competitive deals. The direct and rapid margin expansion from pricing transformation creates more value for portfolio companies and investors alike during the holding period. And highlighting a track record of both successful pricing improvements and additional pricing opportunities can result in a higher exit valuation.

To better understand the barriers that prevent deal and operating partners from using pricing to boost earnings, we recently surveyed more than 100 senior leaders from PE firms and their portfolio companies across Europe and the United States.

Our findings suggest that while respondents view pricing capabilities as highly valuable, they do not effectively build and use those capabilities to design and implement pricing programs. We also found that PE firms can maximize value by addressing pricing early, but value can be derived at almost any point in the deal cycle, from pre-deal due diligence to the eventual exit.

Exhibit 1

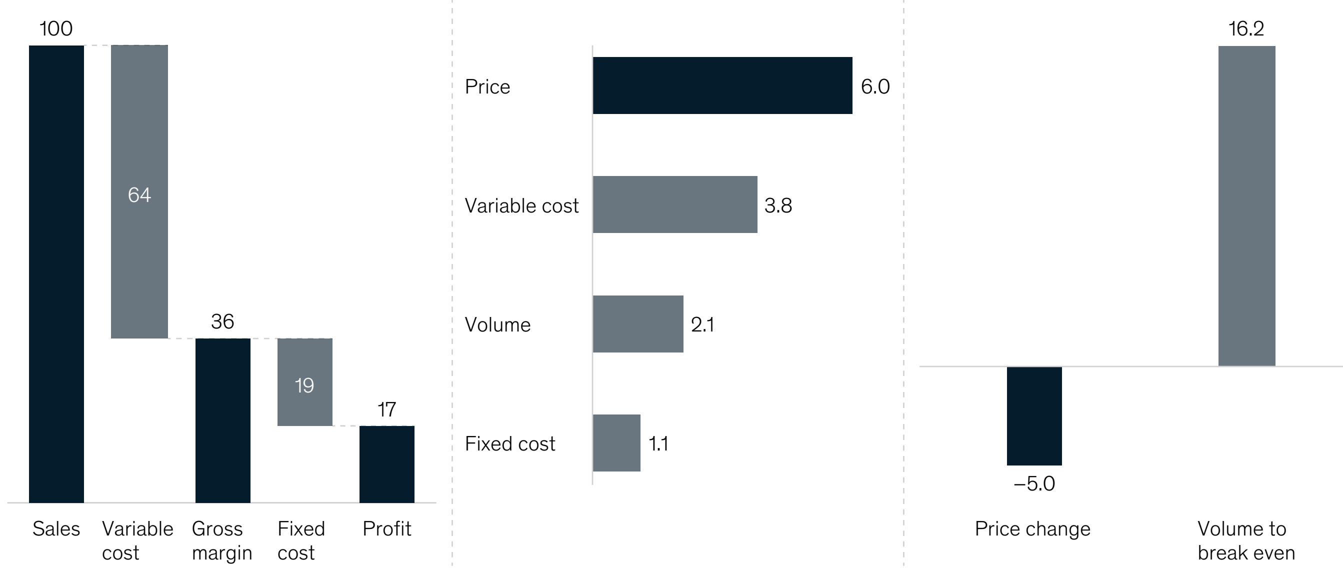
Pricing is by far the biggest tool for earnings improvement.

Economic-sensitivity analysis for ~1,000 midsize ($100 million–$1 billion) US public companies, 2017

Improving price by 1% yields substantial profits,[1] P&L indexed to 100

Improving each tool by 1% affects profit differently, % impact on profit

Price-to-volume "gearing ratio" is not always obvious, % change



[1] EBITDA used for profit; cost of goods and services used as proxy for variable cost; fixed cost represents difference between EBITDA and gross profit.
Source: D&B Hoovers; McKinsey analysis

Understanding PE's approach to pricing

For a typical midsize US company, a 1.0 percent improvement in pricing raises profits by 6.0 percent, on average (Exhibit 1). By comparison, a 1.0 percent reduction in variable costs and fixed costs yielded an increase in profits of 3.8 and 1.1 percent, respectively. In practice, a midsize company acquiring a business approximately 30 percent of its own size with a similar P&L structure would have the same impact on its bottom line as a 5 percent improvement in margin.

Another reason that pricing is an attractive way for PE firms to create value is that any improvement flows almost entirely to the bottom line, net of any volume changes or investments made in tools and resources. Pricing has an outsize impact on valuations given the EBITDA multiple view that investors apply, and in many cases, it can also lead to increased multiples and therefore further competitive differentiation.

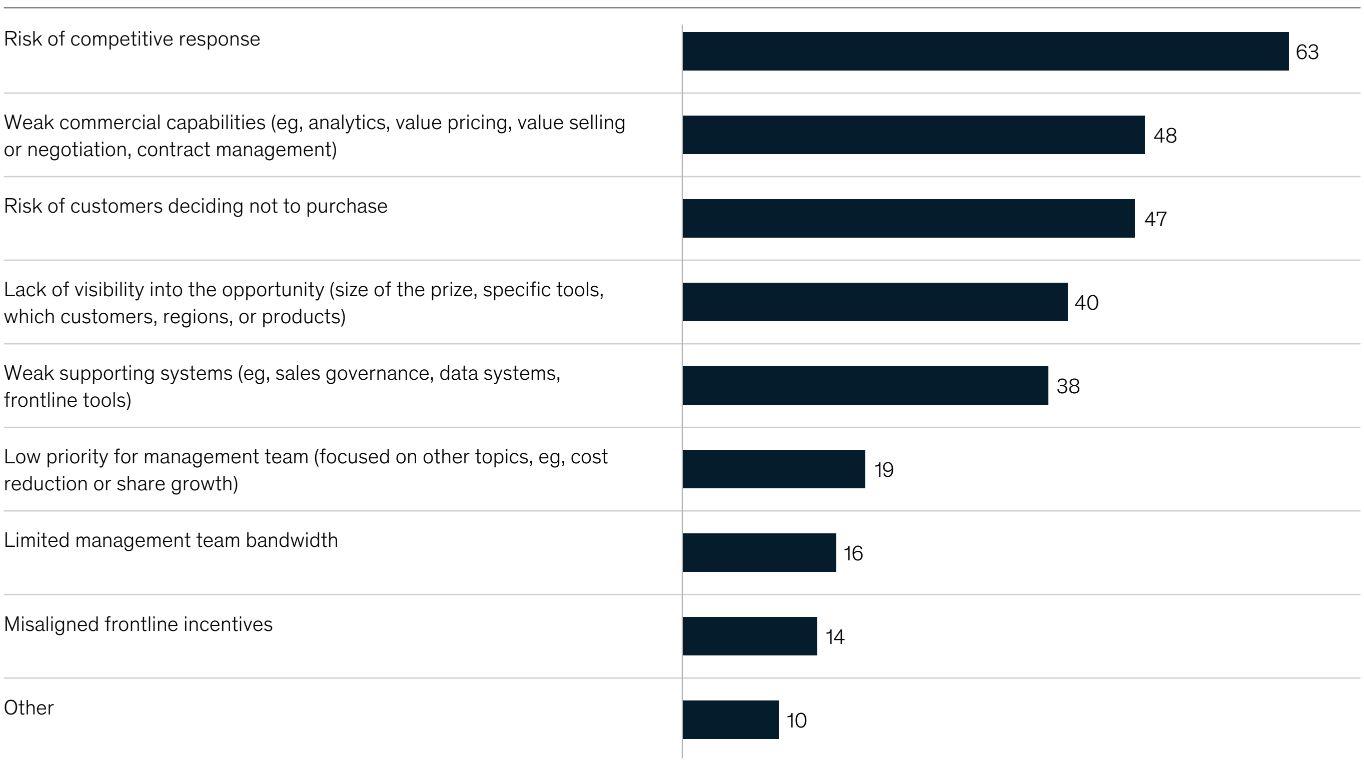
To create value in their portfolio companies, PE firms and operators often start by gaining efficiencies through cost control, which has a lower perceived risk. PE leaders cite multiple reasons for traditionally putting less emphasis on pricing to create value (Exhibit 2). Notably, the top concerns are competitive responses—that is, competitors would change their pricing behavior to capture more of the market—and customer defections. From experience, we know that when pricing improvements are implemented in the right pockets of opportunity, the risk of customer loss is widely overestimated and investments in pricing capabilities typically have a high and quick return.

Even among deal and operating partners who broadly believe in the opportunity and view pricing

Exhibit 2

There are myriad perceived obstacles to expanding margins through pricing.

Select your top three obstacles in promoting margin expansion through pricing, % of interviewees that selected option as a top three obstacle, 2019, n = 106



Source: Interviews in 2019 with 106 operating and investing partners of private equity firms and CFOs/COOs of portfolio companies as a key promoter of earnings, many underestimate its potential impact. Thus, their investments in pricing opportunities continue to be low compared with procurement and other cost-saving measures. Given that, it is not surprising that most management teams feel their organizations are underprepared and lack the resources to capture the pricing opportunity (Exhibit 3).

How to create pricing value throughout a deal life cycle

Firms can maximize value by addressing pricing early, but value can be derived at almost any point in the deal cycle. More-sophisticated PE firms and portfolio companies maximize value creation from pricing by focusing on different tactics throughout the deal cycle—before the deal, early in the holding period, midtenure, and pre-exit.

Before the deal: Sizing the opportunity

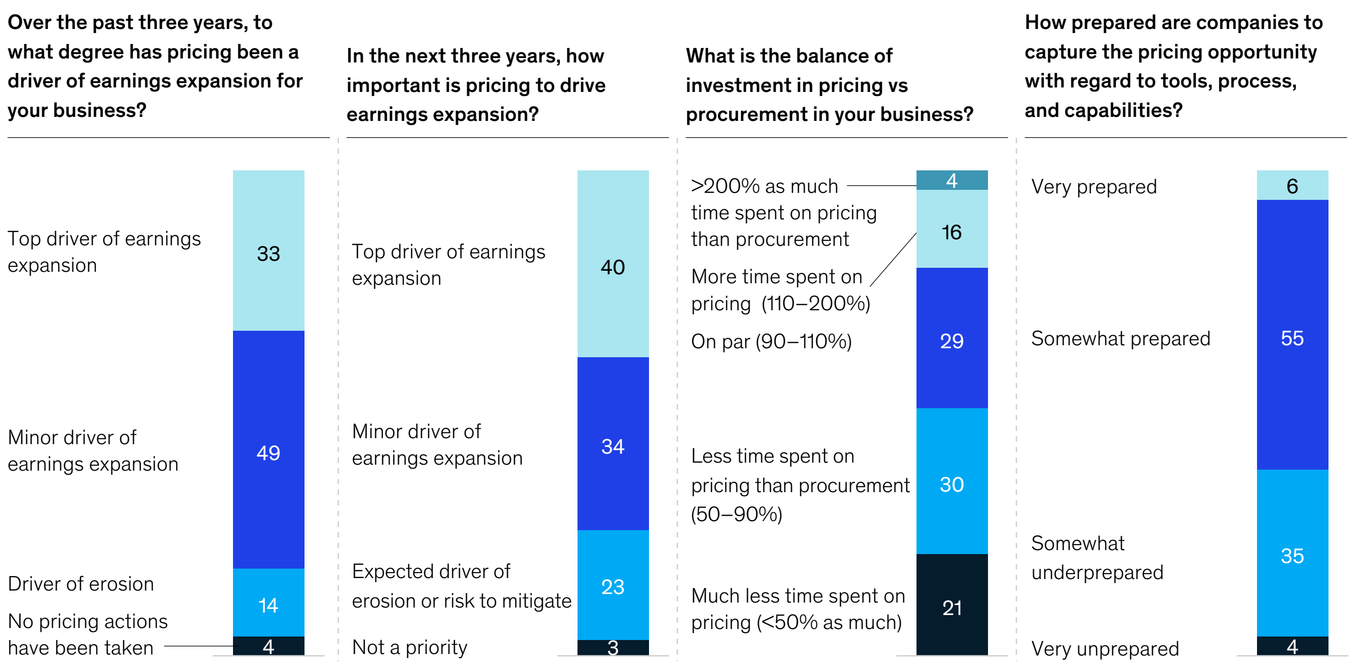
The first step is to assess the potential opportunity from pricing and build it into the upside case in a way that inspires confidence that value can be captured. Firms often have less-than-ideal data and compressed timelines, however, to assess potential opportunities. To formulate a robust perspective, experts need to hunt for patterns showing indicators that might help estimate potential value. Although these predictive indicators vary by industry, combining them with whatever limited data are available in the diligence stage and insights from management reports and interviews can help differentiate an investment case and allow investors to bid more accurately and competitively.

For those opportunities where a pricing program is likely to succeed, we typically see a 3 to 7 percent margin improvement for PE portfolio companies (Exhibit 4).

Exhibit 3

Despite the anticipation that pricing will be important to boost earnings, a majority admit underinvestment in pricing.

% of respondents, 2019, n = 106



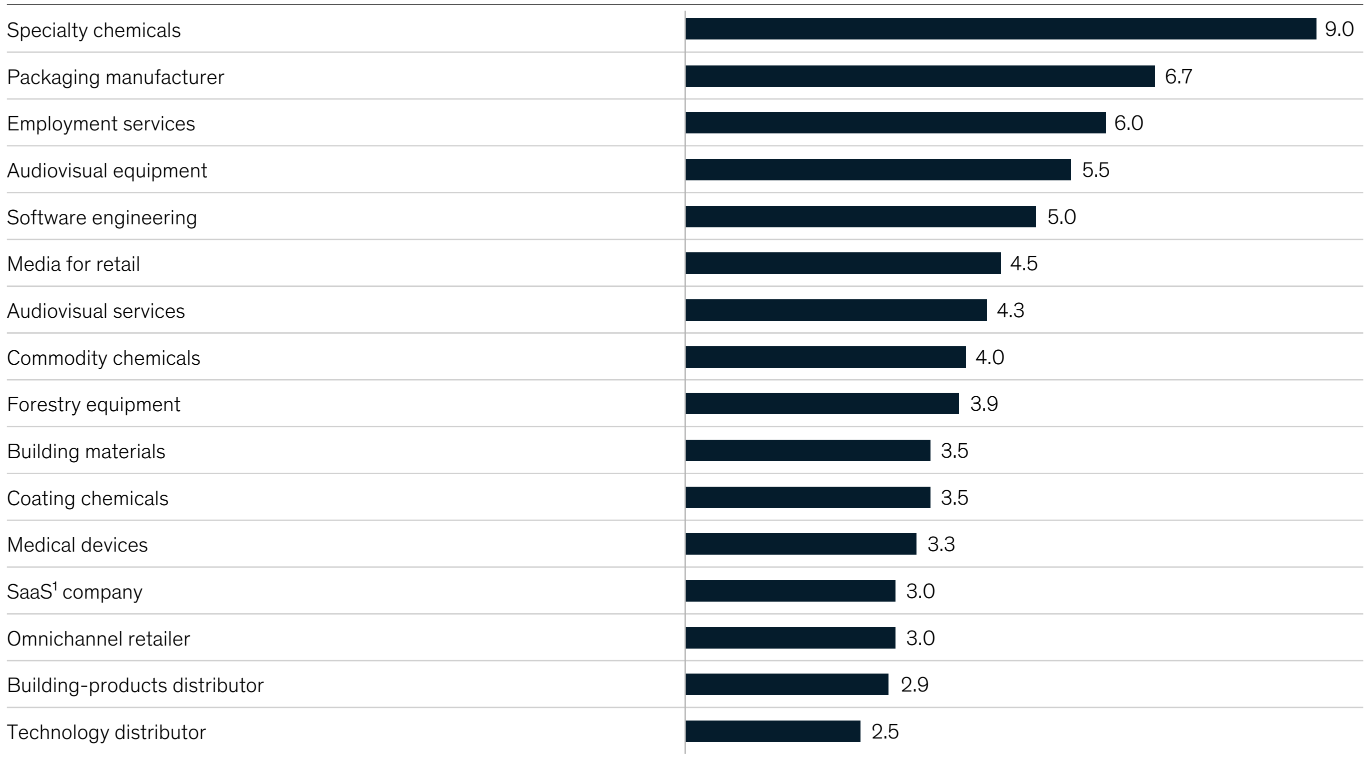
Source: Interviews in 2019 with 106 private equity professionals and management teams of portfolio companies

Exhibit 4

Pricing improvements can significantly boost margins.

Recent private-equity-owned pricing programs

List of disguised individual company examples, % margin expansion



[1] Software as a service

The extent of the impact ultimately depends on industry dynamics as well as significant factors such as market structure, business model, the breadth and complexity of a company's product line, or its existing level of pricing sophistication. While it can be a complicated exercise, getting a sense for pricing upside during target diligence is important because it allows the PE firm's investment committee to reliably approve higher bid values with confidence that the team will be able to deliver on that value over the holding period.

For example, a PE firm in the diligence phase for a fast-growing healthcare business was assessing whether a pricing transformation might be a viable value-creation strategy. Beyond the confidential-information memo—which typically only includes summary information—the firm did not have access to financial or customer data. The deal team had to determine from the outside whether there was room to improve pricing and what potential value could be at stake. The deal team conducted a competitive analysis; expert interviews; and a survey of patients, payers, and providers, and used the results to assess the nature of pricing opportunities across different market segments. This assessment included identifying value-creation opportunities on both price point and bundling services.

Ultimately, the deal team was able to get approval from its investment committee to incorporate into their bid a small portion of the upside from these pricing opportunities. These adjustments allowed the team to differentiate itself and retain most of the potential upside in the company's value-creation plan.

Early in hold period: Creating a 100-day plan
Our experience suggests that even though pricing improvements pay off, a company is more likely to invest adequate time and resources if the 100-day plan explicitly identifies pricing as a high-priority initiative. To weave a pricing-improvement journey into a 100-day plan, PE firms across industries should focus on getting a few important things right:

— *A perspective on industry-pricing dynamics and structural-pricing headroom.* This information can be quite important for midsize players, particularly those that often operate in a niche part of an industry.

— *A definition of business and commercial objectives.* This includes size of expected impact from organic versus inorganic growth and volume versus price targets on the organic growth portions of the business.

— *An assessment of how price is set today for all products and customers.* Typically we find either legacy price points that have not been updated at a regular cadence or a lack of consistent methodology for setting prices in various parts of the organization.

— *A clear and detailed picture of surcharges, rebates, and discounts.* There should be guidelines for the whole organization around to what degree, by whom, when, and for which customer segments these terms and conditions are to be applied.

— *An understanding of what elements of cost to serve are included in the price versus charged separately to the customer.* These can include, for example, freight, rush orders, small-order surcharges, and raw-material cost changes.

— *An analysis of pricing tools and processes in place.* This assessment should also include gaps in the pricing feedback loop between marketing, sales, finance, IT, and customer service.

In addition to these six goals, PE firms should work to align the management team's incentives with pricing value-creation potential. This alignment helps encourage ownership of the business among team members, as well as behavior that supports the company's overall financial growth.

Midtenure: Solution design and midtenure tune-ups
For portfolio companies in their holding period, pricing can often be the right catalyst to spark margin and top-line growth. In these situations, after a four- to six-week phase to identify potential opportunities, management typically prioritizes a handful of pricing tools likely to generate the most value and explores how to capture that value sustainably. If the company at least started the process of developing a pricing road map as part of the 100-day plan, then midtenure becomes much easier. PE firms and management can then move right to determining the details of a pricing solution, calibrating, and accelerating the execution of that solution based on the existing road map.

Even portfolio companies that don't have a pricing road map in their 100-day plans can create value with pricing during midtenure. The timeline of designing a pricing solution varies greatly by the complexity and starting point of corporate capabilities, but it can typically take three to six months; another six to nine months of concentrated effort is generally necessary before the results of implementation are fully realized. However, while full run-rate improvement can take

PE firms can improve the valuation of their companies at any point in the holding period by improving performance through pricing.

between 18 and 24 months to achieve on an ongoing basis, we typically see quick pricing wins that boost earnings in the first or second quarter after focusing on pricing improvements.

With the cooperation and initiative of management teams, PE firms can improve the valuation of their companies at any point in the holding period by improving performance through pricing. It is obvious that the pricing tools management and the investment team would prioritize this shift depending on where they are in the holding period. What is less obvious is that shifting priorities means PE firms should revisit the traditional pricing tools for a tune-up throughout the life cycle of the asset. These tune-ups will often result in new calls to action for marketing and sales teams.

Exit preparation: Demonstration of value

Starting nine to 18 months before exit, the management and investment team should again review the pricing journey they have taken, documenting both the pricing tools they have used successfully and the opportunities that have not been fully utilized. As with any value-creation tool—whether cost optimization, sales growth, or pricing improvements—articulating a successful value-creation story demonstrates the management team's ability to deliver.[1] Management could even outline possible future value-creation opportunities for the new owners by studying remaining and new opportunities.

At an industrial machinery and components distributor, for instance, the management team conducted an exit diligence six months before starting the sale process. As part of the diligence exercise, the team checked up on its pricing program (which had been ongoing for about two years) to see where it had made progress and where it was lagging behind. The team also added some new initiatives to optimize margins within certain product categories (such as in-stock versus not-in-stock products), and they revised their 18- to 24-month pricing road map accordingly. This revised road map, combined with the management team's history of success in executing the initial pricing road map, gave potential new buyers confidence to bid aggressively for the company.

Pricing is undergoing a revolution fueled by advanced analytics, digital technologies, and the adoption of new models—such as dynamic pricing—across all industries. This creates new opportunities and challenges, as well as an imperative to double down on pricing as the next frontier for value creation in PE. While PE has historically not focused on or confidently pursued pricing to date, now is the time to break away from outdated mind-sets. Firms must embrace pricing as a primary way to create value. For despite perceived risks, substantial and sustainable value creation is often achievable. And the earlier it starts, the better. Irrespective of where a portfolio company is in the deal cycle, there are tangible actions it can take to capture this value.

[1] Guillaume Cazalaa, Wesley Hayes, and Paul Morgan, "Private equity exit excellence: Getting the story right," August 2019, McKinsey.com.

Walter Baker is a partner in McKinsey's Atlanta office; **Manish Chopra** is a senior partner in the New York office, where **Shivanand Sinha** is an associate partner; and **Alexandra Nee** is an associate partner in the Washington, DC, office.

The authors wish to thank Todd Babbitz, Mason Chapple, Shivani Kumar, and Stephen Moss for their contributions to this article.

Private equity exit excellence: Getting the story right

While a successful exit has many elements, a clear and evidence-backed equity story detailing an asset's potential may be the most important. Three key principles can help funds maximize exit returns.

by Guillaume Cazalaa, Wesley Hayes, and Paul Morgan

© Tachit Choosringam / EyeEm/Getty Images

In the pursuit of healthy returns, most private equity (PE) investors are focused primarily on making great purchases. Many also understand the need for great business transformations for their assets. But they often pay less attention to making a great exit. While there is often pressure to hold onto an asset—stemming from fee incentives, market timing, or a desire to give performance improvements time to take effect—this pressure should not preclude preparing for the eventual exit. Ideally, exit preparation should take place throughout the ownership period.[1] One of the most important elements of great exit preparation is continually honing a well-developed, well-articulated, and evidence-backed view of why an asset represents an exciting investment opportunity.

Funds often wait too long to gain consensus on an equity narrative that articulates why a business is a great asset, how it's going to improve (the upside for the next owner), and why it's strategically beneficial. These issues cannot be addressed with a traditional vendor-diligence report in the last couple months of ownership. That approach leaves insufficient time to make meaningful corrections to the business, assemble the required evidence, or even achieve alignment between PE owners and management teams.

Many investors spend most of their energy on acquiring assets. For others, exits may be influenced by market opportunity and happen on short notice. Yet even when exits are foreseeable, fund managers tend to focus on improving an asset's immediate performance and achieving strategic objectives, often with an eye toward the exit—but not always with an eye toward what needs to be in place to *support* the exit. As they approach their exit window, an asset's management team or sponsor might have a story they'd like to tell. At that point, however, it's quite difficult to assemble the necessary evidence to reinforce it.

We interviewed more than 30 decision makers across a range of established PE funds to better understand their exit strategies. Their insights, along with our experience, reveal a wide variety of approaches—and levels of effort—on the exit process. The best practitioners don't wait to build the components of the story until the exit is imminent. Rather, they work to ensure the alignment of their business and exit strategies all along their asset journey. They proactively assemble the evidence necessary to tell a simple but powerful story by adhering to three key principles: keep it simple, start early, and tailor the messaging.

The exit landscape is changing

In the past decade, IPOs have represented a small fraction of PE exits. As the capital flowing to alternative investment managers—especially those in PE—continues to grow, we expect that trade sales and sales to PE buyers will continue to be PE investors' most common exit paths (Exhibit 1).[2]

While seemingly increased competition for deals should make exits easier and more lucrative, the timing of a sale is critical. The difference between exit multiples at a market peak and a trough can be significant (Exhibit 2). Poor timing on deals therefore can wipe out material value.

In the first quarter of 2019, the PE market was at an all-time high. As such, nearly all the fund managers we interviewed at least insinuated that an inevitable correction weighs heavily on their minds. A more challenging (and potentially less liquid) market further underscores the importance of preparing for exits. This preparation will be critical in sustaining returns.

Discipline is the heart of a great exit

Our interviewees consistently expressed a desire for more rigorous, methodical exit-preparation

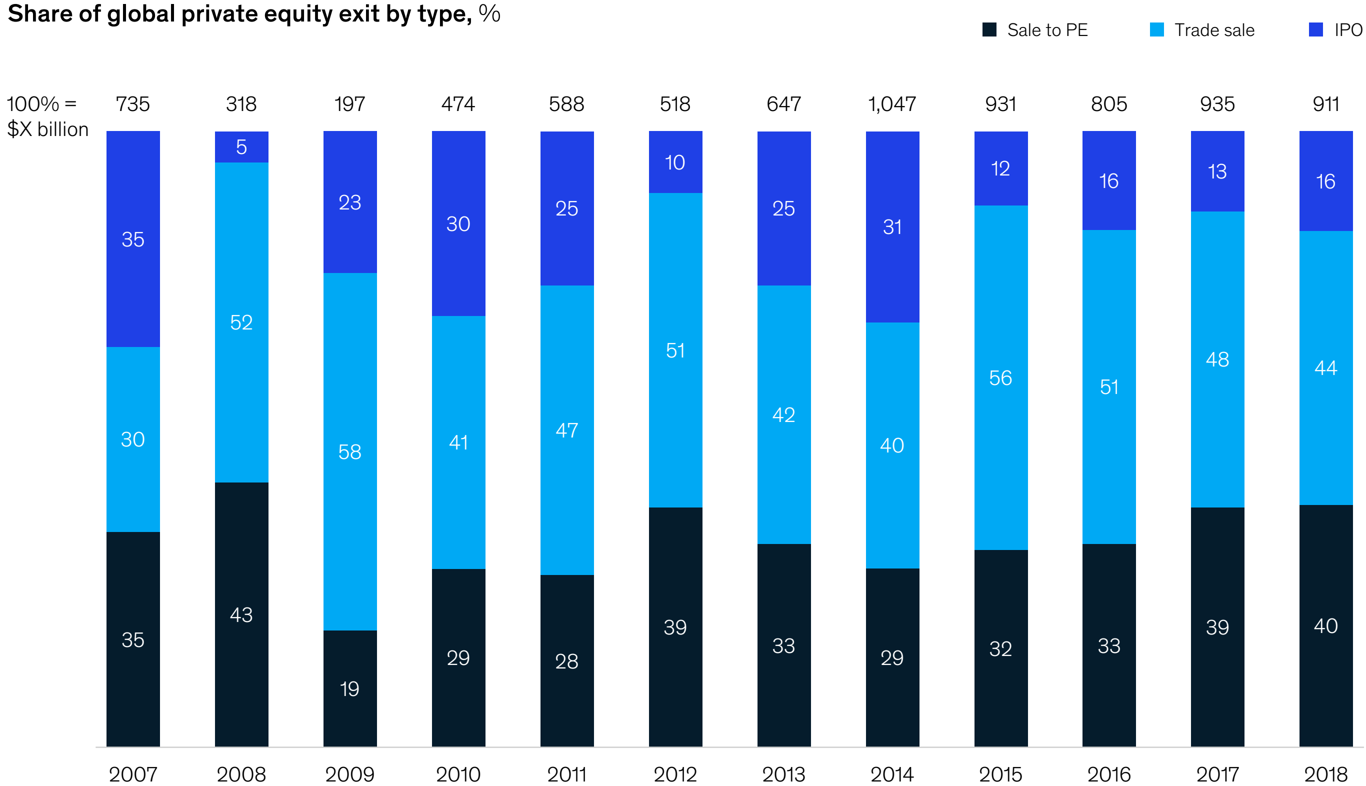
1 For more on the overall exit process, see Alastair Green, Wesley Hayes, Laurens Seghers, and Eyal Zaets, "Private equity exits: Enabling the exit process to create significant value," July 2018, McKinsey.com.

2 "Trade sale" is defined by Preqin as "the portfolio company is sold to another company." See "Glossary of terms," Preqin, accessed July 2019, docs.preqin.com.

Exhibit 1

Trade sales and private equity buyouts have historically been the option of choice for PE exits.

Share of global private equity exit by type, %



Note: PitchBook Data uses the terms "strategic M&A" and "financial acquisition," which, for consistency, we've adapted to equivalent terms "trade sale" and "sale to PE."
Source: PitchBook Data

processes. For example, the best practitioners are much more systematic in pursuing operational value. Where possible, they work to reposition a business toward higher-multiple segments, such as tech, during their ownership. They recognize the need to complement short- to midterm value-creation initiatives with bolder moves that will underpin value creation for future owners. And they meticulously gather evidence of operational improvements and integrate them into a compelling narrative to share with future bidders, often beginning at least 18 months before they wish to sell. These are all characteristics of great exits.

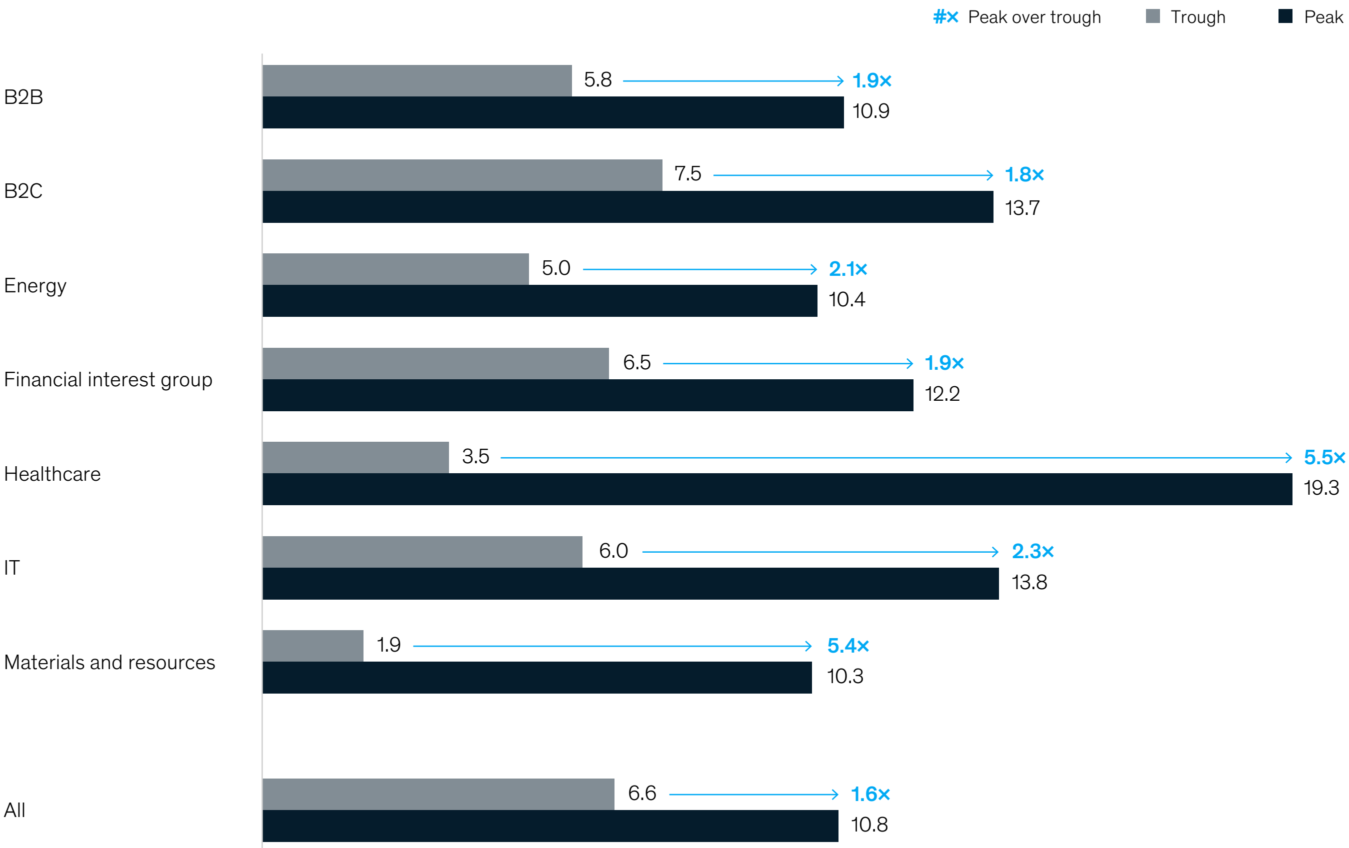
But there is still considerable opportunity for improved exit preparation. Unlike the industry's buttoned-up approach to buying assets, few funds have standardized, repeatable exit-preparation processes. Rather, exits vary, as each tends to be designed by an individual deal team. These teams work autonomously and rely on gut feeling and sentiment. Many fund managers expressed a desire to better focus on the exit-preparation process and equity story throughout an investment's lifetime.

A set of best practices can help any team maximize value but is particularly relevant for sales to PE buyers. In short, the most successful fund managers have solid governance practices, including key performance indicators and dashboards that track exit readiness, all of which draw on their firm's collective experience to inform the best possible

Exhibit 2

Timing the economic cycle is critical.

Global private equity exit multiples, 2007–18, median valuation/EBITDA



Note: Figures may not sum, because of rounding.
Source: PitchBook Data

exit approach. They formalize the midterm review process, evaluate the pathway to exit, and adjust their asset strategy as required. They capture hard evidence of future value-creation opportunities. The best fund managers ensure that the fund and the management team agree on the equity story and that they have high-quality communication materials to tell it.

Develop the equity story

It is important to create a narrative describing how an asset will create value under future ownership. It must be clear and concise, and it must contain supporting evidence. The documentation should summarize key facts and ideas that are accessible to prospective buyers. The process therefore should begin well in advance—on average, 18 months before the exit. It can help to consider three primary objectives: tell a simple yet powerful story, take time to assemble the evidence, and tailor the message to the audience.

Tell a simple yet powerful story

The most successful equity stories focus on performance today, in the near future, and in the long term, allaying three of buyers' most common concerns:

1. *Am I buying a solid asset?* Every description of an asset's performance should include a comprehensive view of details of the business,

its fundamental value proposition to customers, and the asset's financial profile. Funds must ensure their numbers are analytically sound, they should encourage management to address potential problems head-on, and they should give straightforward answers to buyers' difficult questions. This legwork can also serve to show buyers that these have not only been considered but properly addressed,[3] inspiring confidence in the business.

2. *Will I be able to create value during my ownership?* Investors must prioritize and demonstrate the potential of a manageable number of value-creation initiatives. Rather than presenting a list of unsubstantiated ideas, the initiatives must be described in detail and contain ample evidence to support the claims. Funds must begin assembling this evidence early to attract the most value.

3. *Can I tell a compelling story to the next owner, and the owners after that?* It pays to think about the longer-term strategic imperatives for the business. What unique characteristics, assets, and capabilities will hold strategic value for the business, and what macroeconomic conditions are necessary for value to be realized in full?

Equity stories often manage to address the first question, but they fall short of providing hard evidence to underpin near-term value-creation initiatives or an explanation of how the asset is positioned to capitalize on long-term trends. Great equity stories address all three questions in a clear and sequential manner. Few assets benefit from a complex equity story, and few buyers have the patience to absorb hundreds of pages of reports.

Potential buyers can easily get spooked by a discrepancy between the story being told and current trading (the latest company financials). There is often a time lag between when sales materials are prepared and when they are presented, which can cause particular trouble where markets and businesses are volatile. For instance, one large international firm recently went to market with strong historical growth. It reached the final round of a sales process with a handful of committed bidders but had to halt final negotiations when market volatility caused a serious slowdown in current trading. The resilience of the business was a central component of its equity story, but the PE seller failed to make the volatility of the business known in its equity story. Because the PE seller didn't tackle this potential volatility risk head-on, the financial decline took bidders by surprise—leading them to question the lack of transparency and wonder if there were other parts of the story on which the sellers were opaque—and the sale process collapsed.

Take time to assemble the evidence

We found that the process for assembling the components of a compelling equity story is often unstructured. Typically, the deal team retains responsibility for the asset and sketches out an idea of how the story components might fit together; more often than not, it does so in conjunction with the management of the business. Ideally, an asset owner would conduct a readiness scan 18 months prior to the anticipated exit, and the team should have already agreed on the critical components of the equity story and how they fit together. A year or two of "runway" allows management and investors to create the most compelling equity story for the business.

The most appealing narratives are underpinned by real evidence. A crisp, evidence-based story might describe a future management initiative to expand into new markets or launch adjacent products. The story is more powerful when management can point to pilots, field trials, or other evidence that confirms the potential for creating value. One fund that owned a European entertainment business, for instance, believed a dynamic pricing model (like those of airlines) could create significant value. While there was insufficient time to roll this model out across the fund's network ahead of the exit,

[3] For more on preparing management to address potential problems and handle tough questions, see "Private equity exits," July 2018.

it was able to run a series of pilot programs that confirmed the new pricing model could result in a meaningful increase in revenue. What had been perceived as a rather tricky asset in a challenged industry was successfully and rapidly exited.

Tailor the messaging to the audience

Understanding who will be interested in buying and why is crucial and should influence the asset's story line. For example, yield-based businesses are completely different from development businesses. Consider software companies: if growth slows, multiples fall, and investors care less about the operating margin. Similarly, an asset's story would be different when targeting institutional investors on the stock exchange versus discussing a trade sale to a competing PE player.

On a more tactical level, it's necessary to tailor an equity story to the level of sophistication and awareness of the full range of potential buyers, educating them where necessary. Whether a fund is selling to the most sophisticated buyer or to one that is less so, the way a fund creates an equity story provides a chance to shape the way buyers think about the opportunity.

Because exits are critical in securing overall value, PE funds should consider how to instill the same level of discipline and rigor to exits as they apply to purchasing assets. While some firms execute great exit practices, there are still funds that do not consistently adhere to the basic elements underpinning a solid exit: creating an equity story with evidence of both the current and future potential of the asset, preparing ahead of time, and adjusting for context and buyers.

No one does this perfectly every time. But when PE investors approach their exits and create their equity stories more strategically, they have a better chance of extracting the greatest value from their investments.

Guillaume Cazalaa is an associate partner in McKinsey's London office, where **Wesley Hayes** is a partner and **Paul Morgan** is an associate partner.

Is a leverage reckoning coming?

Not yet. Despite rising corporate-debt levels, research shows companies can cover their obligations for now. But they should prepare for a possible downturn by stress-testing their capital structure.

by Tarun Khurana, Werner Rehm, and Anurag Srivastava

Economic analysts and policy experts have been sounding the warning bell about rising corporate-debt levels for the past few years. For instance, the former chair of the US Federal Reserve Board, Janet Yellen, has warned that companies (non-financial ones, in particular) are taking on too much debt and could have trouble meeting their obligations in the case of another financial crisis.[1]

It's true that in developed-market companies, leverage ratios (expressed as debt to EBITDA) have gone up, as have the share and absolute number of companies earning sub-investment grades from credit-rating agencies like Moody's Investors Service and S&P Global.[2] The analysts and policy experts chalk up these figures to companies' pursuit of share buybacks and other forms of financial engineering.

But a look behind the numbers tells a different story. In fact, our analyses indicate that downgrades of companies' credit ratings have not been significantly widespread, that much of the increase in sub-investment-grade companies is because of changes in newly rated corporate debt, and that most companies can cover payments on outstanding corporate debt as easily as they did ten years ago.

What a look behind the numbers shows

Strong economic growth and historically low interest rates in the wake of the 2008 credit crisis have allowed companies to increase the amount of debt they have taken on. Overall corporate debt in the United States grew from $2.3 trillion in 2008 to $5.2 trillion in 2018. But our research casts a counterintuitive light on discussions about corporate leverage in the United States.

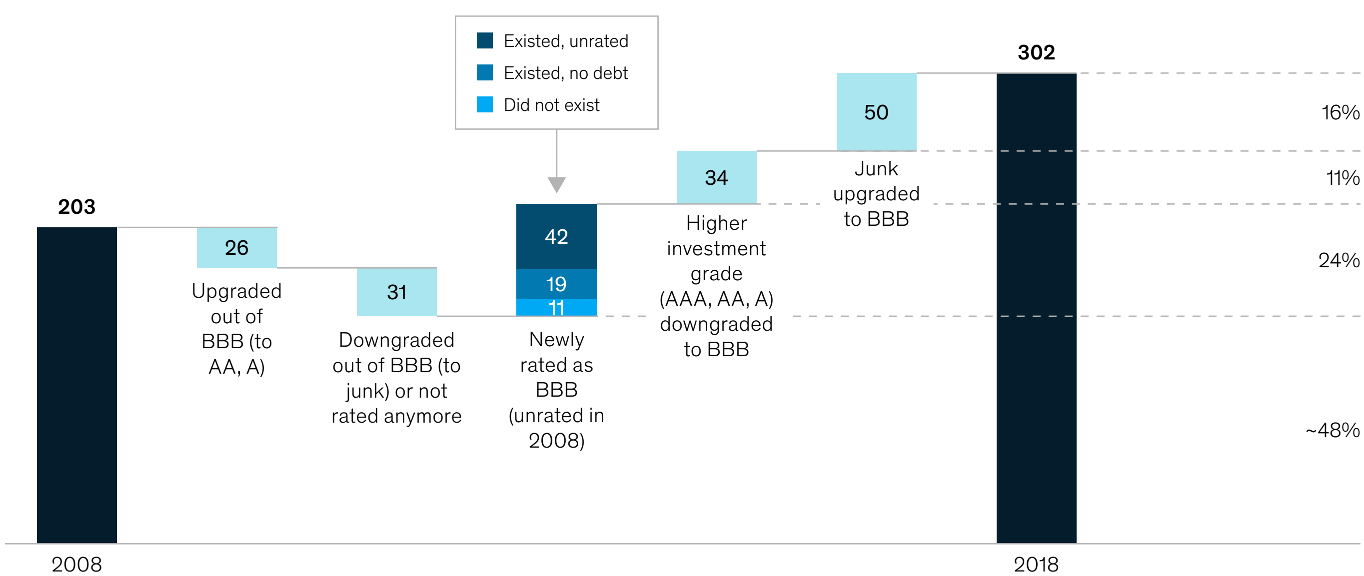
Our analysis of credit ratings, for instance, reveals that the general increase in sub-investment-grade companies is, by and large, not the result of widespread downgrades from credit-rating agencies; rather, it's the result of changes in newly

[1] Jeff Cox, "Yellen and the Fed are afraid of a corporate debt bubble, but investors still aren't," CNBC, December 11, 2018, cnbc.com.
[2] An investment grade (AAA, AA+, et cetera) is a rating that indicates relatively low risk of default of a municipal or corporate bond. Anything below investment grade (BBB+, BBB, BBB–, et cetera) indicates increased risk of default.

Exhibit 1

Most growth in BBB-rated companies has come from newly rated debt.

Changes in BBB-rated companies, 2008–18, number, % share[1]



[1] Figures may not sum to 100%, because of rounding.
Source: S&P Global Market Intelligence RatingsDirect

rated corporate debt. Consider that the actual number of investment-grade (AAA through BBB) US companies grew from 311 in 2008 to 445 in 2018. But of the 300-plus investment-grade bonds in 2008, only 36 were downgraded to junk status in the intervening years—five were moved from AA or A status, and 31 from BBB.

Our research also revealed that there were 203 BBB-rated companies in 2008. By 2018, 31 of them were at junk-bond status based on an explicit downgrade in rating, and another 50 junk bonds from 2008 were upgraded to BBB—thereby compensating for any changes (Exhibit 1).

However, more than half of the 72 newly rated companies in our database had debt in 2008 that was not rated. Similar dynamics are at play among BB-rated companies, where the absolute number of BB and below bonds has grown but about 60 percent are the result of newly rated corporate debt (Exhibit 2).

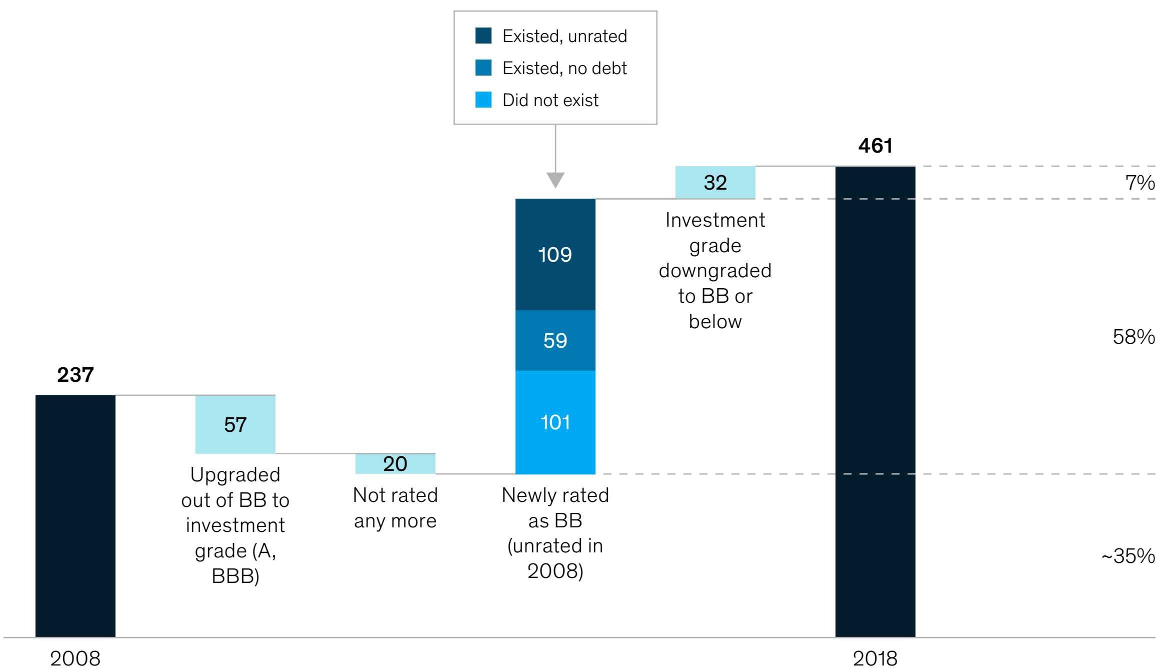
The upshot? The observed increase in BBB and junk-rated companies cannot be attributed to downgrades of traditional large corporations. Most low-rated corporate debt wasn't rated—or simply didn't exist—ten years ago. This suggests that many more companies than ever before are tapping into debt markets to take advantage of a strong economy and low interest rates.

Our research also revealed that between 2008 and 2018, companies' debt-to-EBITDA ratios

Exhibit 2

Most of the growth in BB-rated bonds has come from newly rated debt.

Changes in BB-rated companies, 2008–18, number, % share[1]



[1] Figures may not sum to 100%, because of rounding.
Source: S&P Global Market Intelligence RatingsDirect

increased moderately across all sectors, in part because interest rates were so low (Exhibit 3). However, our analyses also showed that median interest-rate coverage, another measure of a company's riskiness relative to current debt or future borrowing, remained almost constant during the same period (Exhibit 4).

A double click on the coverage data shows some variation in the telecommunications and energy industries—for instance, the coverage ratios for top-quartile companies in those sectors were markedly worse in 2018 than they were in 2008. This makes sense given weak pricing in the energy sector and greater consolidation among telecom companies. But based on our findings, it looks like most companies today can cover payments on outstanding debt as easily as they did ten years ago.

Moreover, companies' financial engineering is less of a factor in their leverage scenarios than industry pundits would have you believe. Our research shows that stock buybacks contributed to fewer

Exhibit 3

Companies' debt-to-EBITDA ratios are higher now than in 2008.

Debt to EBITDA by sector, 2008–18, ratio

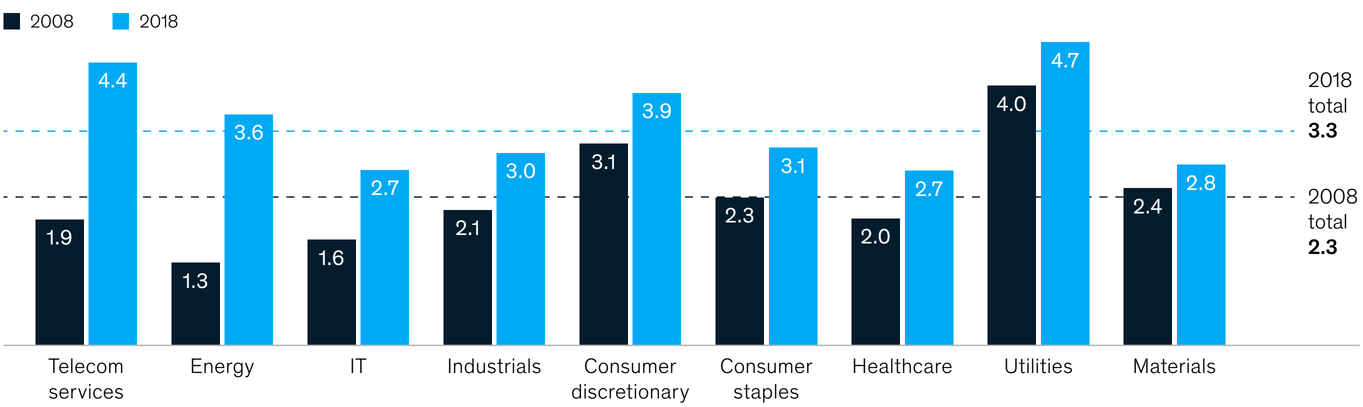
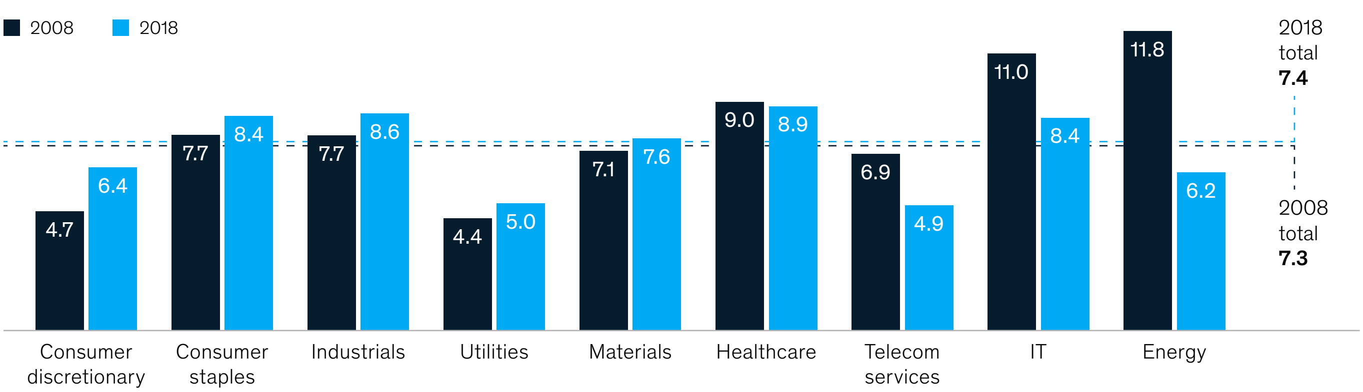


Exhibit 4

Companies can cover payments as easily today as ten years ago.

EBITDA to interest by sector, 2008–18, ratio



than 20 percent of companies' downgrades between 2008 and 2018. M&A has been a factor in half of the downgrades for investment-grade companies, and the presence of higher business risk (for instance, lower oil prices and weak retail spending) has been a factor in about a quarter of the downgrades. For junk-rated bonds, the weakening business environment has been a primary driver, according to our figures.

Finding balance

The evidence suggests that companies are not overleveraged—at least not yet. But what if interest rates increase again quickly? What if predictions of a sharp downturn in the economy in the next three years come true?[3] As Janet Yellen and others have warned, there is always the possibility that holding such high leverage could create difficulties for some companies. Our research, however, suggests that most companies have enough of a cushion to withstand economic or interest-rate shocks in the near term.

We estimate that about 75 to 80 percent of total corporate debt is in the form of corporate bonds, which tend to be fixed-rate investments. These are not typically affected by interest-rate changes until refinancing, and our estimates suggest that fewer than 35 percent of outstanding corporate bonds will need to be refinanced within three years. Overall, about 40 to 45 percent of the total outstanding corporate debt could be affected by higher interest rates by 2020 (if they come).[4]

Still, it's never a bad idea for companies to stress-test their strategic plans and investment strategies, keeping leverage in mind. Senior management should feel comfortable in the business's ability to service current corporate-debt levels under different scenarios.

Consider the case of a global consumer company: For many years, it had traditionally held little debt; its debt-to-enterprise-value rate was less than 10 percent. Over time, the company increased its debt levels to about 25 percent of its total enterprise value in order to make several crucial acquisitions. Once the dust settled on those deals, executives had to decide whether it would be more advantageous to return the company to its previous low levels of corporate debt or hold it stable at the higher level.

The company followed a standard process for pressure-testing its capital structure. That is, it built scenarios that looked three to five years out and forecast market momentum as well as a potential downside case (to adjust for the uncertainty of the economic environment and for future cash flow). For each scenario, it estimated financing deficit or surplus and a target credit rating. After plugging these data into cash-flow models, the company was able to determine the level of leverage that made the most sense and readjusted its mix of borrowing, repayments, dividends, and share buybacks and issuances to reflect its post-M&A reality.

In the shadow of recession, the "right" corporate-debt levels and capital structure will, of course, look different for different companies. Some may decide to issue very-long-term fixed-rate bonds to ensure near-term predictability of interest expense and maximum operating flexibility in case

[3] See Martin Hirt, Kevin Laczkowski, and Mihir Mysore, "Bubbles pop, downturns stop," *McKinsey Quarterly*, May 2019, McKinsey.com.
[4] To assess the impact of corporate debt on company resilience and risk in the event of a downturn, we considered two scenarios for the economy. One modeled continued growth, with 4 percent growth in EBITDA and the US Federal Reserve Board instituting aggressive interest-rate hikes. The other modeled extreme recession, with a decline of 13 percent in EBITDA, as experienced in 2008 and 2009, and increased interest rates.

Research suggests that most companies have enough of a cushion to withstand economic or interest-rate shocks in the near term.

of a downturn. Others may want to look at bond covenants—defining coverage ratios, for instance, or establishing restrictions on issuers' ability to take on more corporate debt.

For those companies that are dealing with borderline investment-grade ratings, it might be best to press pause on any increases in leverage for now, or to use cash flow to reduce leverage. Those businesses with low ratings might indeed struggle in recession. They may end up as targets for the larger, healthier companies that have both the debt capacity and war chest to pursue a countercyclical M&A strategy.

Like the analysts and economic forecasters, finance and business executives should heed the flashing red and yellow lights. They should use this time as an opportunity to pressure-test their investment strategies and financials. In fact, such pressure tests should be conducted regularly—because regardless of the economic climate, executives who have a fine-grained understanding of where they hold leverage will inevitably make better business decisions than those who don't.

Tarun Khurana is a consultant in McKinsey's New York office, where **Anurag Srivastava** is an alumnus; **Werner Rehm** is a partner in the New Jersey office.

Private equity opportunities in healthcare tech

Although private equity firms have been hesitant to invest in healthcare tech, they have reason to invest in promising targets now.

by David Champagne, Alex Davidson, Jamie Littlejohns, and Dmitry Podpolny

Healthcare technology companies have historically gotten less attention from private equity (PE) investors than they might warrant. Admittedly, healthcare tech is complex, making it difficult to understand the industry and identify good assets. Investors are already hesitant to invest in young companies. And many prospective PE targets in healthcare tech offer solutions in unproven markets that are vulnerable to disruption, further dampening investor interest. Investors may be especially dissuaded if deal sourcing and due diligence require substantial cooperation between interdisciplinary teams in healthcare and technology (see sidebar "What is healthcare tech?").

Despite these challenges, maturing healthcare-tech companies can be good targets for PE firms ready to apply rigorous analysis and invest in growing companies in European and US markets. Healthcare companies with a strong technology component are valued, on average, at 17.1 times earnings, compared with 14.9 times earnings, on average, across the industry, with lower multiples for companies without strong technological components—for example, pharmaceuticals average 15.1 times earnings, and healthcare providers average 11.4 times earnings (Exhibit 1).[1] In recent years, well-managed healthcare-tech companies have performed even better, with some exits at 23 to 25 times EBITDA.

Structural factors create opportunities for further growth. Healthcare lags behind other industries on digitization. This tardiness is due partly to the difficulty of managing the range of stakeholders, regulations, and privacy concerns involved in digitizing records and processes that affect sensitive information.[2]

However, the industry will soon have no choice but to catch up—fast. Various trends, including funding deficits in public healthcare systems and price pressures on pharmaceuticals, have driven healthcare players to seek ways to reduce operating costs and improve productivity.[3] Meanwhile, an increasingly complex regulatory environment means that digital solutions are the best way to ensure monitoring and compliance in some parts of the healthcare market. These burgeoning digital needs translate into significant opportunities for healthcare-tech providers, companies that provide technology-enabled solutions for healthcare-industry players. In fact, the first cohort of European and US healthcare-tech companies is now sufficiently mature for PE firms to consider as investment candidates. Especially attractive are ones that can become platform providers—entities that create and maintain the basis for data exchange, analytics, and user engagement.[4]

PE firms should invest in such companies now to capture disproportionate benefits. Here we highlight ways that these firms can identify winning healthcare-tech investments.

Time to invest in healthcare tech

Often stereotyped as a target more suitable for venture capital than for PE, healthcare tech sees relatively few deals, especially outside the United States. Healthcare-tech deals made up only 7 percent of European and US healthcare deal volume from 2015 to 2018, and 83 percent of global healthcare-tech deals occurred in the United States over this period (Exhibit 2).[5]

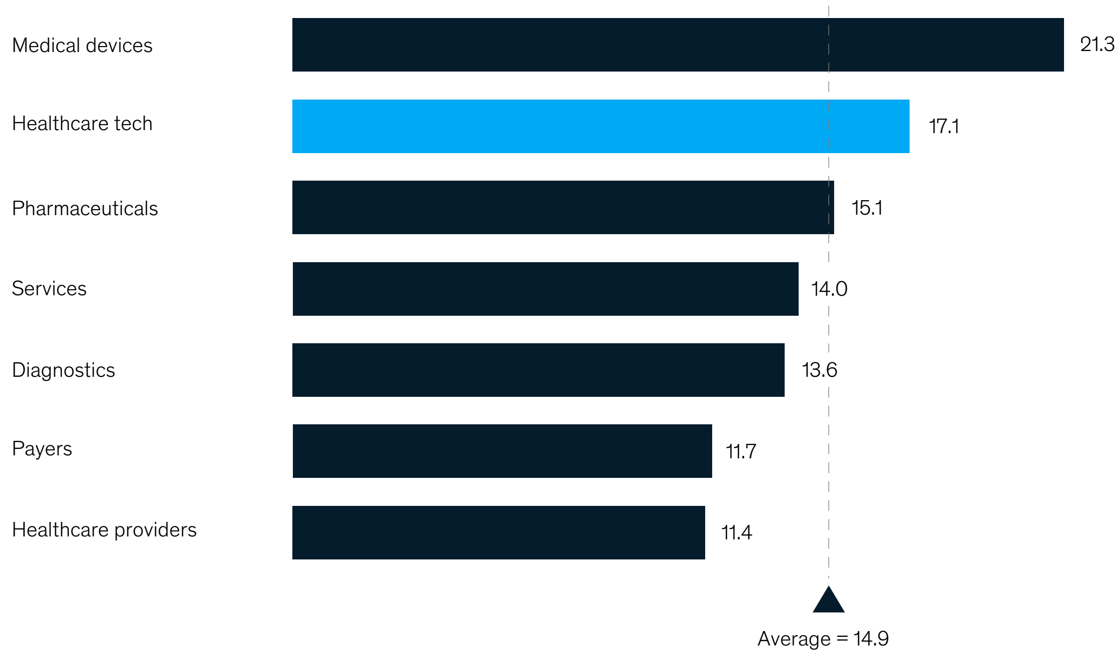
---

1 Dealogic. Multiples are calculated using data from announced (and not withdrawn) deals greater than $5 million for which transaction multiples are available. Only targets with target regions of developed economies in Asia–Pacific, North America, or Western Europe are included. Search terms for healthcare tech deals were "healthcare technology, software, and services" and "medical technology" and were then manually curated to match the definition of healthcare tech used in this article.
2 Stefan Biesdorf and Florian Niedermann, "Healthcare's digital future," July 2014, McKinsey.com.
3 Pooja Kumar, Edward Levine, Nikhil Sahni, and Shubham Singhal, "The productivity imperative for healthcare delivery in the United States," February 2019, McKinsey.com.
4 Elina Onitskansky, Prashanth Reddy, Shubham Singhal, and Sri Velamoor, "Why the evolving healthcare services and technology market matters," May 2018, McKinsey.com.
5 Preqin; press searches. Deal-volume data for all European and US PE deals in the healthcare sector were gathered using the Preqin database's classification. Likewise for healthcare-tech data, which was found by searching for the term "healthcare IT." There were no size restrictions for deals. All deals were closed between January 1, 2015, and December 31, 2018.

Exhibit 1

Healthcare-tech multiples surpass those of most other healthcare subcategories.

Developed countries' deal multiples by subcategory, enterprise value/EBITDA[1]



[1] Publicly reported, Jan 1, 2016–Jan 28, 2019. Announced (and not withdrawn) deals >$5 million for which EV/EBITDA transaction multiples were available; only targets with target regions of developed Asia–Pacific, North America, or Western Europe included.

Source: Dealogic; McKinsey analysis

Firms are reluctant to invest in healthcare tech for structural and cultural reasons, but discerning investors can find many opportunities in the industry, which is projected to grow 14 percent per year through 2023.[6]

Historically timid PE firms

Before PE firms invest in healthcare tech, they must adjust their mind-set about pursuing targets that are smaller than typical PE investments. What's more, investors are sometimes unable or unwilling to underwrite high multiples for healthcare-tech companies for fear that the assets are not worth their valuations. Venture-capital funding tends to bid up healthcare-tech companies' valuations, after which interested PE investors must compete against each other as well as established healthcare players for targets. However, the fear of unreasonably high multiples might be unfounded. Many healthcare-tech companies serve growing markets, and market positions, once secured—especially as part of a platform or suite of solutions—are often defensible. Such assets are worth their higher multiples.

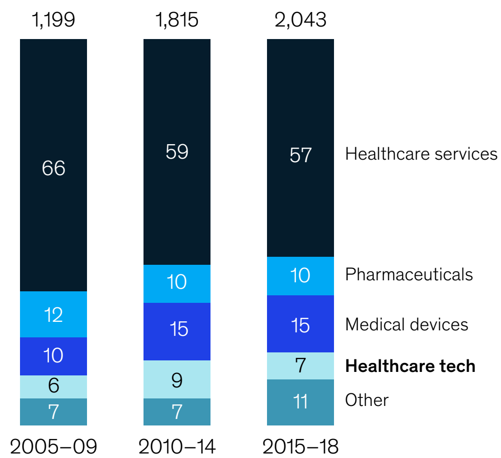
The fear of high multiples is related to the difficulty of identifying good assets from the large number of available deals and opaque markets. Due diligence in healthcare tech requires the ability to evaluate customer needs, competitive dynamics, regulatory pressures, differences among geographies, and emerging sectors—without a developed base of customers or many competitors as points of

[6] Rupali Swain and Sumant Ugalmugale, *Healthcare IT market analysis: Industry forecast report 2019-2025*, Global Market Insights, April 2019, gminsights.com.

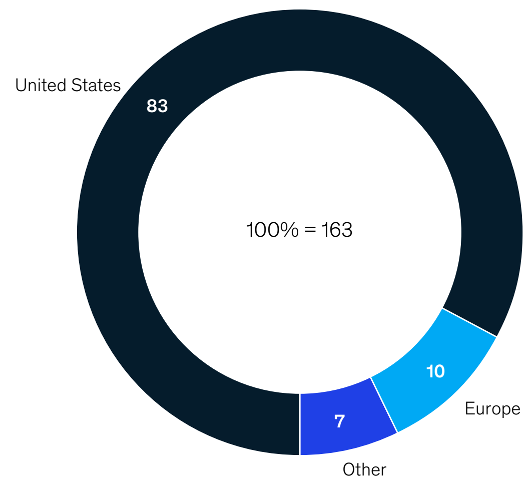
Exhibit 2

Healthcare-tech deals are still underrepresented in private equity deals compared with other healthcare businesses, with the United States driving most of the deal activity.

European and US private equity healthcare deal volume by subcategory,[1] % of total private equity healthcare deal volume (100% = total volume)



Healthcare-IT deal volume by region, 2015–18,[2] % of total private equity healthcare deal volume (100% = total volume)



Note: Figures may not sum to 100%, because of rounding.

[1] All European and US PE deals in healthcare sector as defined by Preqin, regardless of size, between Jan 1, 2005, and Dec 31, 2018.

[2] All healthcare deals in all regions in healthcare IT as defined by Preqin, regardless of size, between Jan 1, 2015, and Dec 31, 2018.

Source: Preqin; McKinsey analysis

comparison. It can often be difficult to obtain accurate and comprehensive information about the relevant markets, making due diligence challenging. Exacerbating the complexity of deal sourcing and due diligence is the difficulty of effectively coordinating healthcare and technology teams within PE firms.

Healthcare-tech investment from PE firms is also stymied by PE funds' fear of threats and disruption to healthcare-tech companies. Threats include industry enterprise players that can organically enter the field through preexisting relationships; disruptive start-ups; deep-pocketed, nonhealthcare corporates, such as large technology companies; and even customers' internal tools. However, careful due diligence that focuses on companies that are relatively insulated from short-term disruption can mitigate risks for PE firms.

Opportunities for PE firms

In the early days of the healthcare-tech market, most healthcare-tech companies presented more appropriate investments for venture-capital and growth-capital funds, but many are now mature enough to benefit from PE investment and guidance. Moreover, the first crop of healthcare-tech companies, many of which were acquired by growth funds between 2010 and 2014, will soon be ready for PE consideration as growth funds prepare to exit after a typical five-year holding period.

Maturing healthcare-tech companies have demonstrated a proof of concept, have won flagship customers, and are consistently profitable. The best targets for PE firms will come from the often-overlooked middle tier of companies that are unlikely to reach billion-dollar valuations but have the potential for double-digit growth. These

What is healthcare tech?

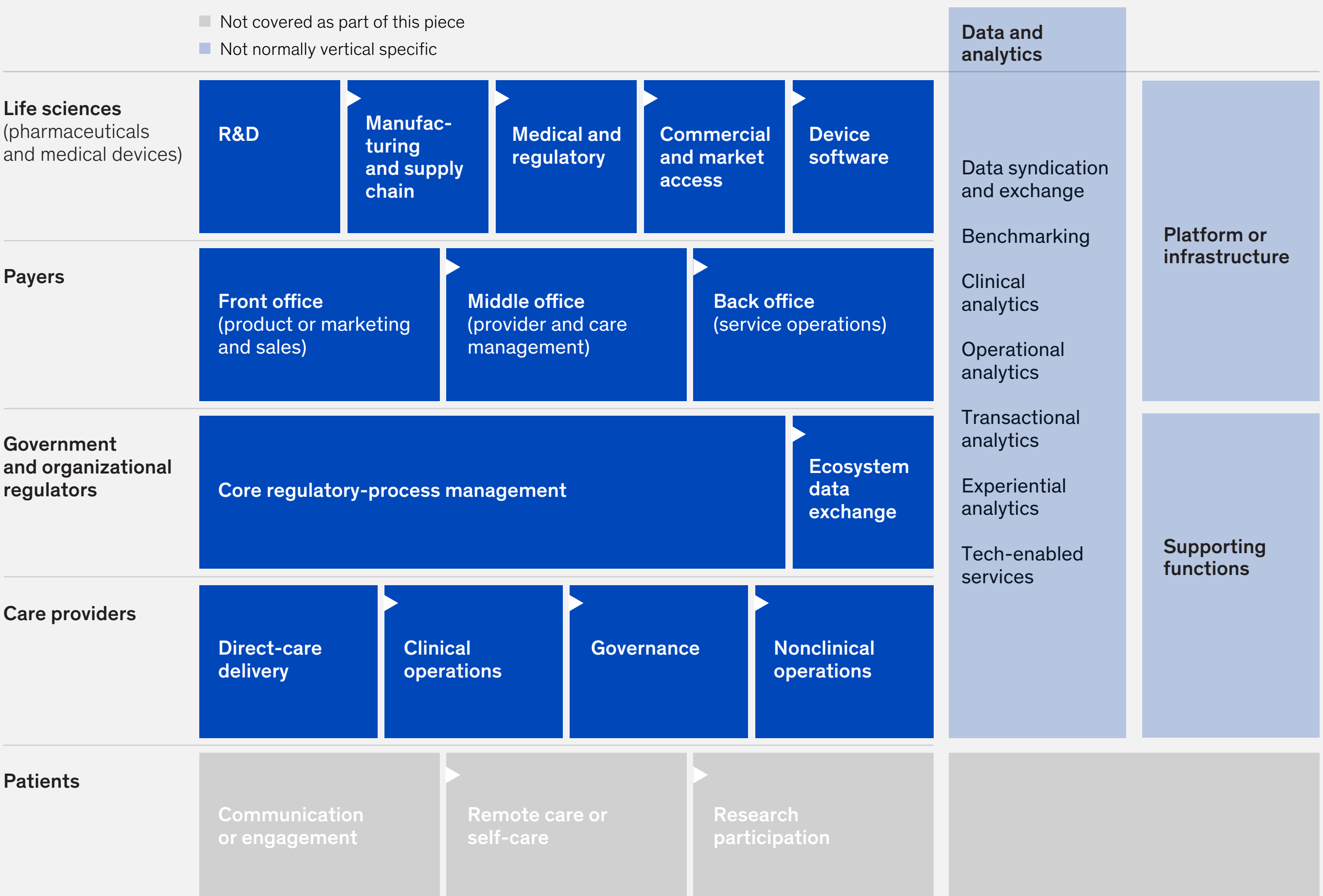
At its core, healthcare tech refers to technology-enabled products and services in healthcare. Distinct from medical devices and diagnostics, healthcare tech focuses on facilitating and enabling healthcare functions.

Healthcare tech is a vast, hyper-fragmented field. Individual companies may serve a specific vertical, such as pharmaceuticals, medical technology, providers, or regulators, in a portion of that vertical's value chain. In that context, individual companies usually fulfill a specific need—for example, digitizing core processes or providing digital health solutions. Healthcare-tech companies can provide or facilitate anything from electronic medical records to clinical-trial-management software (exhibit).

Nontech healthcare companies can sometimes have technological components that bolster their core (nontechnological) services or products. For instance, some companies provide services and products to support pharmaceutical companies' medical-affairs functions, which often come with a software tool, such as a work-flow-management tool for publications.

Exhibit

The healthcare-tech landscape is highly complex and fragmented.



companies can benefit the most from investment and expertise (Exhibit 3).

For example, electronic clinical-outcome assessment (eCOA), medical-affairs-process management, and patient safety are areas where midtier players split the market. Because many healthcare-tech solutions do not fully address customers' needs, good-to-great solutions can establish market-leadership positions relatively quickly, even with sales cycles that can stretch into years.

Other than optimizing midtier companies in fragmented subindustries, PE firms can identify companies that provide functionwide platforms. Incumbents and corporates are already trying to establish themselves as platform providers, and those that succeed are likely to become the standards for their portions of the healthcare value chain. These companies can then grow and cement their positions by providing analytics services for the data they gather. Because platform providers are exceptionally difficult to replace, companies need to become standard setters now and win disproportionate returns later—or position themselves to be acquired at a premium by the eventual platform provider.

Timing is an important factor, regardless of the submarkets PE investors decide to address. Healthcare digitization means that firms that invest in healthcare tech now rather than later are more likely to capture value from growth within crucial markets. Entering the market now also means that PE investors can more easily roll up assets in fragmented markets and build scale and market share.[7] In fact, healthcare-tech companies are already pursuing roll-ups: an eCOA company acquired seven small companies in the field between 2009 and 2017. Healthcare-tech companies in diverse global markets are pursuing similar moves (see sidebar "Creating value through M&A and roll-ups").

[7] A roll-up occurs when an investor acquires multiple companies in the same market and merges them.

Creating value through M&A and roll-ups

For healthcare-tech companies, strategic M&A and roll-ups can facilitate geographic expansion, allow companies to pursue adjacent business lines, and potentially monetize data.[1]

One British patient-safety-tech company combined with another in a different country to achieve a significant presence in their home markets. Similarly, a workforce-management company has successfully pursued acquisitions of companies that cover adjacent areas of healthcare-workforce management, including solutions for contingent-workforce payment and vendor management. Both of these approaches to expansion allow companies to gain scale and professionalize their operations more quickly.

However, safely gathering and monetizing data may be the ultimate accomplishment for healthcare-tech companies. For example, a provider of clinical-trial data-management software is moving into analytics and benchmarking by methodically acquiring companies that offer complementary products and services so that it can meet a wider array of customer needs and expand the amount of data it can aggregate. As the components of its larger business evolve, the company is attempting to create an additional revenue stream from data as a service and as a subscription product. The company further supported the move with the recent acquisition of an industry-leading data-management and analytics company. As a result, its enterprise value increased 14-fold in eight years. Thus, this approach can yield rich returns and augment an already strong position.

[1] A roll-up occurs when an investor acquires multiple companies in the same market and merges them.

Exhibit 3

Private equity can tap into a ‘forgotten’ midtier opportunity across the healthcare-tech landscape.

Most attractive area for private equity investors

	Life sciences	Payers	Governments or regulators	Care providers
Enterprise systems: established players of >$500 million revenue addressing enterprise-wide needs	Clinical-trial-management systems Procurement Customer-relationship management Core manufacturing systems	Pricing and underwriting analytics Provider-credentialing and -contracting software Enrollment- and account-management systems	Quality measurement and reporting Knowledge and content management Health-information exchange Public-health signals Postmarketing surveillance systems (can be built in house)	Electronic medical records (EMR) Picture-archiving and -communication systems (PACS) Facilities management Supply-chain management, including procurement Radiology-information system (RIS)
Established specialty players: systems specialized on a single task, established ability to address need, fragmented landscape of $20 million–$200 million revenue players	Electronic clinical-outcome assessment (eCOA) Risk-based monitoring Medical-affairs-process management Medical-information solutions Real-world-evidence (RWE) study design Regulatory reporting	Niche customer-relationship management Broker services Population-health-management solutions Healthcare value analytics Risk coding or adjustments Payment integrity	Adverse-event reporting Signal-detection tools and analytics	Patient-safety and quality-reporting systems Medicine or device tracking and monitoring Provider and vendor credentialing Contract and document management Retrieval of information Staff management Financial reporting Revenue-cycle management
Entrants or start-ups: ultraniche systems, unproven ability to address needs or generate revenue, hyperfragmented space of <$20 million revenue players	X-omics (eg, genomics, proteomics, transcriptomics) RWE aggregators Digital diagnostics and digital interventions (eg, apps)	Network analytics or population-health management Patient-facing engagement (eg, customer service, apps) Machine-learning-enabled payment integrity	Advanced-analytics-linked signal detection and analysis	Telehealth Disease-specific clinical-decision support Patient satisfaction or feedback

Maximizing the odds of success in healthcare tech

The best way to ensure success in sourcing and evaluating deals in healthcare tech is to have PE firms' healthcare and technology teams collaborate throughout the process. Unfortunately, this collaboration is sometimes difficult to achieve. Having teams with relevant industry and technical knowledge work together is not a new idea. But it is worth reinforcing how valuable it is for healthcare investors to retool their approach to incorporate technical expertise, including knowledge of the risk of disruption. Having access to both healthcare and technical experts will help investors evaluate the strength of the market as well as targets' core business and growth prospects.

Candidates must fulfill important needs in growing markets

Healthcare-company targets for PE firms should be neither start-ups nor enterprise systems, and they should address an unmet market need. A way to diagnose whether a product meets a need is to ascertain whether customers have identified the problem and asked for solutions. This method should eliminate companies that simply provide interesting software from consideration.

The best candidates demonstrate new revenue-creation opportunities, increase the efficiency of existing processes, and reduce costs or risks. For example, material-tracking software in clinical settings, especially in surgical and critical-care environments, can capture data that allow hospitals and healthcare providers to improve clinical performance, procurement processes, and material-management practices.

Attractive markets should be growing and have room for growth. Investors can identify such markets by their low technological penetration, high levels of paper use, and regulatory trends that encourage or force the use of technological solutions. These traits are especially important because of healthcare customers' "stickiness" and long contract cycles, which make new-business development critical to sustained growth.

The best markets for healthcare-tech companies that are interesting to PE investors are those that are not large enough to be appealing to enterprise players. In our experience, markets of less than $1 billion are safest for maturing healthcare-tech companies because they are too small to appeal to large corporate investors. Such markets should also present material barriers for entry. Acquisition targets' products may not necessarily contain proprietary code, but they should possess advantages that aren't easily replicated by entrants from other fields. Such advantages include user-friendly interfaces built based on privileged customer relationships and specialized knowledge of stakeholders.

The company and its core offerings must be well regarded

By the time a company is a target of a PE firm, its solution should be comparable to competitors' offerings in its ability to meet customer needs. This assessment will likely require a combination of technical reviews and in-depth customer interviews to understand customer perceptions of the solution. Technological assessments from PE funds' technology teams will also be necessary to confirm that the target has a sound, flexible tech stack (the frameworks and tools developers work with).

Strong targets must have a record of customer success, which can involve a soft element that requires due-diligence teams to use perception to arrive at insights that aren't necessarily reflected in conventional metrics. Due diligence must therefore go beyond standard measures of customer experience, such as customer-satisfaction scores, and include in-depth customer interviews to understand demonstrable customer impact and check for serious issues. Issues include risks such as high-impact events, often related to compliance, that could shatter credibility and damage key customer relationships.

Investors must also evaluate the company's operations to ensure that the right talent and processes are in place. Management should contain a mix of healthcare and technology experts who understand the solution and its opportunities for growth. Investors should also speak to nonmanagement employees to understand if best practices, such as agile methodologies, are embedded in the company.[8] To evaluate how well the company attracts and retains talent, investors should examine employee-churn data and interview a cross-section of employees for insights on the company's talent blind spots. If a PE firm decides to acquire a target, it must prepare to invest continuously in development—including talent, product, and customer service.

The company must be prepared and able to scale
PE-friendly healthcare-tech investments must be scalable. To keep up with growth, the tech stack must have the capacity for rapid increases in the number of jobs and users. To help the solution evolve as it scales, the company should have a clear road map for R&D, product improvements, and technology initiatives.

Similarly, the nontechnical components of the business must also be able to accommodate growth. To support increased demands, the company must have the ability to increase infrastructure, such as customer-service and implementation teams. As with technology road maps, the company should have a corresponding hiring plan, organizational structure, and training plan that accounts for future growth. Investors can learn about targets' scalability through interviews with functional leaders and in-depth, independent assessments.

Not all solutions can scale beyond their original use case, so investors must confirm that targets' solutions have avenues for growth. For instance, some payment-management systems are specific to their provider environments and countries or were created to meet esoteric regulatory demands in their original markets. The due-diligence process should help investors make sure that no vertical- or market-specific elements could make a product difficult to scale beyond its original context. If a team does plan to expand, investors should confirm that plans exist to mitigate credibly the risk of encountering hurdles in new markets.

Finally, healthcare-tech companies can grow by acquiring and repackaging proprietary data for their customers. Common uses of proprietary data are performance analytics and benchmarking. However, data-privacy regulations, the need for consent (often from patients), intellectual property, data quality, or simply a lack of customer participation often prevent companies from achieving this kind of growth. Companies that can overcome these common but substantial obstacles would have a rare advantage over their competitors that cannot aggregate and repurpose customer data.

European and US PE firms have a significant opportunity to capture value from strategic healthcare-tech investments. Investors that take decisive action while focusing on targets with growing businesses that compete in attractive markets, with strong prospects for growth, can benefit most. PE firms' trademark investment expertise and pursuit of continuous improvement in healthcare tech can generate investor returns while helping create better outcomes in healthcare.

[8] Santiago Comella-Dorda, Krish Krishnakanthan, Jeff Maurone, and Gayatri Shenai, "A business leader's guide to agile," July 2017, McKinsey.com.

David Champagne is a partner in McKinsey's London office, where **Alex Davidson** and **Jamie Littlejohns** are associate partners, and **Dmitry Podpolny** is a partner.

The authors wish to thank Roerich Bansal, Bede Broome, Fredrik Dahlqvist, Martin Dewhurst, Greg Gilbert, Basel Kayyali, Brandon Parry, Prashanth Reddy, Shubham Singhal, Eli Weinberg, and Brenda Zhang for their contributions to this article.

How private equity can maximize value in US financial services

The industry may be on the cusp of a new and less forgiving era. Private owners can take steps now to get ready.

by Krishna Bhattacharya, Amit Garg, and Abhilash Sridharan

Over the past decade, the US financial system has reached a state of robust health. However, the market is being fundamentally reshaped by five changes that have significant implications for financial-services and financial-technology companies owned by private equity (PE) firms:

— *Low yields continue to pressure margins.* For example, net interest margin at US retail banks has fallen from 83 basis points in 2010 to 53 basis points in 2018.[1] Further, today's economic expansion, the longest since World War II, may be entering its final phase. If so, the next downturn might be around the corner, with associated economic challenges.

— *Megabanks continue to outspend others vastly for technology, marketing, and so on.* Bank of America, to take one example, spends $1.5 billion annually on marketing; large US regional banks spend $80 million to $100 million on average. Most PE-owned financial-services companies are medium size and face pressure from their largest competitors.

— *The behemoths are particularly focused on investments in data and analytics, the new frontier of competition.* JPMorgan Chase has $5 billion earmarked for investment in fintech of all kinds, including analytics specialists. All of this spending is creating pressure on smaller rivals and has already led to a couple of mergers of regional banks. To be sure, the playing field has leveled somewhat, as data availability has increased, and the costs of data storage and computing have fallen radically. But most smaller institutions have not yet effectively used analytics to take advantage.

— *Customer expectations of financial institutions are being shaped by superior digital experience elsewhere.* Customers have outsize expectations from their incredibly easy and even delightful experiences with platforms like Amazon. Larger banks and insurers have made significant strides in their customer experience, but smaller ones still have some way to go to match these experiences.

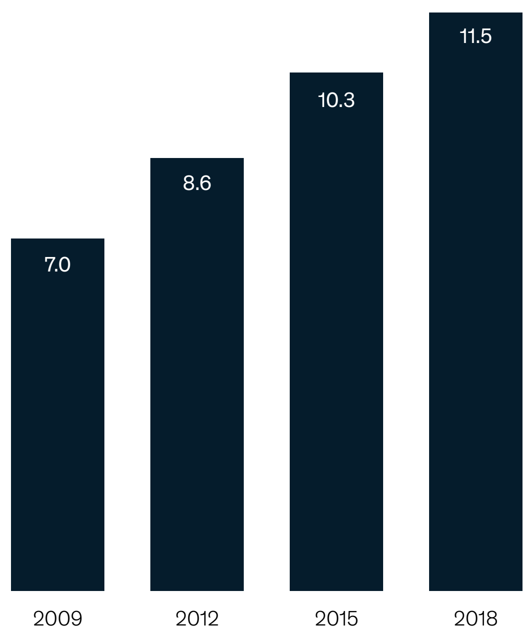
— *Some platforms (and many other e-commerce players) pose another challenge to financial companies.* Digital ecosystems are forming around core consumer needs, such as finding housing, saving for retirement, and others. Banks can lead these ecosystems or partner with others; both roles can boost growth and profits. But many sponsor-owned financial companies are doing neither.

Put it all together, and the next few years might be much more challenging than the recent past. And those rising multiples cannot be ignored: as they have crept up from 7x to about 12x, they provide a stark reminder of the market's expectations (Exhibit 1).

Exhibit 1

Multiples of private equity deals have risen steadily.

Combined debt and equity/EBITDA multiples of US private equity deals, 2009–18



Source: PitchBook Data

[1] Panorama by McKinsey.

To continue to justify multiples of 10x or more, PE-owned financial-services companies would need a combination of 10 percent or more top-line growth and a five-percentage-point expansion in margins.[2] While we believe that combination is possible, it is meaningfully ahead of current growth rates, and it suggests that firms will have to break the link with GDP that is characteristic of many financial-services markets.

To quickly unlock value through accelerated top-line growth and margin expansion, PE-owned financial-services companies can draw on a tried-and-tested playbook. In this article, we outline a sampling of moves that address the most acute challenges faced by private owners, and we offer case studies of work done by both private and public owners. These moves include steps to build revenue, trim the fat, and capture value from digital and analytics. We focus primarily on PE-owned companies in financial technology, consumer finance, and payments.

Driving above-market top-line growth

Organic growth is critical and is synonymous with performance and survival. McKinsey research has found that companies with more organic growth generated higher shareholder returns than those whose growth relied more heavily on acquisitions.[3] And growth is incredibly hard to sustain: only 9 percent of companies that grew faster than GDP were able to stay in the S&P 500 from 1983 to 2013.[4] Sponsor-owned companies can take three steps to accelerate and sustain top-line growth.

Optimize pricing to drive margins

Skills in pricing optimization, a strength of many larger companies, are often not fully developed in midsize sponsor-owned companies. This untapped potential is a considerable source of value. Over the past few years, new pricing models like subscription or pay as you go have gained favor. Our experience suggests that a comprehensive overhaul of pricing, including model design, governance, frontline change management, sophisticated analytics to take advantage of the unprecedented amount of pricing data, and other measures can improve profits by 7 to 10 percent.

A good first step in pricing optimization is to develop a comprehensive understanding of the relative profitability of customers and transactions, and the underlying root causes of leakage, using a pocket-margin analysis (Exhibit 2).

Armed with that knowledge, companies can make improvements. Two recent examples demonstrate the power of pricing.

A payments company suffered from an ad hoc and informal process to approve the pricing of new merchant acquisitions. Senior managers were not kept informed, and the company did not collect much of the data available that would help understand its pricing. It developed a statistical model to segment and score deals within each of its customer segments, and then it integrated the tool into its customer-relationship-management system. The deal-scoring tool suggests cross- and upsell opportunities, and it requires no extra effort from frontline sellers, who could seamlessly incorporate it into their daily routine. Use of the tool is tied to sellers' compensation. Once a proposal is accepted, the tool automatically administers the deal-approval work flow. The company has enjoyed an increase of 3 to 4 percent in the margins of deals covered by the tool.

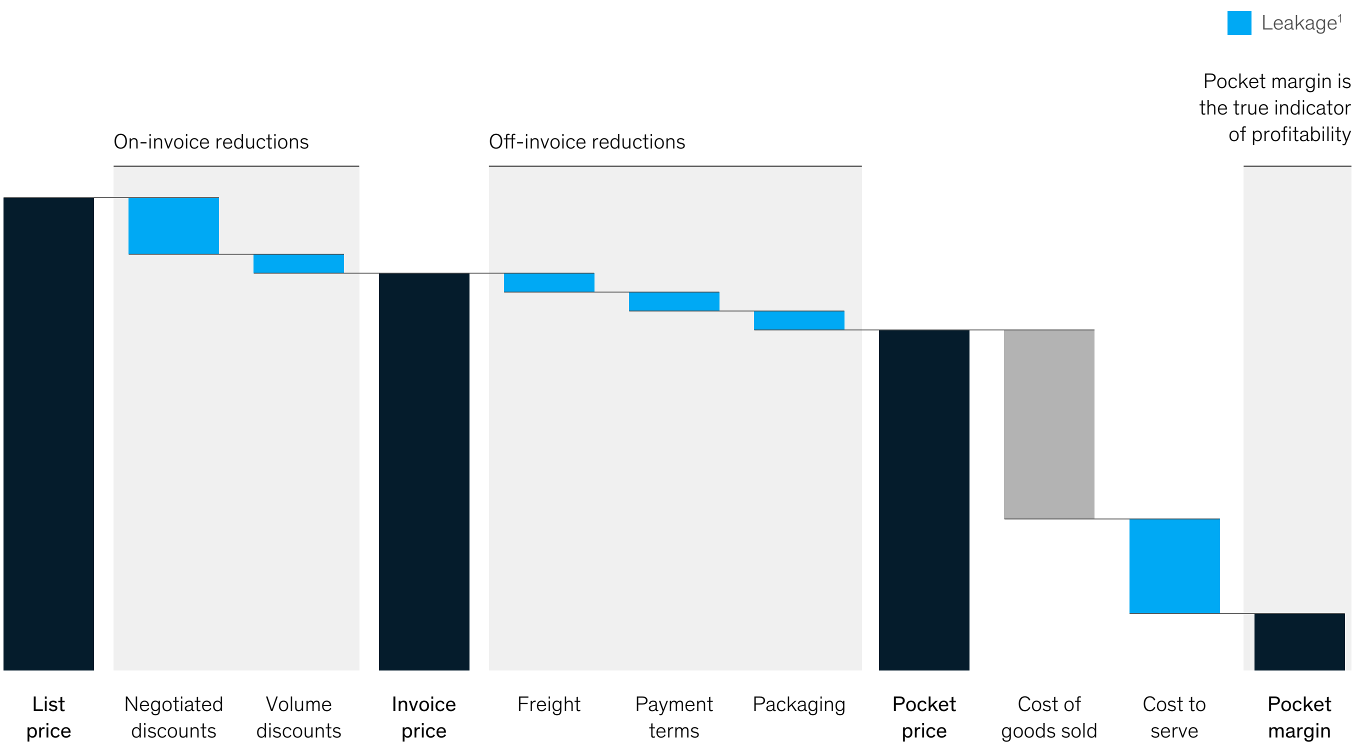
Like many other fintech companies, a US software provider was intently focused on acquiring customers and did not view pricing as a core revenue lever. Its sales-support processes and infrastructure were substandard: it had no list prices, no standard contracts, and little data and no process to assess pricing performance across accounts. To turn things around, it analyzed pricing across a group of similar customers managed through the call center. When this revealed significant variances, the company tested a few repricing tactics. It reset the list price at the 95th percentile of the range and established

[2] Scenario assumes no debt paydown and no multiple expansion.
[3] Marc Goedhart and Tim Koller, "The value premium of organic growth," January 2017, McKinsey.com.
[4] Yuval Atsmon and Sven Smit, "Why it's still a world of 'grow or go,'" *McKinsey Quarterly*, October 2015, McKinsey.com.

Exhibit 2

Pocket-margin analysis reveals opportunities to improve prices and reduce discounts and leakage.

Pocket-margin waterfall for pricing transparency, $, illustrative



[1] Influenceable by sales force.
Source: McKinsey analysis

a new floor at the 20th percentile. It also activated some fees, increased others, and reset the price of certain products. For larger accounts, it conducted account-planning sessions and analyzed the pricing opportunity to set new pricing thresholds and escalation rules. All these moves helped lift margins by 8 percent.

Turbocharge sales-force effectiveness

In our experience, many privately owned financial institutions struggle with ineffective sales forces. It's often difficult to persuade highly entrepreneurial field forces to adopt healthier sales practices. Institutions typically rely on compensation and other financial incentives, but they do not place an equal focus on culture and the need to shift away from localized practices and toward a universal best-practice approach.

A US financial institution lacked consistent sales and service practices, resulting in variability in performance and customer satisfaction. Vast distances made dissemination of best practices difficult, and inconsistent manager capabilities made traditional implementation options challenging. The bank created a program to build skills in prospecting, resource management, product knowledge, and understanding of customer needs. It invited the sales force to help with the design, generating significant buy-in and regional pull. It deployed these bankwide, using digital tools to accelerate the distribution. Early results include a material positive impact on customer-satisfaction scores, up 10 to 30 percent in many branches.

Drive retention

Systematic customer retention is among the most overlooked areas in financial institutions—although if done right, it can prevent customers from churning away and even lead to growth, typically 3 to 5 percent. Leaders in customer retention typically start with benchmarking to size addressable attrition and prioritize the products at greatest risk. Industrial-strength machine-learning models that use internal and external data, often fine-tuned with managers' expert knowledge, can predict the customers most likely to leave, with surprising accuracy. Leaders can then design programs to act on the model's recommendations and launch campaigns to spread the word and help the enterprise adopt the new behaviors.

A US bank took these steps to address a subtle form of customer attrition: retail mortgage prepayments. (While many banks routinely sell or securitize such mortgages, this institution kept most of what it originated.) It used both internal data (on the mortgage and the total customer relationship) and external data (from credit bureaus and real estate information providers) to build a machine-learning model featuring random-forest algorithms. The model identified high-risk customers (those most likely to prepay). The model identified 30 factors that drove risk of prepayment; applying those factors, it found the 10 percent of customers that were four times likelier to prepay. Other models helped identify the best way to reach these customers, such as phone or email contact, to explain the pros and cons of prepayment and offer modifications to payment amounts or loan terms, or home-equity loans. This resulted in a specific retention strategy and outreach approach for each client. All told, the project retained 3 to 5 percent of annual revenues that would otherwise have been lost.

Trimming the fat

Top-line growth is important, but so too is freeing money for investments to drive growth and for platform modernization. Several financial institutions have been reducing costs over the past five years, but in many cases, materially improved performance has not adequately improved the bottom line.

A better approach is a comprehensive productivity transformation, which can both cut costs and change the bank's narrative, painting an exciting vision of future industry leadership. Financial institutions that have permanently lowered their cost base have five traits in common[5]:

— *Think like an activist.* Incumbents think about their organizations differently from activists or acquirers. External actors are not attached to past decisions, which allows them to "cleansheet" costs. A fresh slate is often the only way to achieve a step-change reduction.

— *Leave no stone unturned.* Executive teams often pursue opportunities in a piecemeal fashion rather than programmatically. This guarantees an incremental result. Launching a bankwide effort signals this is a major undertaking, and everyone must contribute.

— *Bring the 'A team' and tightly manage the change.* The institution must assign its best executives to the effort, to signal that this is *the* top priority. It is critical for the A team to focus its energy on change management to ensure that the new ways of working are sustained.

— *Make tough choices.* Structural change is not achieved without tough choices—whether exiting businesses or making leadership changes to create and sustain a new cost culture.

— *Get granular.* While aspirations should be big and broad, institutions need a set of highly specific initiatives to ensure actions are clear.

[5] For more, see "The elements of success: A conversation with Jon Garcia and Wesley Walden," July 2019, McKinsey.com.

Typically, institutions that structurally change their costs have hundreds of initiatives, each worth $1 million to $2 million, to ensure their efforts are sufficiently tactical.

A nonbank financial-services company recently fundamentally transformed its distribution model (including its retail network, direct-to-consumer operations, and other channels). The company banked 10 to 15 percent savings from this comprehensive effort, which included changing branch models, redesigning the entire origination journey to reduce the time to close, shifting the direct-to-consumer operating model to drive efficiencies, changing collection-process strategies, and using targeted automation to drive more straight-through processing in the back office. Typically, such efforts require two years or so to capture full value. While that's daunting for some PE owners, 30 percent of the impact can be captured in the first year, making it a significantly self-funded transformation.

Transforming collections to stem losses

Since the last recession, US household debt has risen to $13.5 trillion, with auto loans and other non-real-estate debt at an all-time high. Yet, despite the growing risk, collections is often managed like a cost center—and a struggling one at that. The predominant practices are "carpet bombing" the customer with phone calls, lots of manual work, and some limited segmentation and analytics. None of these fit in today's omnichannel customer model.

None of this has mattered much so far. But should a recession strike, a lax approach to collections will be expensive. To avoid such a situation, private managers should consider building a next-generation collections operation. Automating manual tasks across the loss-management cycle can free up capacity to be redeployed to more value-added tasks, such as building predictive models to identify the best way to contact customer microsegments.

A large, PE-backed consumer-lending company operated primarily in North American subprime markets. New regulations had reduced effectiveness—for example, as the company moved more fully into compliance with rules regarding customer interaction, performance suffered. The company wanted to address the problem, more broadly improve its performance on collections, and prepare for rapid growth in volumes it expected from a new product, installment loans. The company identified several levers to reduce charge-offs, including analytics to segment customers based on value at risk, a program to build frontline capabilities, new multiyear payment plans, and the use of huddles and dashboards at various levels of the organization. The lender also developed significantly different strategies for payday and installment loans, including different segmentation, contact, and resolution approaches. The program is expected to improve dollars collected by up to 17 percent.

Capturing value from digital and analytics

Portfolio companies must create a basis on which to compete successfully with larger companies, defend their turf from digital disruption, and improve customer experience through investments in digital, analytics, and technology. Repositioning the business for the future involves three prominent elements (Exhibit 3):

— reinventing core commercial processes—for example, by shifting acquisition and marketing to digital platforms, applying analytics in sales, and digitizing processes

— improving operational processes, including better prediction of demand for service through analytics of third-party and internal data; better demand and supply matching through behavioral analytics in call centers, collections, and other service-operations areas; and other techniques

— modernizing the core technology platforms—for example, by ensuring high data quality via a "single source of truth" and moving more work to the cloud

A privately owned US credit-card provider transformed itself in all three ways to address a critical decline in its customer-acquisition rate. The

Exhibit 3

Digital transformations cover multiple levers and timelines, and they typically touch every part of the organization.

Digital adoption and value capture

Digital strategy, overall and by business unit
- Disruptions
- Attackers and defenders
- Value-chain opportunities

Advanced analytics (AA) as competitive advantage
- Identify competitive advantage
- Decide which data to use and why
- Determine how to use data

New-business models
- New businesses
- New channels
- New products

Commercial processes
- Acquisition and digital marketing
- AA-assisted sales
- Sales digitization

Operational and back-office processes
- Demand prediction
- Inventory optimization
- Predictive maintenance and asset inspection
- ERM[1]-driven financials or HR
- Robotic process automation

Replatforming data domains for enhanced performance
- Market
- Customers
- Web and social media
- Suppliers
- Asset and sensor
- HR; people

The agile organization
- Skills required
- Talent
- How to work
- Structure of organization
- Culture

Technology modernization
- Application development
- Data management
- Infrastructure
- Future technical environment
- Cybersecurity

[1] Enterprise risk management.

prospecting model it used in its main acquisition channel, based on FICO scores, suffered from deteriorating performance; other parts of the operation had also broken down. To address the issues, the company identified four changes: in customer segmentation, response to customer inquiry, approvals, and enrollment. Critically, it changed the basis for model segmentation from FICO scores to customer behaviors aligned with its marketing strategy. The provider built five distinct response and approval models for new customer segments and witnessed a 6 to 8 percent uplift in customer acquisition.

While pursuing a digital and analytics transformation, PE-owned financial-services companies face several challenges. One of the biggest is identifying the handful of digital opportunities with the greatest potential. Another problem is finding a source of funds to invest in these digital capabilities. Managing the investment can be tough, especially as the potential for cannibalization arises when new products compete with old and when digital channels see more traffic than older channels. PE firms also struggle at times with the need to "replatform" their legacy IT to compete successfully; most small and midsize companies have poor IT environments. Finally, attracting top tech and digital talent is harder for these companies than for their larger competitors.

To get past these obstacles, our experience suggests that a few behaviors are essential. PE owners need to be more hands on to maximize returns. Portfolio companies will also benefit from up-front guidance and support and from pooled resources. Working closely with the business may offer a chance to create a repeatable playbook for digitizing other companies in the portfolio.

Second, the implementation approach for every digital initiative should be centered on some common elements, such as rapid opportunity identification, understanding of the value at stake, a repeatable approach to replatforming technology, mindfulness about sustaining skills and capabilities, and strong choices in partnerships and technologies.

From our transformation experience with many portfolio companies, we find five common actions are needed for success. Companies need to aim high, by setting ambitious targets. They should staff a change-oriented management team supported by best-in-class, external subject-matter experts. Time to impact can be sped up by relying on a tried-and-tested playbook and execution coaches. Companies need to push the boundaries of what is possible by trusting data and benchmarks as opposed to gut instinct. Finally, they need to put together a governance model that emphasizes value and not process.

Krishna Bhattacharya is a partner in McKinsey's New York office, where **Amit Garg** is a senior partner and **Abhilash Sridharan** is a consultant.

The authors wish to thank Stephen Moss and Davide Tesini for their contributions to this article.

A turning point for real estate investment management

As institutional investors flock to real estate, investment managers must avoid getting stuck in the middle of the market—too big to be nimble yet too small to reach scale.

by Ju-Hon Kwek, Andrew Min, Thomas Mustier, Aditya Sanghvi, and Brian Vickery

At $3.1 trillion in assets under management (AUM), real estate is one of the largest alternative asset classes (Exhibit 1). Sustained, high single-digit growth in AUM has been driven as much by investor appetite as by strong asset-class performance. LP allocations nearly doubled from 5 percent in 2005 to 9 percent in 2017.[1] Investors have flocked to the asset class because of the perception of equity-like returns, relatively high cash yields, and lower correlation with broader capital markets.

Even after massive capital inflows, the sector continues to enjoy a structural tailwind, as LPs remain underweight relative to long-term targets (Exhibit 2). One reason might be that, as LPs have told us, few managers are well positioned to meet their evolving needs and to give LPs confidence in alpha generation at a time when capitalization rates are low. Still, recent surveys indicate that many LPs expect to increase their allocations to managers they trust, and capital appears likely to continue flowing from new sources (for example, retail investors).

How exactly are the needs of LPs evolving? We see four trends:

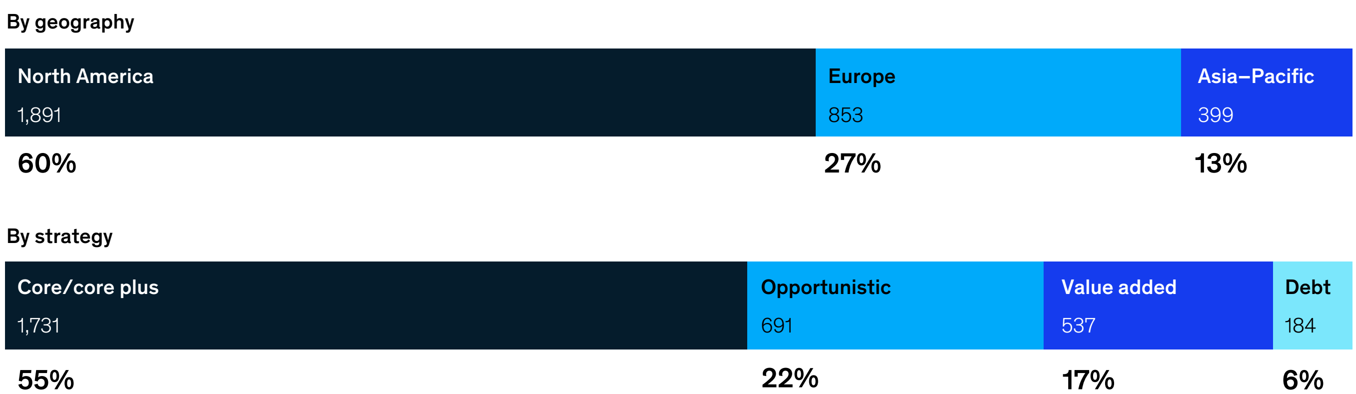
— *Risk off, yield up.* As a share of their real estate allocations, LPs have traded down the risk spectrum in the years since the global financial crisis. Allocations to core, core-plus, and debt strategies have grown more quickly than value-

[1] Preqin.

Exhibit 1

Real estate is a $3.1 trillion asset pool.

2018 real estate investment management market,[1] $ billion (total market size: $3,143 billion)



[1] Gross assets under management (excludes listed securites).

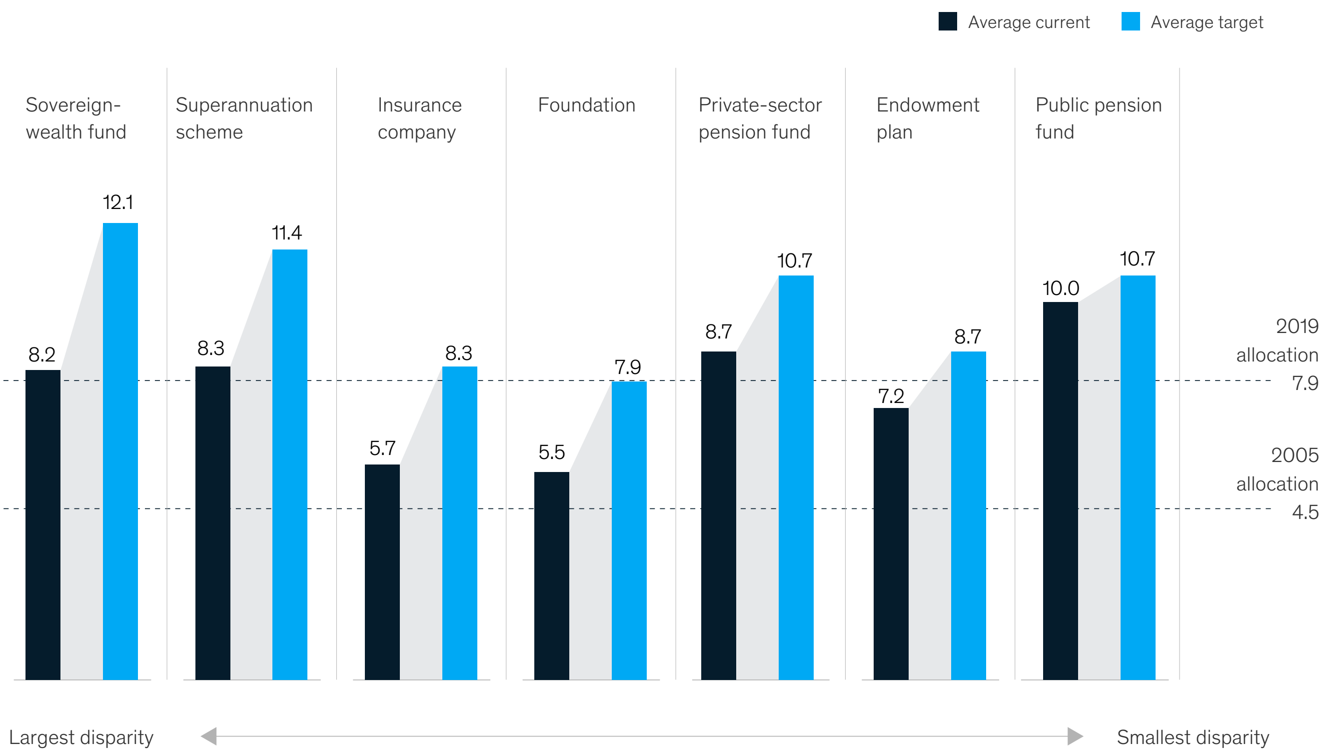
Source: Institutional Real Estate; IPD Global Quarterly Property Fund Index; Preqin; McKinsey analysis

Sustained, high single-digit growth in AUM has been driven as much by investor appetite as by strong asset-class performance.

Exhibit 2

Real estate allocations have room to grow.

Investors' average allocations to real estate in 2019, %



Source: Preqin; McKinsey analysis

add, opportunistic, and distressed strategies (Exhibit 3). One likely reason is a search for yield, as many investors have rotated away from sustained low yields in traditional fixed income. Even with recent Class A stabilized cap rates in the range of 5 to 7 percent, core real estate has provided a 200- to 400-basis-point spread over ten-year Treasuries (and also did well through the last downturn).[2] While that has attracted much interest, lower expected returns in core strategies, driven by compressed cap rates, have prompted a shift to core plus. One early-moving core-plus fund has grown massively, and others are quickly following. For LPs, core plus might be said to combine the yield of core with the opportunity to outperform the leading benchmark[3] referenced by most pensions and their investment teams.

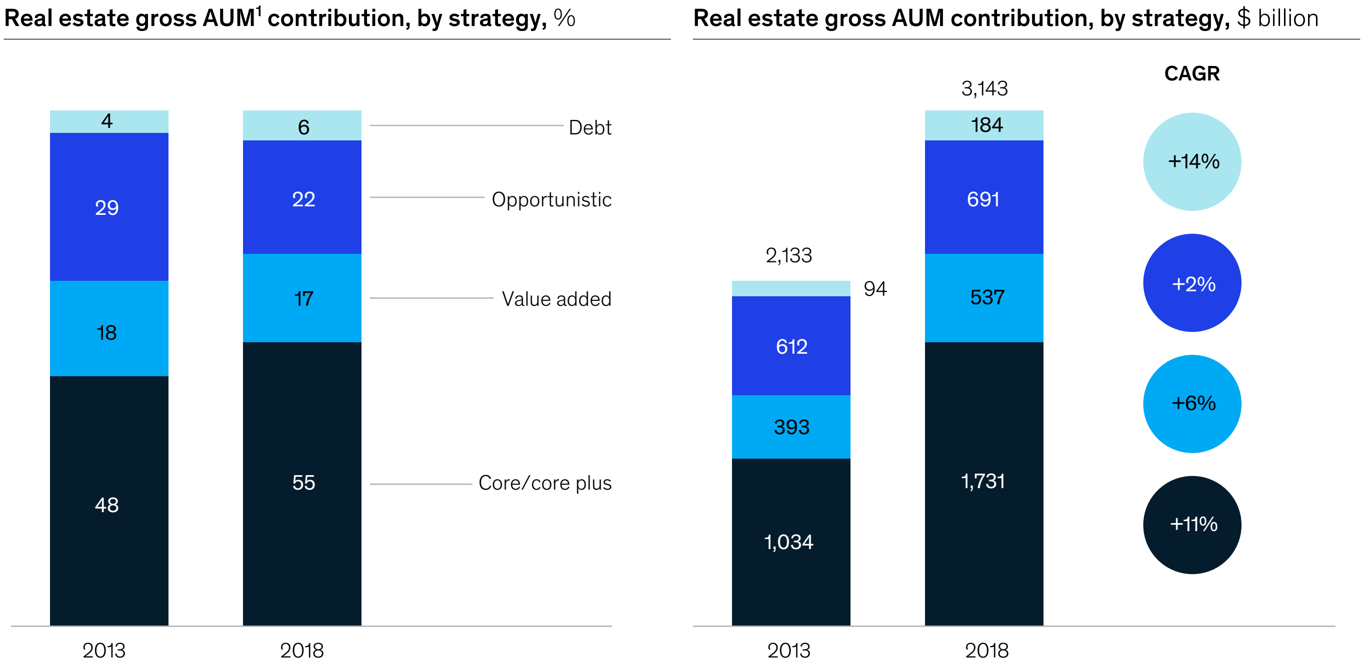
— *Long-term capital deployment.* Open-end funds have grown at 18 percent annually in the past five years, as GPs have favored capital without a set hold period. Their share of core and core-plus investment grew from 21 percent to 28 percent during that time (Exhibit 4). Private equity–style closed-end structures are not dead; indeed, fundraising has recently accelerated, particularly for opportunistic funds. But the permanent nature of open-end vehicle capital and incremental cash flow over time have led to greater share for these vehicles. In keeping with the broader shift across most private markets, the traditional drawdown vehicle has lost ground to more flexible structures.

— *Growth in direct investing.* Many larger, at-scale LPs have built in-house capabilities, increasing control and discretion through separate accounts, discretionary sidecars,

[2] "North America Cap Rate Survey H1 2019," CBRE, Half 1 2019, cbre.us.
[3] The NCREIF Fund Index – Open End Diversified Core Equity (NFI-ODCE), based on more than 35 large open-end and commingled core US real estate funds.

Exhibit 3

Flows are shifting to income-oriented strategies.



Note: Figures may not sum, because of rounding.

[1] Assets under management.

Source: Preqin; McKinsey analysis

coinvestments, and direct investment through large-scale joint ventures (JVs). Others are tying up with operating companies, either by buying them outright or by investing through exclusive agreements. By increasing allocations to more-direct strategies, LPs both lower their costs and retain greater control over decision making and cash-flow timing—both attractive attributes. Many large LPs will continue to invest in funds and look for partners that can service their full range of needs (such as one-off development JVs). Smaller LPs (which represent the majority of capital) still rely on commingled funds.

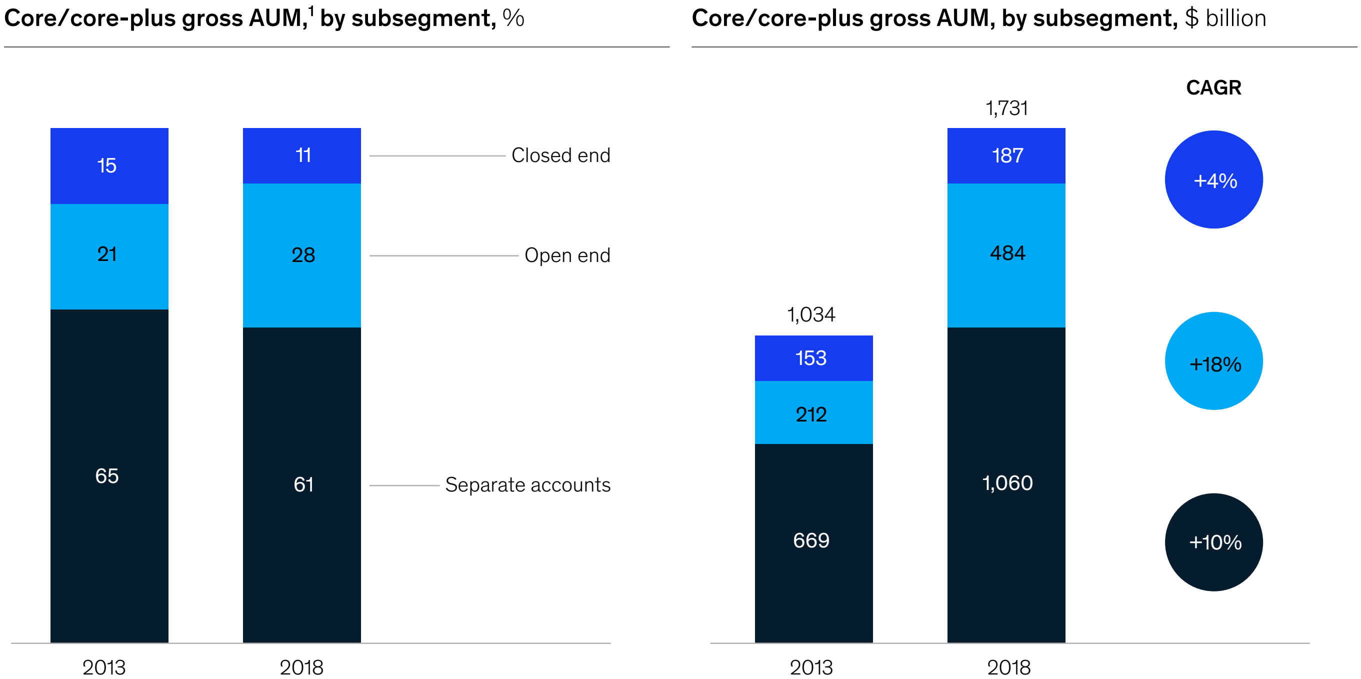
— *Net returns, not just gross returns.* LPs are looking for ways to get exposure to real estate but will only pay for higher cost structures that also deliver consistent alpha. While some managers are meeting that need, the push for lower costs has led to rapid growth in AUM of several very large investment managers (IMs)—most notably, funds sponsored by insurance companies and traditional asset managers, both of which often benefit from balance-sheet capital and in-house distribution networks. These embedded advantages provide scale economics to these players, allowing them to compete with relatively low fee structures (typically without a promote). As these investors grow larger, and the institutional-investment landscape grows increasingly fee averse, managers with higher cost structures will be further pressed to justify their fees through differentiated value propositions and proven ability to outperform through cycles.

How can investment managers respond?

The needs of LPs are evolving, and some managers have adapted better to the new environment. A few such firms have collected more capital—and have transformed this newfound scale from a simple outcome of their success into a genuine competitive advantage. Other managers have distinguished their

Exhibit 4

Within core, capital has shifted to open-end funds and separate accounts.



[1] Assets under management.
Note: Figures may not sum, because of rounding.
Source: Preqin; McKinsey analysis

firms by developing unparalleled expertise (and, often, operating capabilities) in niche segments (see sidebar, "The evolving landscape of real estate investment management").

Across the spectrum, from niche to scale, LPs' changing needs are resetting the industry's dynamics. In response, we see five ways for IMs to differentiate and grow profitably:

— *Meet investors across the risk spectrum.* Capital has shifted to core and core-plus strategies, but many of those dollars are run by managers that have moved down the risk spectrum to meet investor demand. Gone are the days of single-strategy at-scale managers in real estate and across private markets. Winners today are flexible in what they do, and excellent opportunistic investors can convince investors that they can perform in value-add or core-plus strategies (as evidenced by capital flows). In our view, the lesson is not just about meeting the current demand for core-plus strategies but also about building the capabilities to play across the risk spectrum, using their hard-earned reputations and investor relationships to play an outsize role in LP portfolios, regardless of market conditions and favored strategies.

— *Build analytics capabilities.* Real estate investors and operators sit on an enormous set of data about each of their properties and many more in the industry. Further, nontraditional data sources promise to illuminate even more insights. Are multifamily rents in a given zip code more sensitive to the number of five-star restaurants in the area or to the proximity to gas stations? Answers to such questions are now knowable, and forward-leaning managers will create a meaningful data advantage from simply utilizing what is already captured, even when stored in cumbersome formats. Underwriting with data-backed conviction could help managers pick better buildings and invest in second-tier cities, out-of-favor submarkets, and emerging specialty segments, expanding the opportunity set. Furthermore, the use of data to drive tenant selection, revenue management, and so on can produce significant operational outperformance and free up cash for capital investment.

— *Build a set of strategic anchor partners, complemented by a long tail of investors.* Large institutional investors are looking for strategic relationships with managers in which they can deploy big pools of capital across a range of opportunities and access a range of services that go well beyond the product, such as research, analytics, and advice on their portfolios. IMs that build global relationships with a few top LPs as anchors will have advantages when launching new strategies and investing in new geographies. Vertically integrated managers that can partner with LPs for both their direct and traditional needs may be particularly advantaged.

The evolving landscape of real estate investment management

Of course, what it takes for investment managers to win will vary by their model. Today, real estate investment firms can be broadly distinguished along two dimensions: investment scope and degree of vertical integration (exhibit). Firms' scope ranges from at-scale offerings (delivering products across food groups, or property types, in multiple regions) to specialist offerings (in a single asset class or single region). Their roles range from pure capital allocators (relying on third-party operators to source, execute, operate, and dispossess) to vertically integrated players that do it all. Each of the resulting four segments requires a different set of competencies to win.

Many of the at-scale allocators are financial-services firms, such as insurers, which have large balance sheets and have historically deployed part of their captive capital reserves into real estate. Over time, many have accepted external capital to get more leverage from their high-quality investment teams, complete more and larger transactions, and capture investment-fee income. Winning as an at-scale allocator requires three assets: the ability to acquire portfolios (rather than single assets) systematically, a high-speed investment process to deploy capital rapidly, and low-cost infrastructure.

Many alternative asset managers are specialist allocators. Such firms tend to cross-sell real estate with other alternative assets, such as conventional private equity and direct lending. They excel at identifying opportunities and at financial engineering, relying on operating partners to develop, renovate, and manage the assets from day to day. The most successful specialist allocators have trusted relationships with a narrow set of operators; these arrangements typically offer true proprietary deal flow and reduce the need for operator diligence, cutting the time needed to bid for and win a deal. They also focus creatively on specialty real estate and building operating platforms.

Specialist operators are typically investors and developers with committed third-party capital that execute targeted investments within specific niches—often at the intersection of an asset class and region. These firms win when they possess deep operating expertise—often, proprietary site-selection skills, best-in-class asset management, or disciplined capital expenditure.

Finally, generalist operators combine operating expertise and scale across asset classes and regions. Very few firms have succeeded in joining this segment, and indeed, the segment itself has emerged only fairly recently. To excel, firms must combine at-scale investment processes for both single assets and portfolios, operating capabilities to generate alpha, and an in-house fundraising machine capable of both flagship funds and smaller vehicles. Those few that have succeeded, however, have done so in an outsize way, reflected in both the top line (where they attract capital faster than others) and the bottom line (where they capture more fees than others, in the form of asset-management fees as both the capital and operating partner, and asset-level fees). In the future, this segment is the one where we expect breakout asset growth to concentrate.

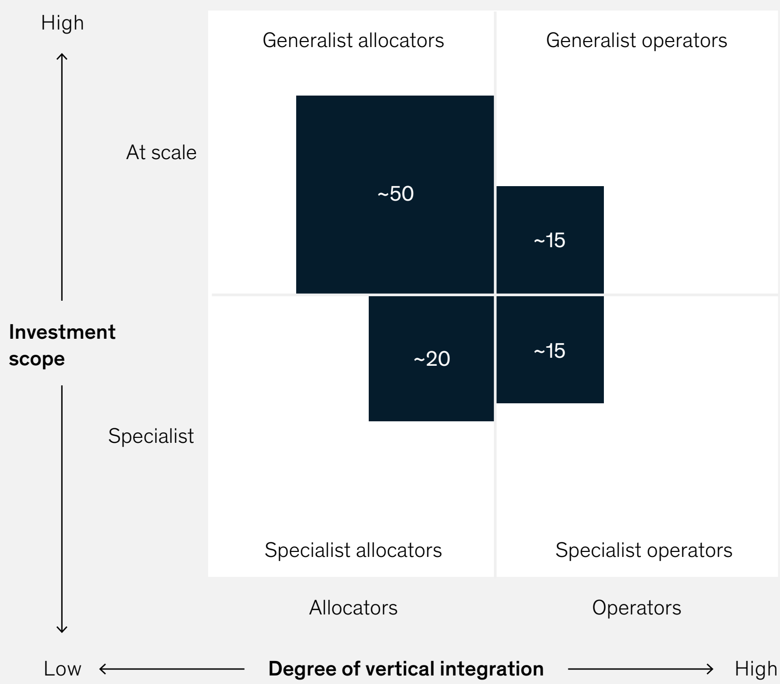
LPs, for their part, have more choices than they've ever had, including managers, asset classes, fund structures, coinvestments, separate accounts, joint ventures, and more. As the landscape evolves, understanding the strategy employed by each manager may help inform the search for investment performance.

The evolving landscape of real estate investment management (continued from page 70)

Exhibit

A new GP landscape is emerging in real estate.

Real estate investment management (REIM) assets under management,[1] %



Generalist allocators

- Massive scale and low costs allow competition on the basis of lower fees (requiring continuous scale to combat ongoing margin compression)
- Usually need capability to acquire portfolios (not just assets) systematically and high-speed investment process for capital deployment

Specialist allocators

- Excellent at opportunity identification and financial engineering (relying on operating partners for execution); often cross-sell real estate with other alternative asset classes (eg, private equity, direct lending)
- Generally have trusted relationships with a narrow set of operators

Specialist operators

- Targeted investments in their niche (often at the intersection of a subsector and region)
- Competitive advantage underpinned by value-accretive expertise (eg, site selection, property management, capital-expenditure deployment)

Generalist operators

- Combine operating expertise and scale across subsectors and regions
- Require at-scale investment processes for assets and portfolios, operating capabilities to generate alpha, and in-house fundraising machine

[1] Includes both captive and raised capital. Excludes open-ended funds.
Source: Institutional Real Estate; IPD Global Quarterly Property Fund Index; Preqin; McKinsey analysis

Anchor partners are helpful but not sufficient. They jump-start funds and fundraising—but typically at discounted rates. A longer tail of investors is required for funds to reach profitable scale. Such investors typically invest in funds only. Winning with the long tail requires a credible track record and an exceptional sales force—something many managers lack. Retail, in particular, is a significant opportunity: we estimate that, in the United States, high-net-worth investors' unmet need for private real estate ranges from $50 billion to $100 billion. Accessing this capital requires matching investment products with liquidity needs (as private real estate investment trusts do) and partnerships in the right channels (such as wirehouses, private banks, and retail investment advisers). In this way, IMs can use centralized, shared resources to create scale economics to access an investor base that pays nondiscounted fees.

— *Invest behind transformative themes to reach scale.* With large-scale demographic shifts and significant changes in how we live, shop, work, and play, disruption has come to every food group. As an example, the aging stock of core office towers in major cities was not constructed to meet the demands of open floor plans, shared spaces, or short-term leases. Beyond traditional segments, these contemporary needs are also increasing the demand for specialty products (such as data centers, senior housing, and e-commerce distribution centers). Especially in the late stage of the cycle, IMs cannot sit around and wait for the perfect asset to arrive. They must focus on proactive theme generation and find portfolios of assets to deploy capital at scale.

— *Go international.* Leading GPs today are truly global, with acquisition and operating capabilities around the world. The most successful managers are replicating their successful domestic platforms, often by exporting a concept such as build-to-rent multifamily. They are serving the needs of cross-border tenants such as e-commerce companies. And they are relying on the trust given by their LPs to enter foreign markets with confidence in their ability to spot good practices and opportunities in less familiar markets.

Of course, pursuing any of these five growth strategies introduces operating complexity and a need for new capabilities. If not managed well, then growth—raising more capital from more investors, deploying that capital in larger transactions and in new markets, and adding analytics capabilities—will both add costs and increase investment and operational risk. In a world where fees are compressing, increasing costs is not a winning formula. To grow profitably, GPs must ensure that scale truly brings about operating leverage (especially through efficient general and administrative functions that utilize digital tools, process automation, and thoughtful outsourcing strategies).

Real estate is in a period of substantial disruption and growth that has already created big winners and stands to create more. To break out from the pack, IMs should lean into the disruption, embracing new asset types, food groups, vehicles, and partners. Those that do are set to deliver differentiated performance and build scaled, sustainable businesses.

Ju-Hon Kwek is a partner in McKinsey's New York office, where **Andrew Min** and **Thomas Mustier** are consultants and **Aditya Sanghvi** is a senior partner; **Brian Vickery** is an associate partner in the Boston office.

The authors wish to thank Edgardo Bonilla and Varun Jain for their contributions to this article.

Highlights from McKinsey's 2019 sector research

This year has seen intriguing new dynamics in many sectors. In this compilation, McKinsey experts break them down. All articles and reports are available on McKinsey.com.

© chain45154/Getty Images

© Andriy Onufriyenko/Getty Images

Advanced electronics

Growing opportunities in the Internet of Things

by Fredrik Dahlqvist, Mark Patel, Alexander Rajko, and Jonathan Shulman

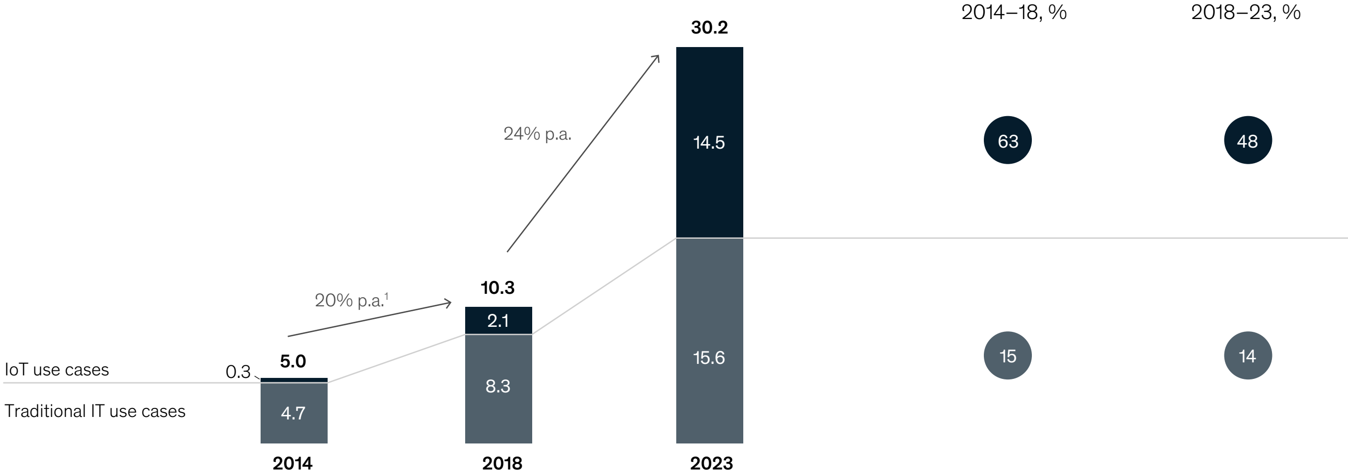
Advanced principal technologies and a proliferation of devices have helped fuel the growth of Internet of Things (IoT) technologies. In fact, investments in IoT technology are projected to grow at 13.6 percent per year through 2022. Further growth in the coming years will be possible thanks to new sensors, more computing power, and reliable mobile connectivity. Device-enablement platforms—connecting devices, cloud providers, and applications for optimal processing in IoT settings—are a notable source of growth and value. Our research indicates that as these platforms become more important (in part because of uptake among small and medium-size enterprises and small- and home-office users), their corresponding revenue pools will continue to grow at an average CAGR of 24 percent—and of 48 percent for IoT uses.

Revenue pools for connectivity platforms will continue to grow across use cases, regions, and enterprise sizes.

Revenue pool for device-enablement platforms for IoT and IT, 2014–23, € billion

CAGR, 2014–18, %

CAGR, 2018–23, %



By region	2014	2018	2023	CAGR, 2014–18, %	CAGR, 2018–23, %
Asia–Pacific	0.8	1.6	5.3	19	27
Americas	2.7	5.5	15.8	20	24
EMEA[2]	1.6	3.2	9.1	19	23

By company size	2014	2018	2023	CAGR, 2014–18, %	CAGR, 2018–23, %
Small or home office[3]	0.4	0.8	2.7	19	28
Small and medium-size enterprises[3]	1.9	3.7	9.6	18	21
Large enterprises[3]	2.7	5.8	17.8	21	25

Note: Figures may not sum, because of rounding.

[1] Per annum.

[2] Europe, Middle East, and Africa.

[3] Small or home office: 1–9 employees, small and medium-size enterprises: 10–999 employees, large enterprises: ≥ 1,000 employees.

Advanced electronics

Growth dynamics in industrial robotics

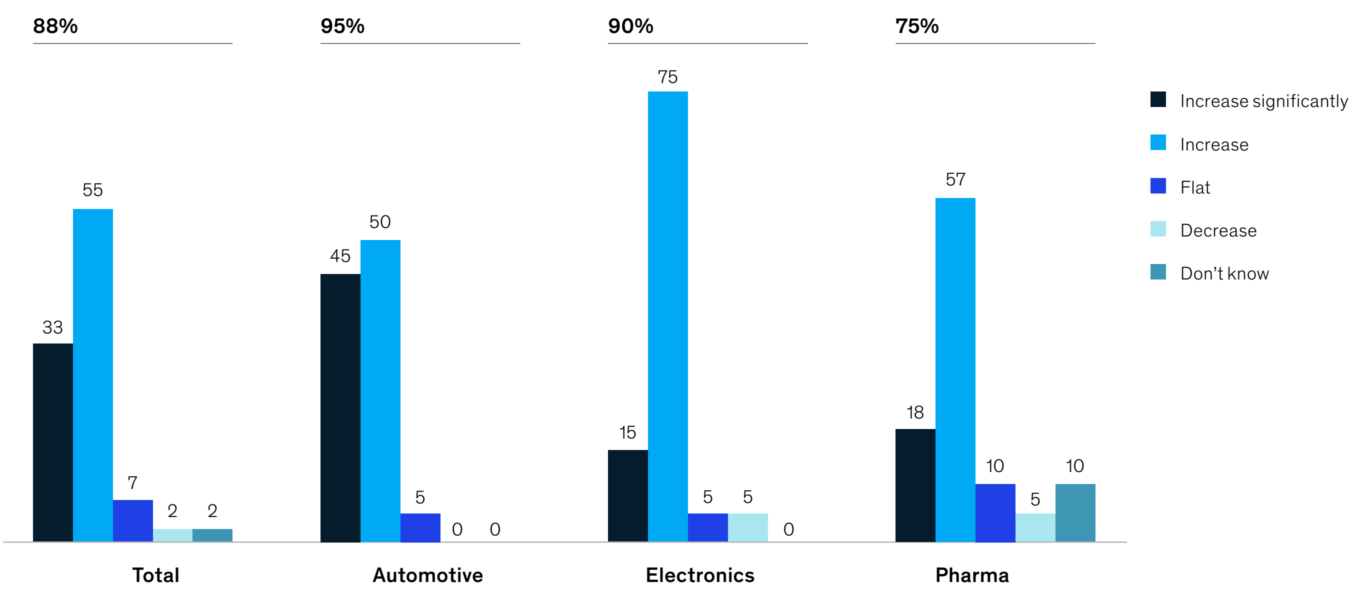
by Lea Bolz, Peter Manuel Ludwig-Dehm, Marc Teulieres, Jonathan Tilley, and Susanne Wägner

For some time now, the $16.2 billion global industrial-robotics market has seemed poised to take off. Unit shipments are already healthy and are forecast to rise 14 percent annually from 2019 to 2021. Yet little is known about the factors that might deliver future growth. Our new research, centered on a survey of 85 OEMs and users worldwide, finds that growth is likely because robotics will be simpler to apply, often with the help of simulation software; simpler to connect, using readily available industrial connections; and simpler to run. Interactive or interconnected interfaces put even complex programming tasks in the hands of frontline operations, making factories less dependent on expert suppliers and engineering departments. But growth will vary substantially by sector, making some more attractive for investment.

Investment in the robotics and automation industries is likely to grow.

Expectations for investment in robotics and automation, number of respondents (100% = 85 respondents)

Respondents saying that investment will increase



© polygraphus/Getty Images

Advanced electronics

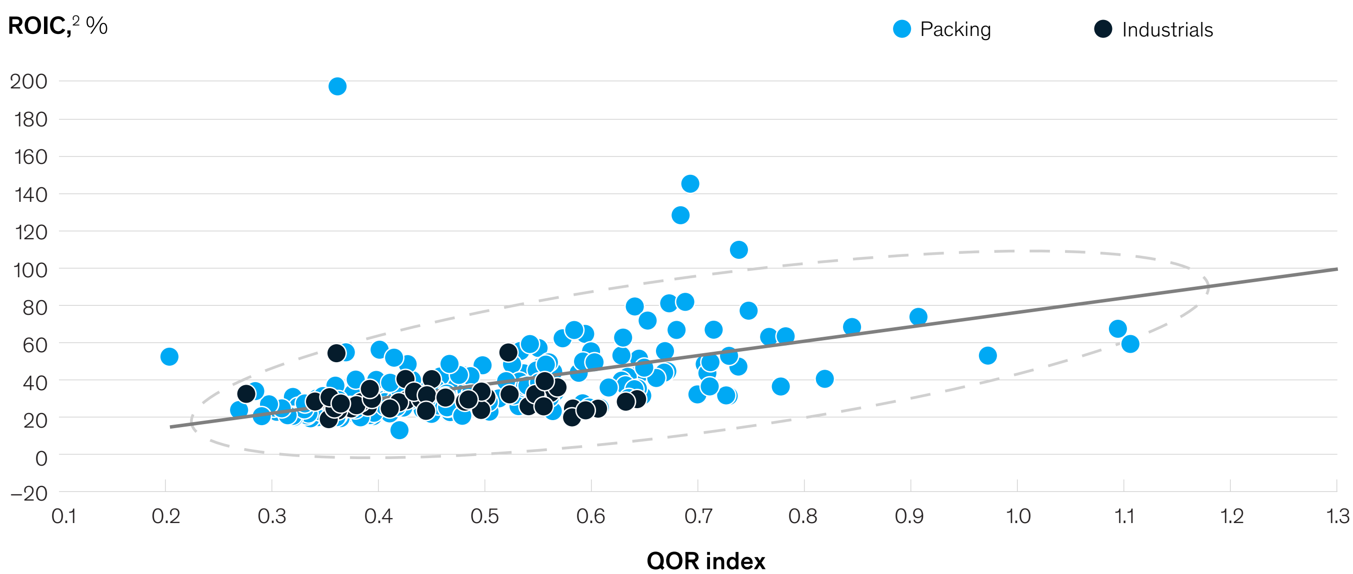
Packaging solutions: Poised to take off?

by Paolo Baldesi, David Feber, Nick Santhanam, Paolo Spranzi, Abir Tewari, and Shekhar Varanasi

The companies that provide packaging material, equipment, services, and full-fledged solutions make up an important sector, generating about $900 billion in annual revenues worldwide. The industry is highly fragmented, with the top 25 to 30 companies accounting for less than 25 percent of the market. After years of failing to create value, the packaging-solutions sector has generated economic profit every year since 2013 by expanding EBITDA margins, using capital more efficiently, and growing revenues. Our research also found that a few companies strongly outperformed others in each packaging subsegment. These companies expanded margin faster than revenue growth, and their performance was strongly predicted by their quality of revenue (QOR)—a measure of market and customer attractiveness, as well as the strength of product offerings and business models.

Company performance was more closely correlated with a QOR score than with starting size or capital expenditures.

QOR index for packing and industrial companies[1]



Note: Historical scale and starting capital expenditures are not strong determinants of performance. The closer the r^2 value to 0, the weaker the correlation between 2 variables; r^2 is the proportion or percentage of variance explained by a regression.

[1] QOR index calculated based on FY 2016 data.
[2] Excluding goodwill and intangibles, 2016.

Source: Corporate Performance Analytics by McKinsey; McKinsey analysis

Agriculture

Alternative proteins: The race for market share is on

by Zafer Bashi, Ryan McCullough, Liane Ong, and Miguel Ramirez

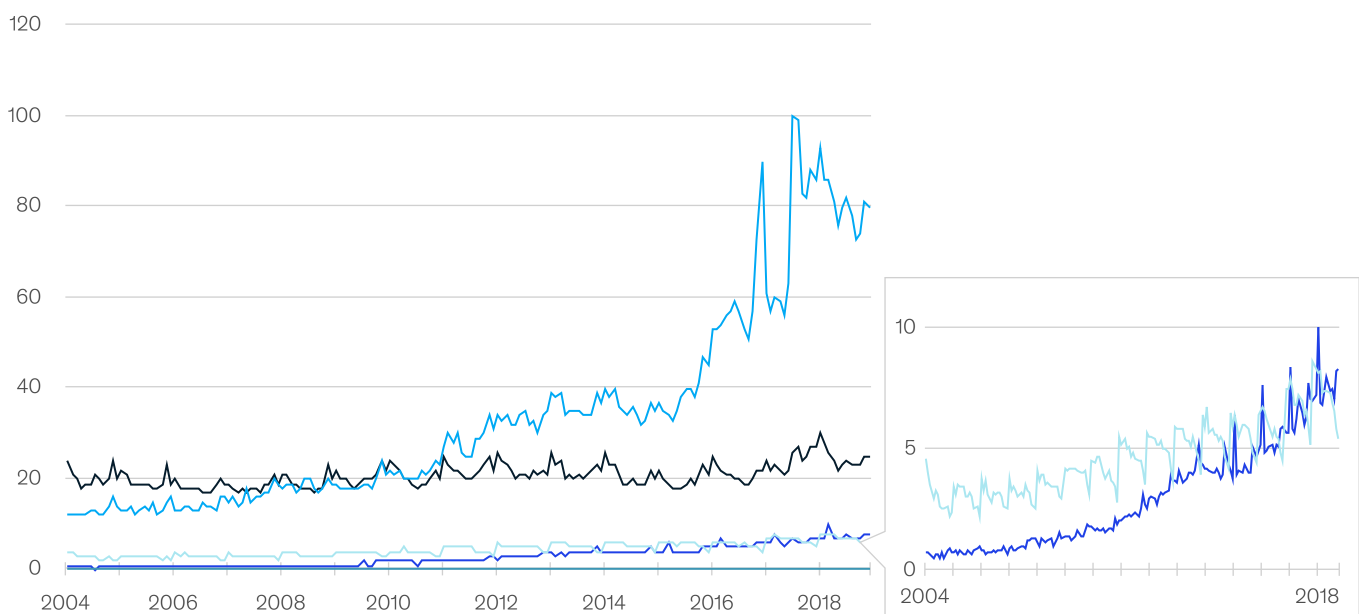
Several entrants are already rolling out new alternative-protein technologies and ingredients and are coming much closer to providing an experience similar to eating meat. For consumer companies and food manufacturers to win market share in this fast-growing segment, they must invest in the capabilities required to develop and manufacture the most promising alternative-protein products. An analysis of consumers' search queries is suggestive. We found that the most popular search for food-and-beverage products was for vegan products. Dairy-free products (products free of milk proteins) drew increasing consumer interest, which grew 22 percent annually. These findings are consistent with results from McKinsey's 2018 Dairy Survey, which revealed that 73 percent of millennials and members of Generation Z reported purchasing a dairy-free alternative in the past 12 months.

Customer interests in alternative-protein diets have evolved over the past 15 years.

Interest in different diets, 2004–19

	Vegetarian	Vegan	Dairy free	High protein	Ethical food[1]
2009–19 CAGR, %	3	16	22	8	0

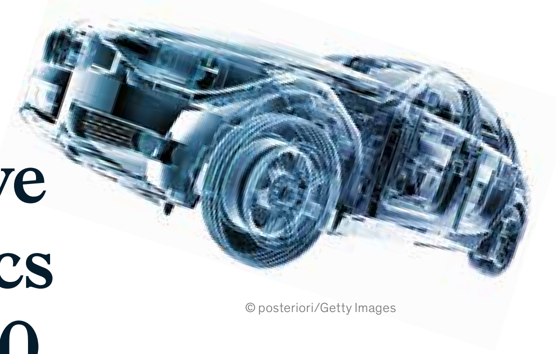
Internet queries normalized to highest point



[1] "Ethical" means producers do not contribute to animal cruelty.
Source: Google Trends

Automotive and assembly

Mapping the automotive software-and-electronics landscape through 2030

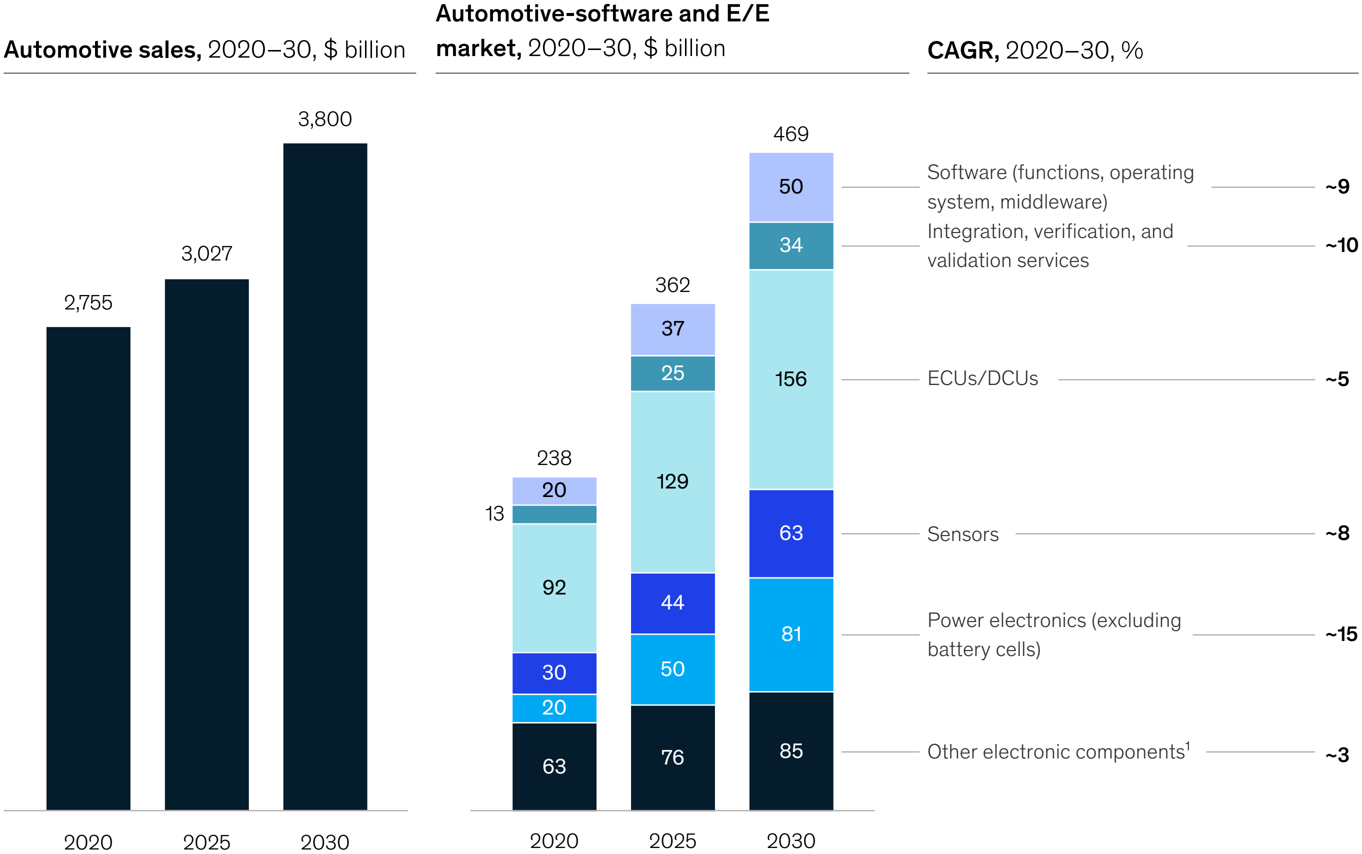


© posteriori/Getty Images

by Ondrej Burkacky, Johannes Deichmann, and Jan Paul Stein

In 2019, global automotive sales have slowed, but the outlook remains bright for automotive software and electrical and electronic (E/E) components. Our July 2019 report foresees 7 percent annual growth in those areas through 2030, lifting the market from $238 billion in 2020 to $469 billion within a decade. At this rate, we expect the automotive software and E/E market to outpace growth in automotive sales vastly in the same time frame. Software and electronics have become the focus of most automotive companies and their executives.

The automotive software-and-electronics market will see strong growth through 2030, driven by power electronics, software, electronic control units (ECUs), and domain control units (DCUs).



Note: Figures may not sum, because of rounding.
[1] For example, harnesses, controls, switches, displays.

Source: IHS; McKinsey analysis

© Emanuel M. Schwermer/Getty Images

Automotive and assembly

Start me up: Where mobility investments are going

by Daniel Holland-Letz, Matthias Kässer, Benedikt Kloss, and Thibaut Müller

Investments in new mobility start-ups have increased significantly. Since 2010, investors have poured $220 billion into more than 1,100 companies across ten technology clusters. One measure of how dramatically investments have grown involves a comparison of the periods 2010–13 and 2014–18, when average investments across all technologies jumped sevenfold. Our analysis reveals that more than half of the volume came from deals of more than $1 billion—industry-shaping moves that include the M&A of established companies.

Investments in new mobility start-ups have accelerated, with a few industry-shaping moves.

Total disclosed investment amount since 2010[1]

Technology cluster	Investment, $ billion	Average annual investment, $ billion: 2010–13	Average annual investment, $ billion: 2014–Feb 2019
E-hailing	56.2	0.2	11.4
Semiconductors	38.1	0.8	7.4
AV[2] sensors and ADAS[3] components	29.9	0.6	5.6
Connectivity/infotainment	20.8	0.6	3.9
Electric vehicles and charging	19.0	0.6	3.0
Batteries	14.3	0.8	2.1
AV software and mapping	13.5	0.3	2.3
Telemetrics and intelligent traffic	12.4	0.5	1.9
Back end/cybersecurity	9.0	0.2	1.4
HMI[4] and voice recognition	7.4	1.2	0.6
Total	**220.6**	**5.8**	**39.6**

[1] Using selected keywords and sample start-ups, a set of similar companies was identified, according to text-similarity algorithms (similarity to business description of companies); n = 1,183.
[2] Autonomous vehicle.
[3] Advanced driver-assistance system.
[4] Human–machine interface.

Source: PitchBook Data; S&P Capital IQ; McKinsey analysis

© Michael Fuller/Getty Images

Capital projects and infrastructure

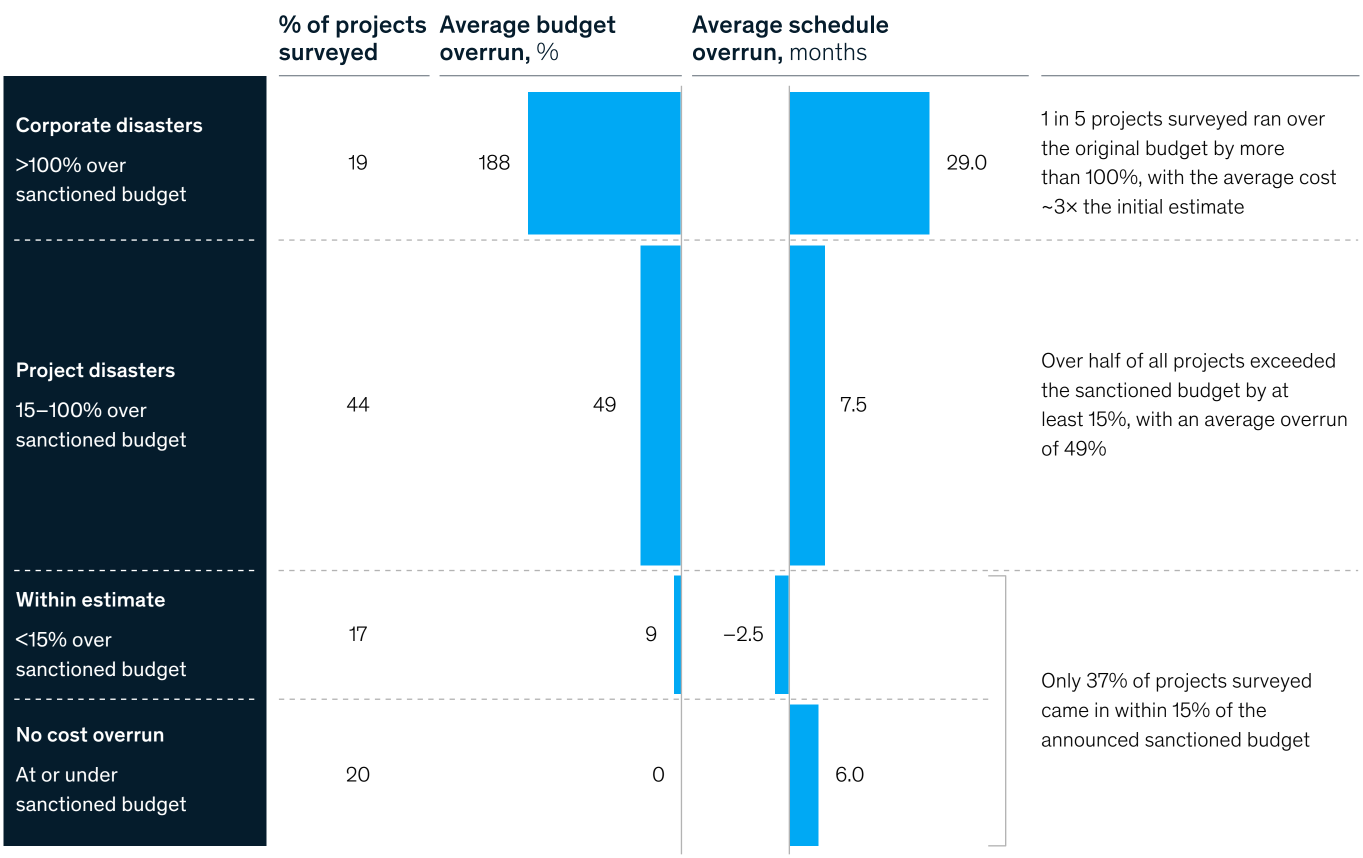
Optimizing mining feasibility studies: The $100 billion opportunity

by Matthieu Dussud, Gregory Kudar, Patrick Lounsbury, Piotr Pikul, and Filippo Rossi

After getting badly burned in the commodities bust earlier in this decade, miners and metals producers are embarking on another round of capital investment. Yet many mining executives still rely on the same feasibility-study approaches they did years ago, when resources were more accessible and projects were less risky to plan and execute. That's a problem because today's projects are becoming larger, more complex, and often more remotely located—making them more susceptible to cost overruns. It's clear that the methodology of years past simply won't suffice. When we studied the financial statements of more than 40 recent mining and metals projects, only a fifth of them delivered the financial returns predicted at the feasibility stage. The potential value at stake is significant: changing the ways that feasibility studies are done may be worth more than $100 billion to the mining and metals industry over 2020–25.

Only 20 percent of surveyed mining and metals projects were completed within the parameters predicted during the feasibility study.

Survey of >40 mining projects completed in past 10 years shows an average overrun of 60% vs metrics from feasibility study



Note: McKinsey survey of major projects with capital expenditures >$500 million and completed between 2008–18; n = 41.
Source: McKinsey analysis

Chemicals

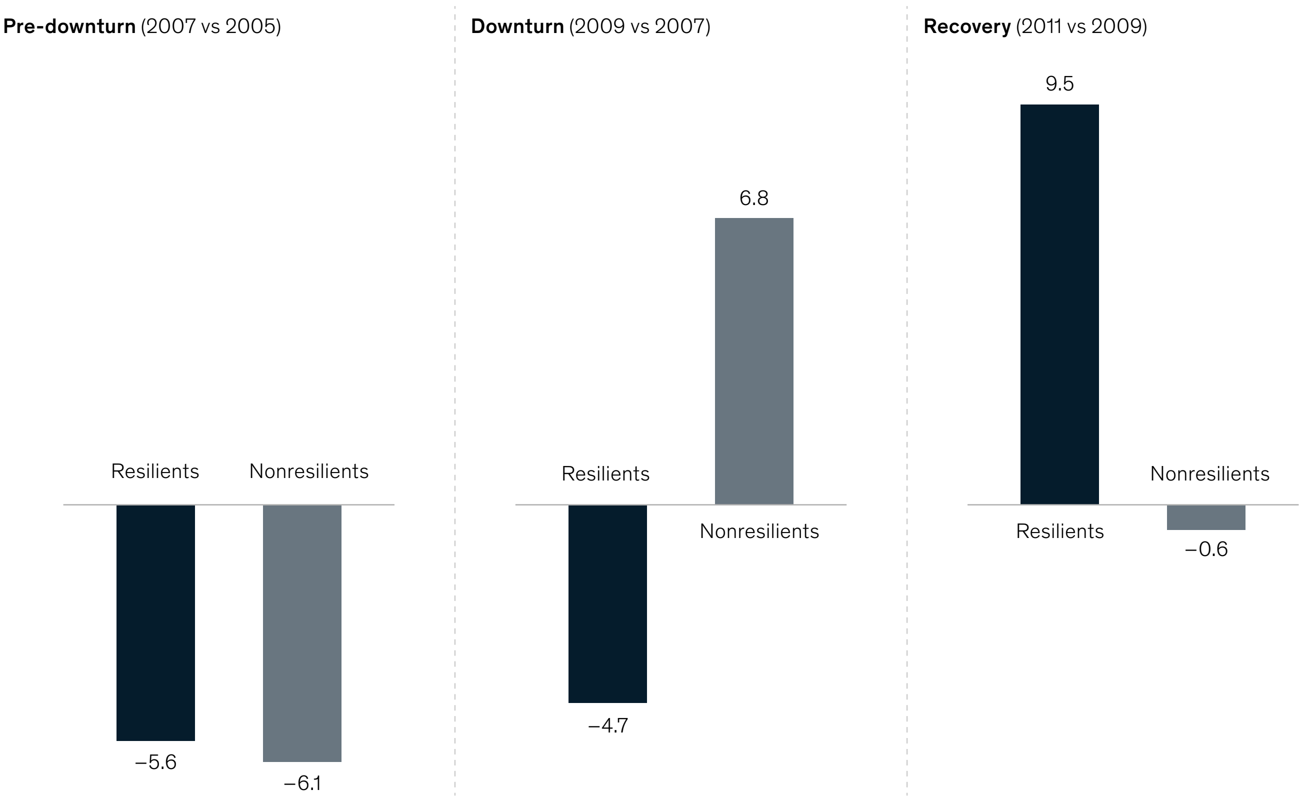
Beating the cycle: Building resilience in chemicals

by Obi Ezekoye, Avinash Goyal, Laura Millroy, and Georg Winkler

We analyzed the paths of the 264 largest publicly listed chemical companies worldwide and found that during the 2007–09 downturn, about 20 percent of those companies performed materially better than the rest. We refer to these companies as “resilients”—industry leaders that can weather conditions that weaken their competitors. Based on what we learned, we assembled a resilience playbook that chemical companies can adopt to stay ahead of the curve. The playbook has five elements, including preparing the balance sheet ahead of time.

Resilients prepared their balance sheets ahead of time.

Change in operating costs,[1] leverage (total debt ÷ by total common equity), percentage points



[1] Operating cost calculated as revenue minus EBITA.
Source: S&P Capital IQ; Corporate Performance Analytics by McKinsey; McKinsey analysis

© benimage/Getty Images

Consumer packaged goods

How lessons from the record-breaking 2018 holiday season can inform retailers’ 2019 strategy

by Jess Huang, Sajal Kohli, and Kelsey Robinson

Our new research shows that, when shopping came down to the wire in the last few days of the 2018 Christmas season, consumers did not rely on Amazon. Even though Amazon promised last-minute Christmas shipping for orders placed by December 22, the company’s traffic and conversion rates actually dropped compared with its normal baseline (down 9 and 18 percent, respectively) during the three days leading up to Christmas. Consumers looked instead to brick-and-mortar retailers, either for in-store shopping or for the increasingly popular option of buying items online and picking them up in the store. Retailers that offered click-and-collect purchases through Christmas Eve (such as Best Buy, Kohl’s, Macy’s, Target, and Walmart) saw additional online traffic and higher conversion rates (an average increase of 52 percent).

Store pickup was also a big factor in driving online sales throughout the holiday season. Shoppers increased their click-and-collect purchases by 50 percent on Black Friday and 65 percent on Cyber Monday compared with 2017. Best Buy and Target, which featured same-day store pickup on Black Friday, Cyber Monday, and through the holidays, were particularly successful at drawing in customers because they could offer shoppers instant gratification. Target also featured a drive-up service in about 1,000 stores, allowing customers to have their packages delivered to their cars. Over the entire holiday season, Target grew its click-and-collect business by more than 60 percent over the previous year.

Financial services

Making choices, finding growth: State of North American retail wealth management

© Westend61/Getty Images

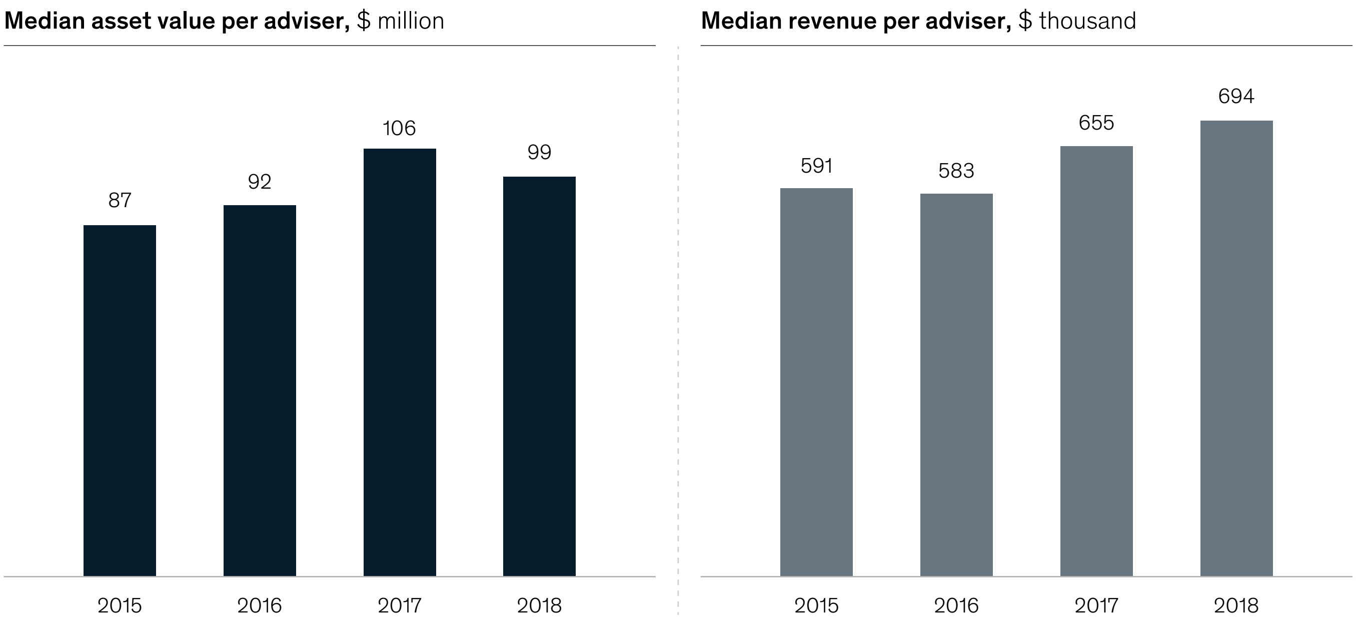
by Patrick Kennedy

The eighth edition of McKinsey's annual report on retail wealth management looks critically at several aspects of growth. How have so many advisers been successful in achieving growth? What roles do demographics and pricing play? What threats lie ahead for both advisers and executives? What actions can companies take to achieve long-term, sustainable growth?

Highlights for the North American wealth-management industry in 2018 include record-high adviser revenue despite a market-driven drop in assets; material improvement in the number of new client–adviser relationships established; continued growth in fee assets and revenues as well as deeper client relationships; early signs of stabilization in aggregate price levels, though significant variation persists; and the emergence of both next-generation clients and next-generation advisers as catalysts for growth.

Patrick Kennedy is chief customer officer at PriceMetrix.

Adviser revenue reached a record high despite a drop in wealth-management assets.



Healthcare systems and services

The evolution of profits at health care providers

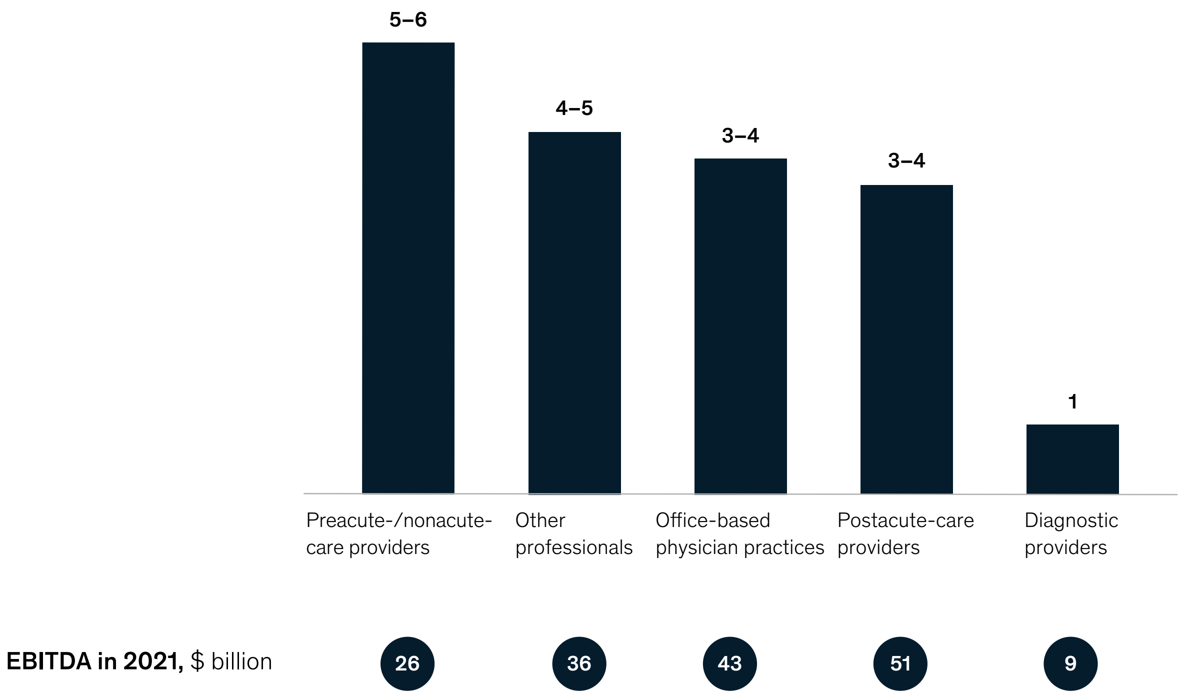
© BlackJack3D/Getty Images

by Gunjan Khanna, Rob May, Neha Patel, and Nithya Vinjamoori

Nonhospital-provider segments—everything from diagnostics and pre-, non-, and postacute services to physicians and other healthcare professionals—could account for almost 55 percent of projected healthcare-provider profit pools by 2021, according to McKinsey research. That is the big picture. Look more closely, and important details become apparent. One is that different segments are likely to deliver sharply different profit outcomes as the healthcare environment changes. Three trends in particular—in utilization, reimbursement, and efficiency—will shape the future.

EBITDA has increased in US nonhospital-provider segments.

Estimated projected annual growth from 2017 to 2021, %



Source: AAMC; American Dental Association; American Medical Association; Centers for Medicaid & Medicare Services; Drug Channels Institute; expert interviews; IBISWorld; Kaiser Family Foundation; Kalorama Information; Medicare Payment Advisory Commission; Mercer; MGMA; National Investment Center; Pennsylvania Health Care Cost Containment Council; Physicians Advocacy Institute; United States Renal Data System; Urgent Care Association; US Bureau of Labor Statistics; US Census Bureau; US Securities and Exchange Commission; VMG Health; McKinsey analysis

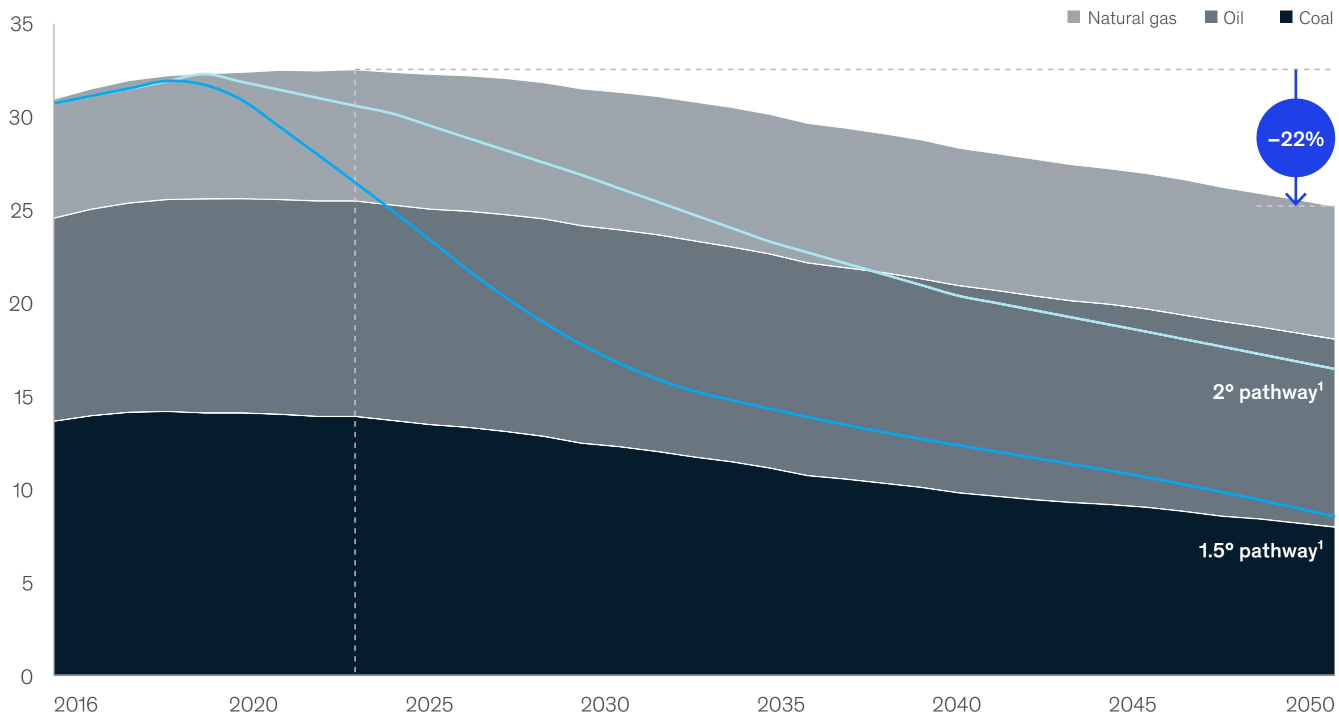
Oil and gas

Global Energy Perspective 2019

Energy systems around the world are going through rapid transitions, with widespread implications for businesses, governments, and individuals. Our latest research identifies three tipping points that will come within reach in the next few years. First, as the cost of renewables has come down, new-build solar and wind capacity will become cost competitive in many countries. Second, as the cost of batteries falls, electric vehicles, especially passenger cars, will become more economic than conventional cars in many countries in five to ten years. And for the first time, we project a peak in global carbon emissions by the mid-2020s, triggered by a drop in global coal demand and flattening oil demand.

Global energy-related emissions will peak in 2024 and decline by around 20 percent by 2050.

Global energy-related CO_2 emissions per fuel, metric gigaton of equivalent CO_2 per annum

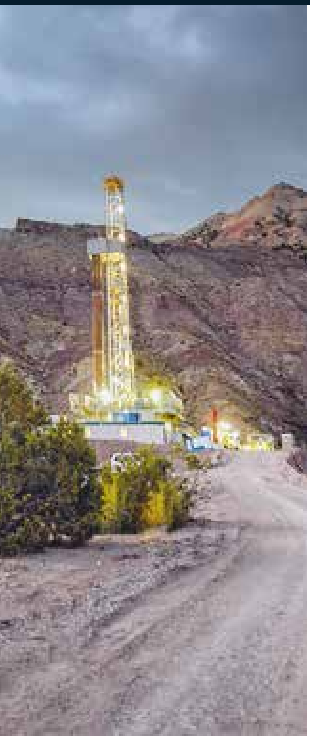


[1] Median of all Intergovernmental Panel on Climate Change (IPCC) scenarios that lead to 1.5° or 2° warming or less.
Source: *Global energy perspective 2019*; Integrated Assessment Modeling Consortium; International Energy Agency; IPCC

Oil and gas

Paths to profitability in US unconventionals

by Jeremy Brown, Florian Christ, Tom Grace, and Sehrish Saud

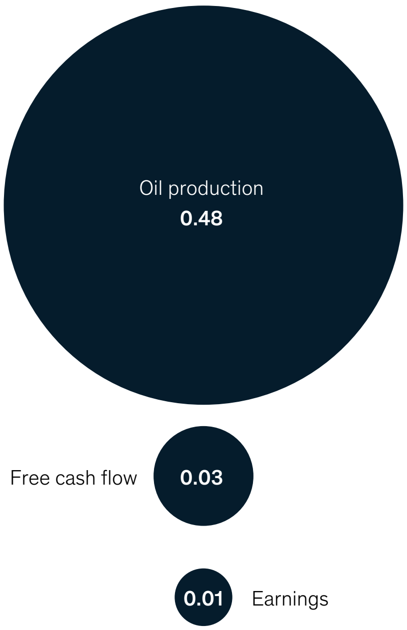


© Robert Ingelhart/Getty Images

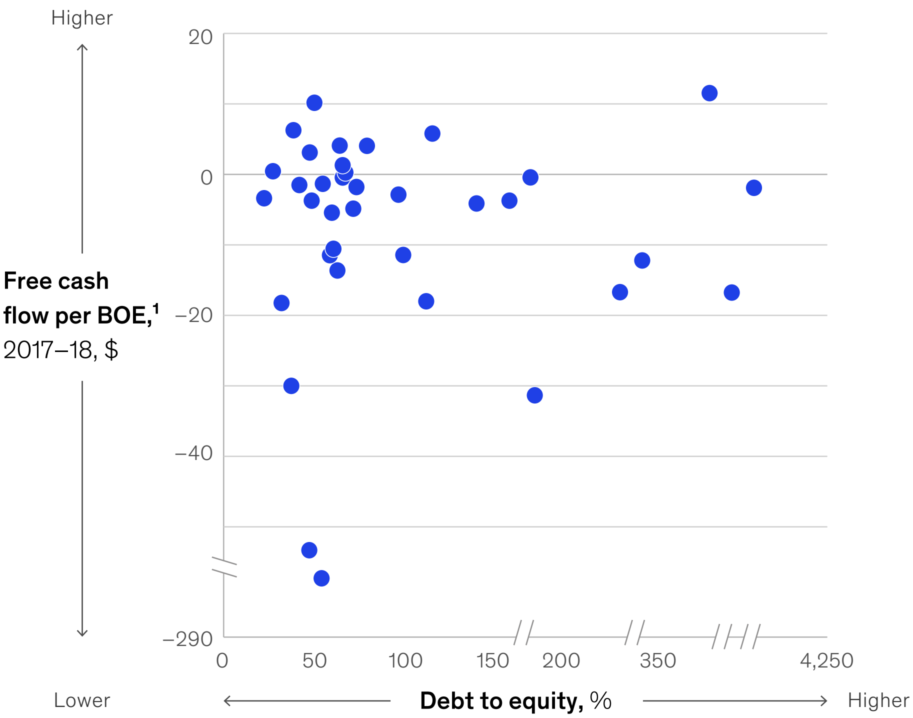
Unconventionals development in the United States has been characterized by three trends: rapidly rising production, continual investment, and persistent negative free cash flow for the independents that have driven the shale revolution. The share prices of publicly traded independents have responded sharply to changes in oil production but show virtually no correlation to free cash flow or earnings—a pattern consistent with the market behavior of start-ups or sectors in a pure growth phase. To date, the market has been prepared to accept poor short-term economic performance in the expectation that returns will flow as these independents mature. However, as investor priorities shift, independents will need to address the weaknesses and bad habits that have taken root during an era of growth and take steps to improve their capital productivity and attain profitability.

Market support for increasing production has damaged many independents' free cash flows and balance sheets.

Quarterly share-price response to a 1% change in each category, 2012–18, %



Free cash compared with debt



[1] Barrel of oil equivalent produced.

Pharmaceuticals and medical products

Understanding the opportunity in Japan’s biosimilar market

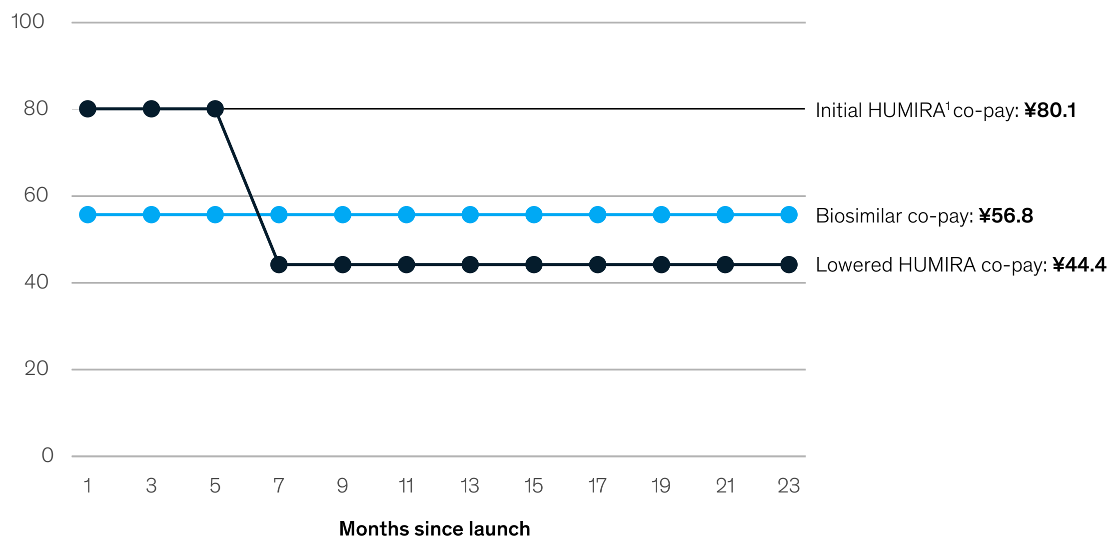
© iStock/Getty Images Plus

by Minyoung Kim, Alex Monnard, and Jorge Santos da Silva

Growth in Japan’s biosimilar-drug market has been slow, rising by an average of only 25 percent a year from 2015 to 2017, compared with the worldwide market growth of 72 percent. And in 2017, while Japan’s biologics market accounted for 13 percent of the worldwide market, excluding the United States, its biosimilar market, valued at $140 million, accounted for just 5 percent. Our research shows that Japan’s co-payment system deters adoption of some biosimilars by making them more expensive than the originators for patients. Patients pay between 10 and 30 percent of the cost of all drugs, whether originators or biosimilars. Some additional schemes limit co-payments for expensive drugs, with the result that patients can end up paying less for them than they would for biosimilars. This backdrop is key to understanding the drugs likely to drive future growth for biosimilars in the Japanese market, which analysts suggest will accelerate to an average 40 percent a year between 2017 and 2021.

Japan’s co-pay program can make an originator cheaper than a biosimilar for patients.

Co-pay cost, ¥ thousand



[1] Assumes physicians prescribe a 2-month 40-milligram dosage per visit. HUMIRA information based on 2018 data.
Source: AbbVie

© Mint Images RF/Getty Images

Travel, transport, and logistics

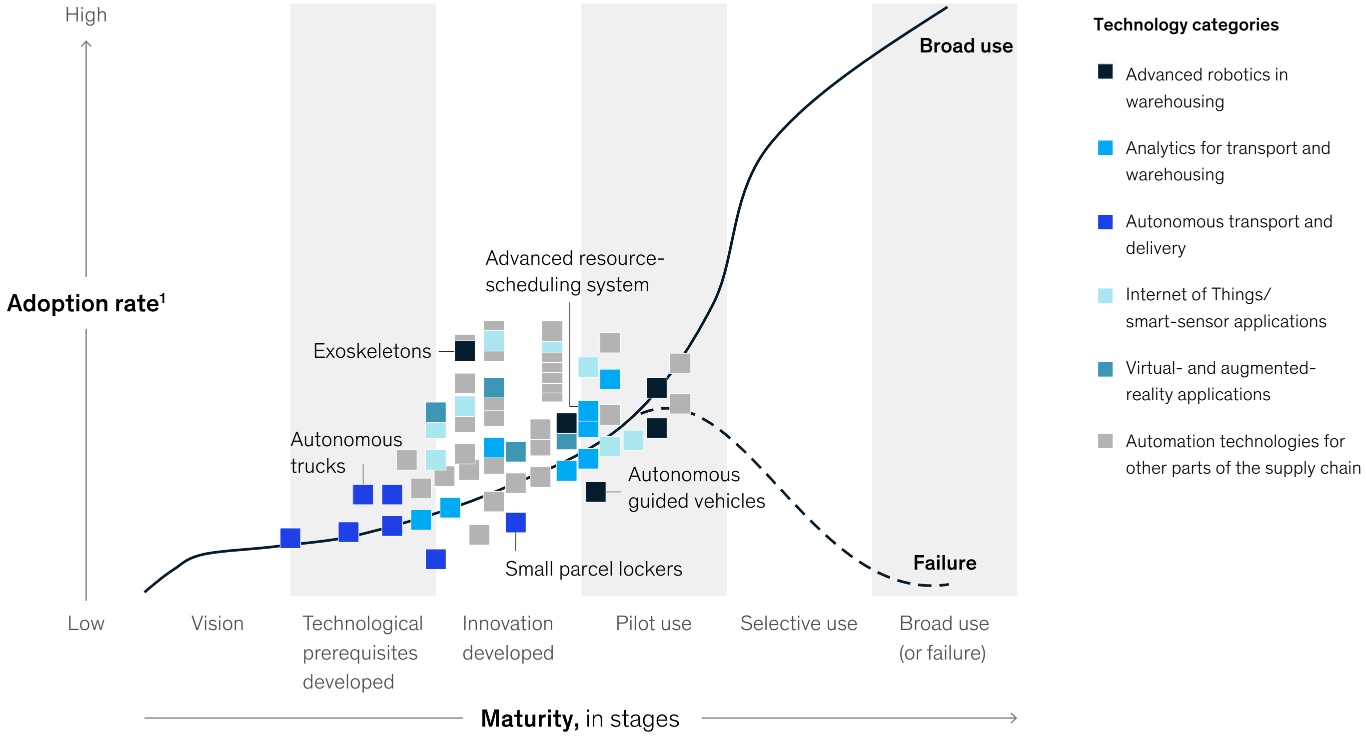
Automation in logistics: Big opportunity, bigger uncertainty

by Ashutosh Dekhne, Greg Hastings, John Murnane, and Florian Neuhaus

The McKinsey Global Institute estimates that the transportation-and-warehousing industry has the third-highest automation potential of any sector. Contract logistics and parcel companies particularly stand to benefit. Yet most logistics companies have not yet taken the plunge. We see five reasons companies are hesitating: the unusual competitive dynamics of e-commerce, problems obtaining new gizmos, uncertainties arising from shippers' new omnichannel-distribution schemes, an asymmetry between the length of contracts with shippers and the longer lifetimes of automation equipment and distribution centers, and a lack of clarity about which technologies will triumph. We combed the industry and found more than 50 technologies, including many in logistics, that could further automate some part of the supply chain. All are much more than a twinkle in some technologist's eye, but none are yet in widespread use. The question that confronts logistics companies (and warehouse companies) is simple enough: Which ones will take off to yield the greatest ROI?

Dozens of logistics technologies are under development.

Logistics-technology development



[1] Speed of innovation adoption based on maturity.
Source: McKinsey Supply Chain 4.0 Innovation Survey

This McKinsey Practice Publication meets the Forest Stewardship Council® (FSC®) chain-of-custody standards. The paper used in this publication is certified as being produced in an environmentally responsible, socially beneficial, and economically viable way.

Printed in the United States of America

November 2019
Designed by Global Editorial Services

McKinsey.com