McKinsey Global Institute

Companies in the 21st century

A new look at how corporations impact the economy and households

Discussion paper
June 2021

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Preface

This discussion paper is the first in a series of McKinsey Global Institute research projects focusing on the corporation in the 21st century. We are publishing it at a time when a debate about the role of corporations in society, and corporate purpose, is taking place in boardrooms, in policy circles, and among a broad public. Among the questions being asked: what impact—positive or negative—do corporations have on the economy and society? And what should their commitments and accountabilities to stakeholders be? A flurry of reporting guidelines, including environmental, social, and governance (ESG) metrics, have sprung up in response to these and other questions. While little consensus has formed around these guidelines and their corresponding metrics, rating agencies and parts of the investment community are pushing to create a more standardized and shared set of measurements.

Our research seeks to provide fact-based insights to inform this debate. The research and findings in this paper focus on the economic impact that companies have on the economy and households, and how that has changed over the past 25 years. The research builds on our prior work on corporations and the economy including the October 2018 discussion paper *Superstars: the dynamics of firms, sectors, and cities leading the global economy,* the November 2020 article "Rethinking the future of American capitalism," and questions we framed in an earlier article, in May 2020, "It's time to build 21st century companies: Learning to thrive in a radically different world."* Undoubtedly the research in this discussion paper is incomplete and limited by data availability and in its scope. These gaps, as we indicate in various places throughout the paper, and the findings themselves raise questions for further research. At the same time, the findings so far have clear implications for consideration by leaders and we hope that this discussion paper, along with the work of other researchers, contributes to providing a fuller picture of these important issues.

The research was led by James Manyika, MGI director and McKinsey senior partner, in San Francisco, Michael Birshan, a member of MGI's council and senior partner in London, Sven Smit, MGI director and senior partner in Amsterdam, Jonathan Woetzel, MGI director and senior partner, in Shanghai, and Sree Ramaswamy, a former MGI partner in Washington, DC. Kevin Russell, an MGI fellow in Charlotte, and Lindsay Purcell, a McKinsey consultant in Atlanta, led the research team, which included Katharina Brinck, Jose Pablo Garcia, Raphael Heuwieser, Oz Johnson, Henry Pollock, Matthew Rock, Vinay Sridhar, Nandini Thogarapalli, Monique Tuin, and Paul Ziesche. Eric Hazan and Clarisse Magnin-Mallez, McKinsey senior partners in Paris, and Gary Pinkus, a senior partner in San Francisco, provided valuable guidance.

We are indebted to our academic advisers on this research project for their guidance and counsel. They are Martin Baily, senior fellow in Economic Studies at Brookings; Hans-Helmut Kotz, resident fellow, Center for European Studies at Harvard University, and senior fellow, Leibniz Institute for Financial Research SAFE, Frankfurt; Matthew Slaughter, Paul Danos Dean and the Earl C. Daum 1924 Professor of International Business at the Tuck School of Business at Dartmouth College; and Laura Tyson, Distinguished Professor of the Graduate School at the University of California, Berkeley. This paper also benefited from the work of many other researchers whom we cite throughout.

Several McKinsey colleagues provided valuable expert input and helped shape our thinking. We would like to thank Ashwin Adarkar, Tera Allas, Donatela Bellone, Michael Chui, Nora Gardner, Pablo Illanes, Leah Kaplow, Jack Keenan, Tim Koller, Mekala Krishnan, Sebastien Leape, Deepa Mahajan, Jan Mischke, Kate Lazaroff Puck, Jaana Remes, Bruce Simpson, Vivien Singer, Sulay Solis, Richard Steele, Peter Stumpner, and Lareina Yee.

Peter Gumbel, MGI's editorial director, edited and produced this paper, together with Lisa Renaud, executive editor, and senior graphic designers Laura Brown and Marisa Carder. Nienke Beuwer and Rebeca Robboy, MGI directors of external communications, helped disseminate and publicize the research, while Lauren Meling, digital editor, ensured this paper was digitally available to all. We are grateful to knowledge specialist Tim Beacom, and Deadra Henderson, MGI's manager of professional development and operations, for their support.

This discussion paper contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy. As with all MGI research, this research is independent and has not been commissioned or sponsored in any way by business, government, or other institution. We welcome your comments at MGI@mckinsey.com.

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June 2021

* The superstars discussion paper and the two articles are on McKinsey.com.

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Summary

The role of companies in the economy and their responsibilities to stakeholders and society at large has become a major topic of debate. Yet there is little clarity or consensus about how the business activity of companies impacts the economy and society. This discussion paper, the first in a series, builds on our earlier research related to corporations and the economy.[1] It presents a "mapping the money" approach to analyzing the impact of companies on the economy and society. We assess how the economic value that companies create flows to households in the 37 OECD countries, and how these flows have shifted over the past 25 years.[2] We identify patterns in what different types of companies do and how they do it, and how the mix of these companies and their patterns of economic impact have changed over time.

We look first at the overall business sector in the OECD, which includes companies of all types and represents $44 trillion in gross value added in 2018. Second, we analyze in more detail all public and private corporations headquartered in the OECD with revenue exceeding $1 billion, for which we have reliable and comparable data—about 5,000 in total. These large corporations together had $40 trillion in revenue and represented $17 trillion in gross value added in 2018. We should note at the outset that, by focusing on quantifiable impact and comparisons of large corporations across different areas of economic activity and countries, this paper undoubtedly leaves out impacts on society that are harder to quantify and compare. Also (for now) and mostly for data reasons, we do not include corporations in China, India, or other non-OECD countries, even as we recognize they are a significant part of the global economy.

What follows is a summary of the findings:

The business sector overall contributes 72 percent of GDP in the OECD, and corporations with more than $1 billion in revenue account for an increasingly large share of that. Measured in real GDP per capita, the contribution of the business sector—defined as for-profit companies of all types including corporations, partnerships, and sole proprietorships—has tripled since 1960 on average in major OECD economies, in proportion with those economies' overall growth. Companies underpin 85 percent of technology investment and 85 percent of labor productivity growth since 1995, a larger proportion than their GDP contribution. The size of the business sector varies only modestly within each of the major economies, and its share has remained steady for the past 60 years. However, this steadiness masks significant underlying shifts, notably the growth of corporations with more than $1 billion in revenue, which increased their global value added by 60 percent relative to their home countries' GDP since 1995.

Economic value flows from companies to households via eight pathways, of which labor income and consumer surplus are the largest direct pathways. Our mapping work identifies eight pathways through which economic value from corporations flows to households and the economy. Five are directly measurable monetary flows: labor income, capital income, taxes, investment in capital assets, and payments to suppliers. The money flowing through the supplier and investment pathways passes through other companies to reach households and the economy. The sixth is consumer surplus (the difference between

1 *Superstars: The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018; James Manyika, Gary Pinkus, and Monique Tuin, "Rethinking the future of American capitalism," November 2020; James Manyika and Monique Tuin, "It's time to build 21st century companies: Learning to thrive in a radically different world," May 2020, all on McKinsey.com.

2 The OECD's 37 members as of 2018 used for this research are: Austria, Australia, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

what consumers are prepared to pay and what they do pay), which we estimate. The final two pathways are negative and positive spillovers, which we do not assess comprehensively beyond the examples of environmental impact and contributions to total factor productivity growth (unaccounted for in additional labor or capital input). Based on our data set of about 5,000 corporations with more than $1 billion in revenue, we find that labor income is the largest direct measured pathway, with wages and benefits accounting for $0.25 flowing to households for each dollar of revenue. Just over half of every dollar, $0.58, goes to suppliers (themselves companies large and small), reflecting the role suppliers play in enabling corporations to create and deliver their products and services. The other significant pathway is consumer surplus, which we estimate to be about $0.40 per dollar of revenue.

The size of the pathways has changed over the past 25 years, with capital income growing while labor income and supplier payments have declined. Between the periods 1994–96 and 2016–18, the biggest change has been a two-thirds increase in the capital income pathway, from $0.04 to $0.07 per revenue dollar. Applied to the $40 trillion in revenue represented by our large company data set, this $0.03 difference amounts to an increase in capital income of over $1 trillion. The labor income pathway shrank by $0.02, or 6 percent, as labor per dollar of revenue fell by 15 percent and wages grew only 11 percent. Productivity gains amounted to 25 percent in real terms, significantly more than wage growth, as gains from labor productivity went predominantly to capital income. Investment in intangible assets tripled as a proportion of revenue in this period, while investment in tangible assets dropped by half. Supplier payments fell by $0.02, or 4 percent. The decline was especially steep for suppliers that were small and midsize enterprises, which saw a 10 percent drop in share of payments to suppliers in the United States, with similar patterns in other countries. The share going to domestic suppliers in each country also fell; about half of the decrease in supplier payments moved to foreign OECD suppliers and the other half to non-OECD suppliers. The tax pathway held steady overall as decreases in corporate taxes, especially in the United Kingdom and the United States, were offset by slight increases in production taxes, especially in Japan, and in corporate income tax in France.

Clustering companies by how they do what they do reveals eight distinct company archetypes that differ in their patterns of impact on the economy and households. We clustered large corporations into eight archetypes: Discoverers, Technologists, Experts, Deliverers, Makers, Builders, Fuelers, and Financiers. We based the clustering on the companies' factor inputs (labor and both physical and intangible capital), how they create economic value (for example, cost structure and R&D spending), and their relative impacts on the economy via the eight pathways. Some of the eight, including Fuelers and Financiers, follow traditional sector lines, but others look quite different. For example, Discoverers have high R&D, intellectual property (IP), and capital income; they include pharmaceutical and biotechnology companies as well as some household product companies that rely on R&D and intellectual property to differentiate their products. Deliverers have high employment levels and large supplier costs typical of retail and distribution, and include some manufacturers, such as footwear and luxury apparel companies that also have high marketing costs; while they account for 16 percent of revenue, they employ 29 percent of the workers in our data set. Technologists—who range across hardware, software, digital retailers, and media—have high R&D and have enabled productivity growth in the economy; they have also contributed to consumer surplus through steep price reductions (as well as quality improvements) over time. Experts include for-profit hospitals, health services, business services companies, and private universities, among others. Experts particularly rely on high-skill workers and devote the highest share of their value added to employee compensation. Builders include utility, telecommunications, and transportation companies that construct, use, and operate physical infrastructure, as well as manufacturers of materials and chemicals; they have double the physical assets of the average and, along with Fuelers, the highest scope 1 and 2 emissions. Other manufacturers are in Makers, which is the largest

archetype, accounting for about 25 percent of the revenue of all companies and 27 percent of employment. Makers are close to or above average in their impacts across all the pathways, making their contribution through each pathway high and larger than most in absolute terms. Their employment intensity, just above average across the archetypes, combines with high wages to make their labor income contribution among the largest of all archetypes, almost 25 percent above average. They have also contributed to consumer surplus through price reductions for some goods such as automotive and textiles. While the characteristics of archetypes are consistent across countries, their prevalence differs. For example, Makers account for more than one-third of the total revenue from companies in Germany and Japan but just one-fifth in the United States, which has the largest proportion of Technologists.

Changes in the mix of archetypes explain most of the decline in labor income, while evolution of archetypes explains most of the increase in capital income, consumer surplus, and supplier payments. Makers and Builders were long the predominant archetypes and mainstays of industrial economies, but their share of total revenue among large corporations has dropped sharply in the past quarter-century, falling by 12 and two percentage points, respectively. The share of revenue for Discoverers shrank slightly, while all other archetypes expanded their relative share, with Financiers, Experts, and Deliverers growing the most. The shifts in the relative size of the archetypes have affected the pathways. For example, the archetypes whose revenue has grown in share have lower labor income contributions on average than those shrinking in share, especially Makers. This accounts for two-thirds of the overall labor income decline across companies. The evolution of archetypes also results in pathway shifts. For example, the smaller share of the labor income pathway also stems from a drop in employees per dollar of revenue in the past 25 years (a fall of 30 to 40 percent in constant dollar terms) for Experts, Fuelers, and Builders. This decline in employees per revenue dollar outweighed positive real wage growth of all three archetypes. The three also had the lowest capital income growth even as they widened their supplier payments pathway. Conversely, Technologists, Financiers, and Discoverers had the highest growth in the capital income and labor income pathways as they widened their gross value added (GVA) share of revenue and decreased their supplier payments. While all archetypes delivered greater capital income, these three archetypes alone accounted for two-thirds of the total growth of the capital income pathway on a per-revenue-dollar basis. One of the biggest positive impacts for all households has been the growth in consumer surplus, primarily from Technologists and Makers, whose prices dropped by 50 percent and 20 percent, respectively, and whose volumes grew the most in absolute terms. In general, core attributes of each archetype have become more pronounced over the past 25 years. For example, Technologists and Discoverers increased their stock of intangibles, R&D expenditures, and capital income more than other archetypes. Deliverers increased their employment share by nine percentage points, the largest by far. Fuelers added physical capital assets, while most others reduced them. Experts increased wages almost 40 percent, the biggest rise.

High-income households have benefited the most from the patterns and shifts in the economic impact of corporations over time, but with some country variations. The top 10 percent of households in the United States increased their share of wealth from shares in public companies (including funds) to 66 percent in 2018, from 59 in 1995, and received 30 percent of their income through the capital income pathway. This compares with 26 percent in Germany and 23 percent in Japan, where households are less reliant on corporate returns and more reliant on public pensions. Labor income has also concentrated to higher-income households since 1995. For consumers, price increases in healthcare and education narrowed the consumer surplus pathway provided by Experts and Discoverers, especially to lower-income households. All households have benefited from steady or declining prices of the tradable goods of Makers and products of Technologists, as gains from innovation are passed on to consumers. However, the top quintile of households has expanded its share of total consumer expenditure partly because these households are able to afford the higher costs of healthcare, education, and housing, while lower-income

households have faced the challenge of more of their income going to the rising costs of these essentials.

Netting it out (so far), we find that what has remained true over the past quarter-century (and longer) is that business activity, including that of corporations, continues to be the dominant contributor to the economy and its growth. However, a lot has changed in the patterns of impact, as some pathways have shrunk while others have grown, and some corporate archetypes have become more prevalent and others less so. These changes have important implications for the economy and its stakeholders, especially households. Furthermore, this research (and its gaps) raises questions for further research as well as considerations for leaders, especially in business and policy. Companies, for example, could use this research to better understand the patterns and implications of their own impact on the economy and stakeholders. Policy leaders could consider the impact in their economies and how to accentuate the positives, capture opportunities, and address challenges. We plan to pursue some of these questions in our future research. In the meantime, we welcome discussion of the findings in this paper.

1. The overall contribution of companies to the economy

This first paper in a series of research projects on the future of the corporation seeks to understand how companies, in pursuing their business goals, contribute to the economy, how those contributions impact households, how they differ by type of company, and how they have changed over the past 25 years. Our research effort was in part inspired by the landmark research 90 years ago of two Americans, lawyer Adolf A. Berle and economist Gardiner Means.[3] At a critical juncture for US capitalism after the Great Depression, they conducted an in-depth examination of the structure and role of corporations in the economy and how they had been changing. Companies today are far more global and, as we describe below, have evolved in a multitude of ways in the past 25 years, let alone the past 90. Nonetheless an analogous dissection of business today is a revealing exercise at a time when business is under renewed and growing societal scrutiny and many business leaders are seeking to have a positive and purposeful impact on the economy and society.

In this chapter, we begin with our findings on the overall contributions of companies to GDP or gross value added, and as engines of increased productivity, employment, and innovation. We look first at the overall business sector in the 37 countries of the Organisation for Economic Co-operation and Development (OECD), which includes companies of all types that make up $44 trillion in gross value added in 2018. Second, we examine in more detail public and private corporations with headquarters in these same countries that have revenue exceeding $1 billion, which in aggregate account for $17 trillion in gross value added (see Box 1, "Sizing the business sector").

The business sector accounts for 72 percent of GDP in OECD economies and a greater share of productivity and innovation

Among OECD economies, business activity—the value added from businesses of any size or formality including corporations, partnerships, and sole proprietorships—accounts for 72 percent of GDP (Exhibit 2).[4] The remainder comes mainly from government, nonprofit activity, and household incomes from real estate.[5] The GDP contribution of this remainder is slightly higher in the United States and slightly lower on average in Europe. This is primarily

[3] Adolf A. Berle and Gardiner Means, *The Modern Corporation and Private Property*, Commerce Clearing House, 1932. Against the background of a critical public debate about the performance and purpose of corporate firms, Berle and Means diagnosed a "corporate revolution" characterized by the rise of large, dominating corporations and dispersed ownership of shares, implying the rise of managerial (as opposed to shareholder) control. Over the next decades, firms adapted to technological change in order to reap the benefits of size and reach of activity by establishing the multi-divisional firm, decentralized and coordinated by a corporate headquarter, as analyzed by Alfred Chandler (for instance in *Scale and Scope: The Dynamics of Industrial Capitalism*, Harvard UP: Cambridge, MA, 1990). In the 21st century, corporations have continued to evolve in response to trends in digitization and artificial intelligence, economic prosperity and globalization.

[4] We use the OECD's GVA numbers for the three sectors of the economy (corporate, government, and household). We then use an income view to consider a business sector that consists of the corporate sector plus mixed income that comes mainly from sole proprietor and small businesses that fall under the OECD's household category. This is a conservative estimate of the business sector, as it attributes all household compensation of employees to nonprofits and allows for consistency from country to country as well as over time. Note that this production view differs from other measures of the role of these sectors, for example total government expenditure, which is generally much higher. (In the OECD for example, this ranges from 25 percent of GDP in Ireland to 56 percent in France, according to OECD data on government spending). See the technical appendix for details.

[5] The income companies contribute to GDP includes the portion of wealth effects (capital gains) from increased company earnings that translate to share value for savers who invested in publicly listed companies. These investors have also benefited as expectations of future company earnings have become larger, by $1,000 to $2,000 per person per year since the mid-1990s in the United States, while, at the same time, equity earnings also became more volatile. As we detail later, most of these gains have accrued to high-income households. This estimate is based on trends in market cap in the United States between 1900 and 2014 by Kuvshinov and Zimmermann. If market prices relative to underlying earnings and GDP dropped, this "wealth effect" would also decline and could even be negative. See Dmitry Kuvshinov and Kaspar Zimmermann, *The Big Bang: Stock Market Capitalization in the Long Run*, European Historical Economics Society, working paper number 136, August 2020.

Box 1

Sizing the business sector

Most business activity in the OECD comes from the corporate sector (as defined by the OECD based on the business's formality and its corporate reporting and taxation requirements). Of the $61 trillion in domestic gross value added (GVA)—essentially equivalent to GDP in aggregate—in the OECD in 2018, businesses accounted for $44 trillion. The corporate sector accounted for $38 trillion, or about 85 percent of the total. In this discussion paper, we look first at the business sector, including companies of all types, in the 37 OECD countries. This includes the noncorporate sector, which largely consists of sole proprietorships, as well as the corporate sector. We subsequently analyze in more detail all public and some private corporations headquartered in these countries with revenue exceeding $1 billion (Exhibit 1).[1] These large corporations represented $17 trillion in gross value added in 2018. As described later in this paper, we use this subset to build our proprietary data set and cluster the companies based on several economic and societal patterns.

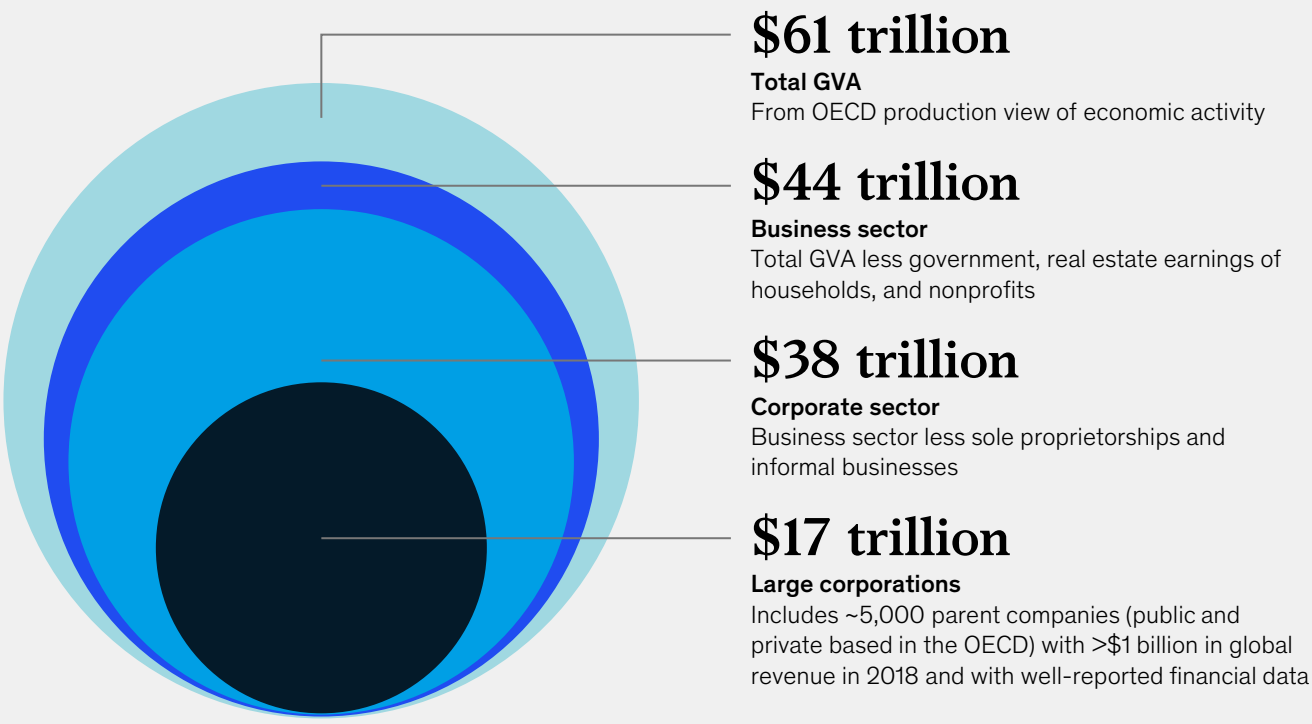
We consolidated subsidiaries into their parent corporations to end up with about 5,000 companies in 2018. These large corporations accounted for just under half of the corporate sector's value added in the OECD in 2018. See the technical appendix for further details.

Throughout this paper, use of the terms "business sector," "corporate sector," and "large corporations" should be taken to mean the descriptions in Exhibit 1.

Exhibit 1

Companies based in the OECD with revenue of $1 billion or more account for just under half of corporate value added and more than one-third of all business activity.

Portion of OECD economy's 2018 gross value added (GVA)



Source: OECD; McKinsey Global Institute analysis

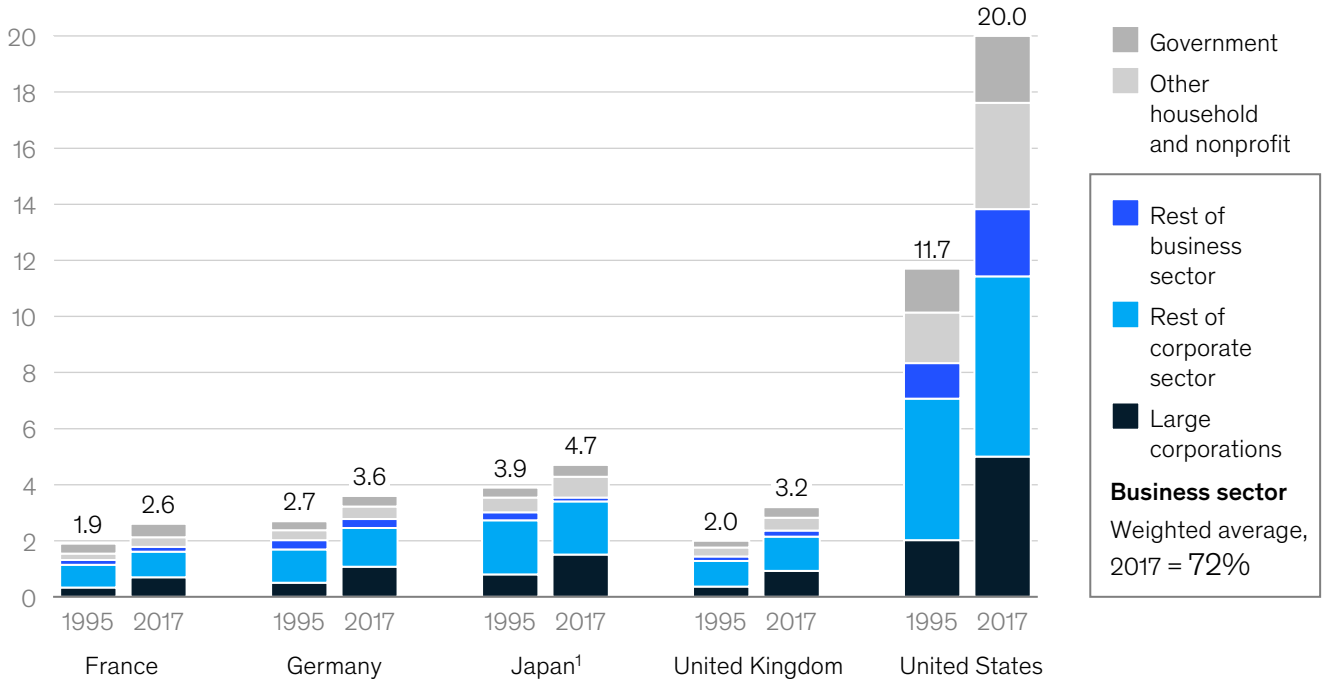
[1] When we compare across time, we fix the threshold as a share of GDP rather than to a fixed dollar value (that is, $1 billion in constant 2018 dollars), since this gives a more meaningful cutoff to understand the importance of companies above the threshold for the economy overall. This generally gives a lower threshold for our earlier time period than if we had used a fixed threshold (which would therefore have shown an even bigger increase for large company GVA relative to home country GDP). See the technical appendix for details.

because the elements of the household sector that account for real estate rents and nonprofit incomes in the United States amount to 19 percent of the economy's value added, whereas in the European Union they represent just 11 percent on average. We note that, from an expenditure perspective and especially when government transfer payments are included, government totals are generally higher in Europe than in the United States.

Exhibit 2

The business sector contributes 72 percent of value added across major OECD economies.

Value added by economic sector, constant local currency converted to 2018 $



1. Japan data not available and therefore estimated using OECD STAN data on business sector.

Note: The business sector is defined as for-profit companies of all types including corporations, partnerships, and sole proprietorships, including companies that do not report financials under the requirements of a corporation and are therefore considered "mixed income" under OECD definitions. "Other household income" refers to rental income (including imputed rents) and some compensation for workers employed by noncorporate businesses.

Source: OECD; McKinsey Global Institute analysis

Measured in real GDP per capita, the contribution of the business sector has tripled since 1960, proportional to economic growth (Exhibit 3).[6] In the United States, that GDP contribution amounted to about $40,000 per person in 2018, up from $13,000 in 1960 (in 2018 dollars). Japan and South Korea both grew faster from a lower base as they industrialized and reduced their higher share of agriculture. As a result, income per capita from the business sector grew more than three times faster in Japan than in Europe and the United States over the second half of the last century, but it has since slowed. Across all the OECD economies, the business sector steadied in the range of 70 to 75 percent of GDP once agriculture fell below 5 percent.[7]

The role of business activity in propelling innovation, productivity, and investment in technology and intellectual property is generally greater than its 67 percent share of value added of the economy (excluding real estate) (Exhibit 4).[8] Among major OECD economies in aggregate, the business sector generated 85 percent of labor productivity growth between

6 Our analysis of data from the Groningen Growth and Development Centre 10-sector database. Marcel Timmer et al., "Patterns of structural change in developing countries," in *Routledge Handbook of Industry and Development*, John Weiss and Michael Tribe, eds., Routledge, 2016.

7 This was not yet the case with some of the fast-growing emerging economies, such as China and India, over the period of our study. China, for example, saw a decrease in agriculture, forestry, and fishing from 20 percent to 7 percent of GDP, resulting in a huge shift of workers and capital into the business sector, according to World Bank data.

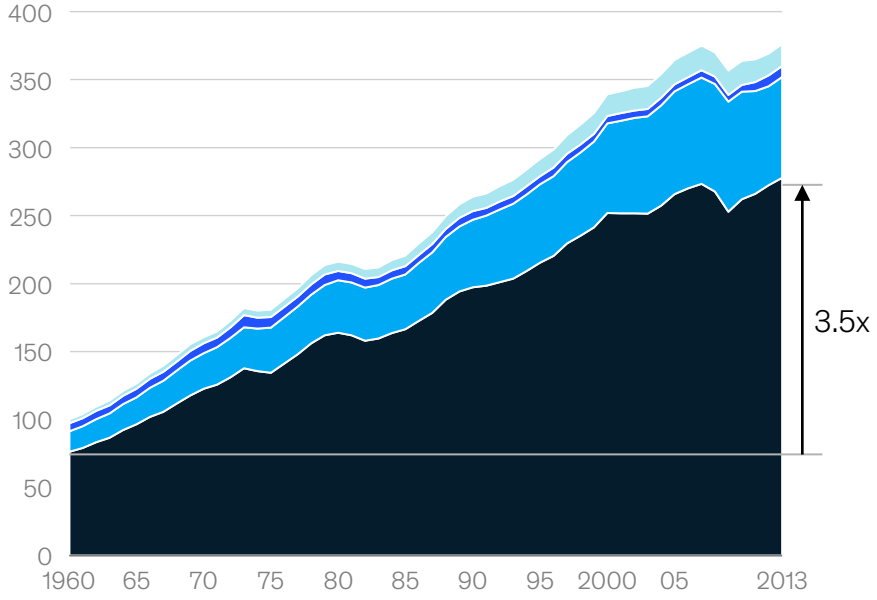
8 This definition of the business sector differs slightly from the one above due to our use of OECD STAN data for these metrics rather than the OECD's economic sector accounts. See technical appendix for details.

1995 and 2016.[9] It averaged 85 percent of technology investment and just over 70 percent of R&D investment in 2016–18. South Korea and Japan have the highest level of R&D, at 79 percent. Companies are also beneficiaries of R&D spending that comes mainly from government agencies, especially for basic research—and this in turn comes from taxes to which they contribute, along with households.[10]

Exhibit 3

Business has maintained a broadly steady share of economic production and more than tripled in size since 1960 in major OECD economies.

Value-added level and share of economy by producing sector,
total indexed to 100 in 1960 (weighted average of France, Japan, United Kingdom, and United States)[1]



Sector[1]	% of total 1960	2013
Nonprofit and household	3	4
Agriculture	6	2
Government	15	20
Business (incl real estate income)	76	74

1. The categories on this exhibit do not map perfectly to those on previous exhibits showing the size of the corporate sector and business sector, as we use Groningen data to look at a longer time frame. The data here is based on ISCI 3.1 categories. The differences are mainly that "Business" here includes all of real estate; "Government" includes all education, health, and social work, as well as public administration; and "Nonprofit and household" includes community and household services, but not real estate. See technical appendix for details.

Source: Groningen Growth and Development Centre 10-sector database; McKinsey Global Institute analysis

Exhibit 4 also shows that the metrics vary across OECD economies depending on the size of the business sector in each country, but that the proportions relative to one another are broadly consistent. For example, France has a lower share of value added from business due to a large public sector, but its business sector's investment in net digital stock (for example, information and communications technology) is still high relative to value added. There are also some notable cross-country trends over time. These include an increase in R&D share as governments spend less, and a reduction of employment in business, which has contributed to productivity growth since 1994–96. The business share of income for employees has also decreased, from 72 to 68 percent on average.

These statistics indicate the fundamental contribution of companies to innovation, higher productivity, and economic growth. They build scale and take risks in ways that households are unable to do and complement the broader role that governments play in economic growth, for instance in education, health, and basic research.

[9] The measurement of GDP comes with some warts, all acknowledged but difficult to account for. One of them is measuring the contribution of the public sector to value added and thus productivity growth. Here, both input and output are difficult to gauge, almost by definition, because there is no market price to be used as a measuring rod. Value is created, nonetheless. See Anthony B. Atkinson, *Measurement of Government Output and Productivity for the National Accounts*, Palgrave Macmillan, 2015, and Charles Bean, *Independent review of UK economic statistics*, GOV.UK, 2016.

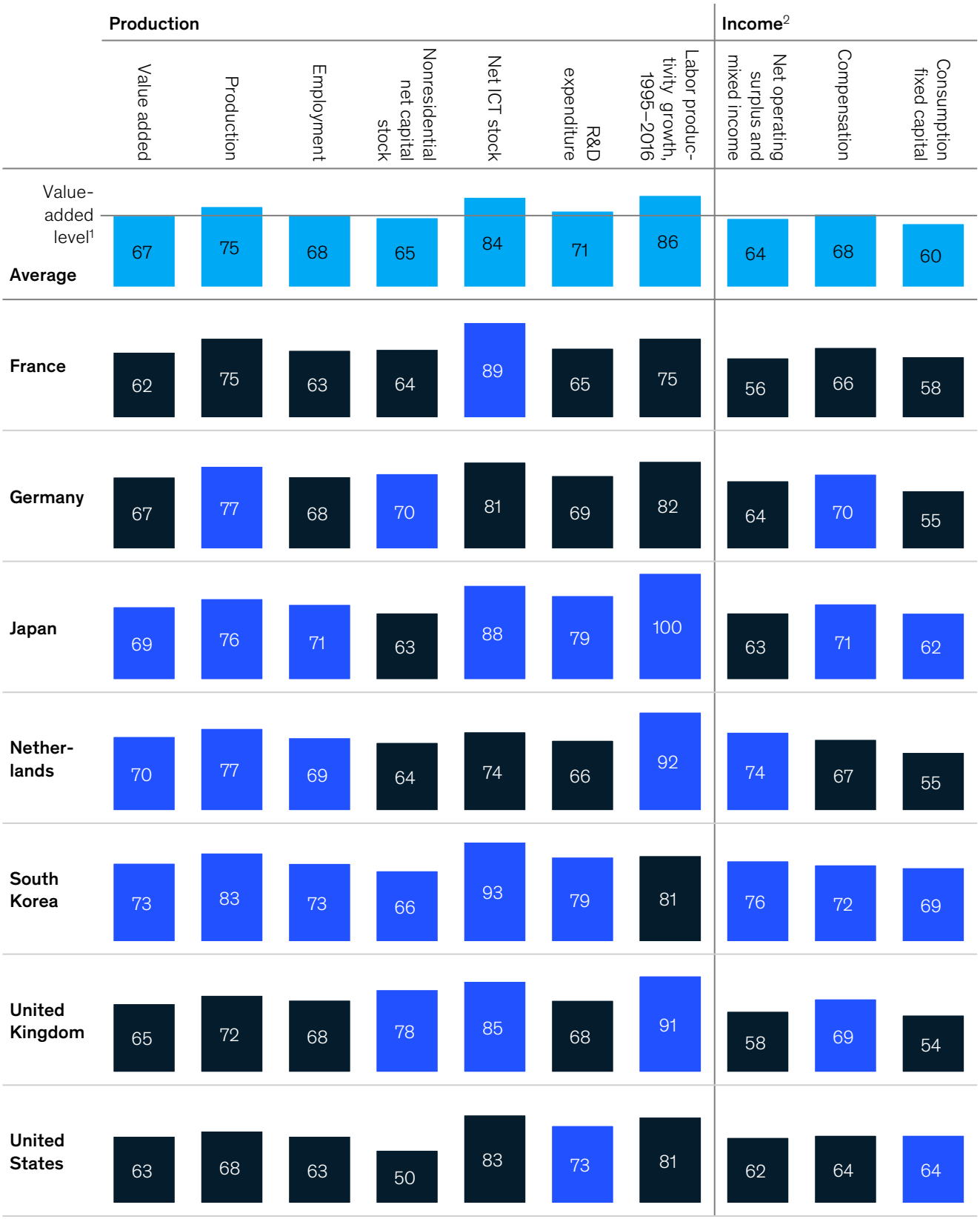
[10] For an account of how governments spark and nurture innovation through funding programs, see Mariana Mazzucato, *The Entrepreneurial State*, Anthem Press, 2013, and Jonathan Gruber and Simon Johnson, *Jumpstarting America: How Breakthrough Science Can Revive Economic Growth and the American Dream*, PublicAffairs, 2019.

Exhibit 4

The business sector accounts for large shares of economies' R&D, production, and investments in technology, as well as overall productivity growth.

Business-sector production and income indicators, % of national totals[1]

Above average of countries shown



1. Numbers are totals from OECD STAN business sectors excluding real estate relative to economy overall excluding real estate. See technical appendix for details.
2. Income here refers to the income view of GDP and is decomposed into its 3 main components. Later we define capital income and labor income pathways on a per-revenue basis for companies, which therefore have a different meaning.
3. Value-added level indicated as a benchmark against which we compare other metrics.

Source: BLS; OECD Structural Analysis database; McKinsey Global Institute analysis

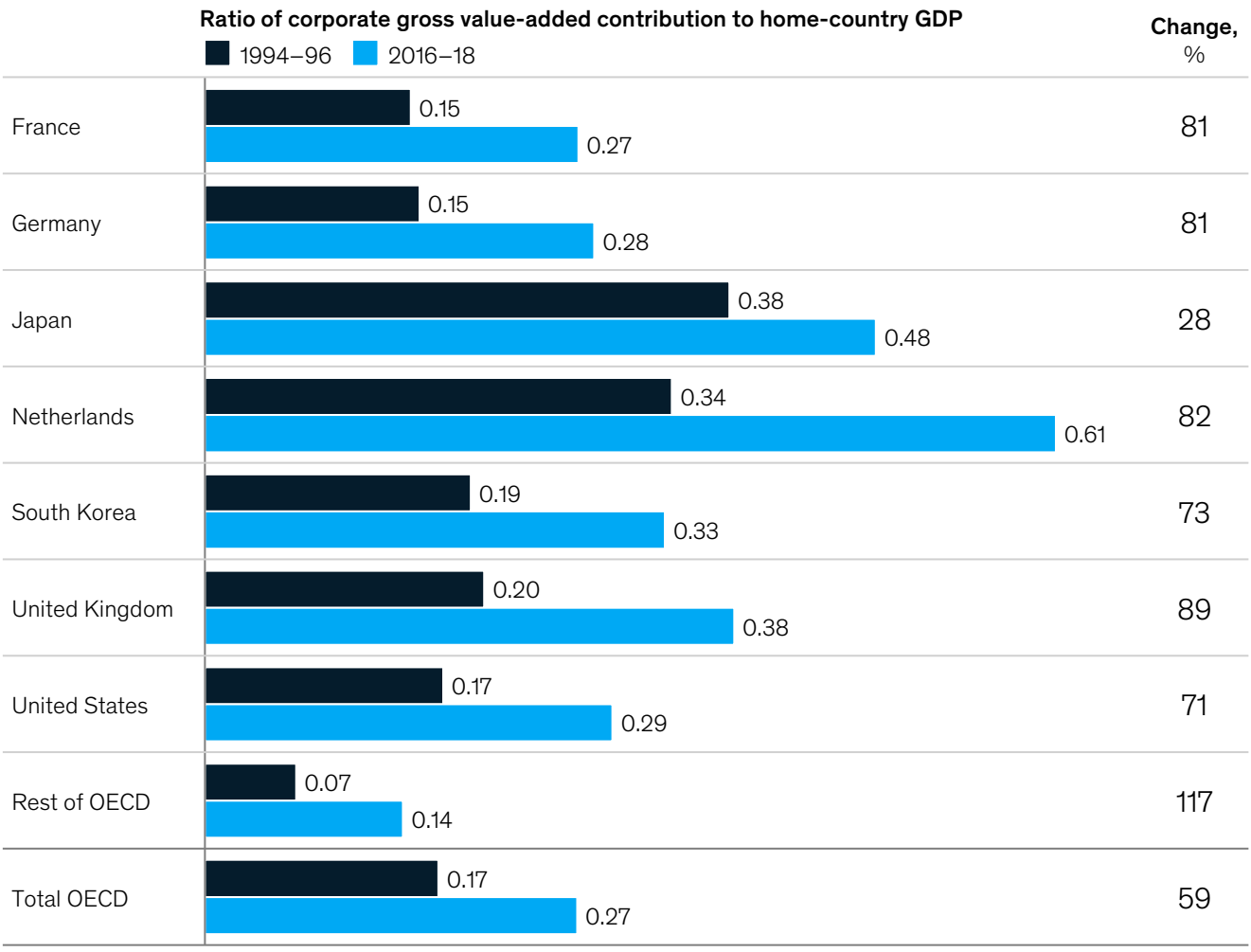
The share of overall economic activity attributable to large corporations has grown in the past 25 years

While the business sector's share of the economy has held relatively stable, its composition has changed. The relative weight of large corporations has increased.[11] In 1995, the amount of value-added contributions to GDP generated by large corporations was just under 20 percent of their home-country GDP. By 2018, that share had risen to almost 30 percent of home-country GDP on average, about a 60 percent rise (Exhibit 5). The United States was typical in this respect: the gross value-added contributions of large corporations rose from less than 20 percent of US GDP to 30 percent. In this same period, GDP per capita in the United States increased from about $40,000 to $60,000 in constant 2018 dollars.

Exhibit 5

The value added of large global corporations viewed in relation to their home economies has grown throughout the OECD.

Corporations in OECD with >$1 billion in annual revenue, change from 1994–96 (average) to 2016–18 (average)



Source: MGI Companies and Economy data set; OECD; McKinsey Global Institute analysis

Among countries of similar level of income per capita to the United States, some such as Denmark, the Netherlands, and Switzerland have an even higher ratio of corporate GVA contributions to home country GDP than the United States. This is due in part to their relatively larger share of foreign sales by their companies. Others, including France and

[11] While this paper covers OECD economies, we have also examined the significant role of large companies in fueling economic growth in emerging economies. See *Outperformers: High-growth emerging economies and the companies that propel them*, McKinsey Global Institute, September 2018, on McKinsey.com.

Germany, are closer to the United States and grew similarly. Still others, such as Norway, have a much lower ratio than the United States. The growth of this ratio of corporate GVA to home-country GDP in all these countries is mainly the result of large corporations accounting for more of the economic activity in these economies. It also reflects the growth of foreign sales by these companies.[12]

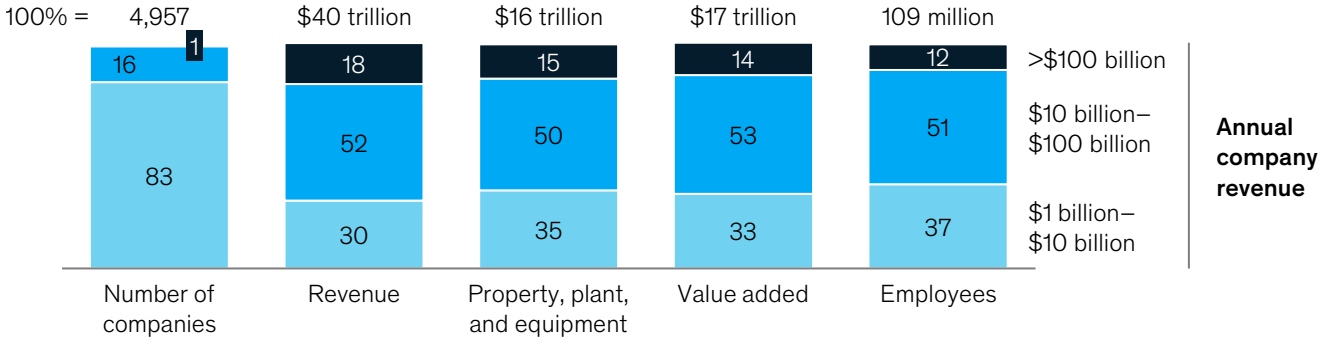
Moreover, the very largest companies outpace the economic growth in their home countries by the largest margin. For example, the ten largest companies in each OECD country increased the ratio of their GVA contribution to GDP by 40 to 80 percent in the two decades between our two reference periods of 1994–96 and 2016–18. (The exception here was the United States, where the ratio grew only by 10 percent, because of the much larger size of US GDP.) The growing preponderance of the largest companies is consistent with findings of prior research on "superstars," which suggests that large, high-performing corporations (in economic terms) are more significant than before and that those with the greatest economic profit are pulling ahead of their peers.[13] It is beyond the scope of this paper to analyze competitive dynamics that drive and are driven by this, although it is an important topic for further research.

The effects of this growth in size are already apparent and are likely to increase as potentially more companies cross thresholds, from $1 billion to $10 billion to $100 billion in annual revenue. Among the most notable impacts is that the largest companies have a lower level of labor intensity; those with revenues between $1 billion and $10 billion account for 30 percent of total revenue and 37 percent of employees; those proportions are reversed for companies with more than $100 billion in revenue, which account for 18 percent of revenue and 12 percent of employees (Exhibit 6). The United States accounts for just over half of the revenue of the corporations with more than $100 billion in revenue, compared to its overall revenue share in our data set of 36 percent.

Exhibit 6

Companies with annual revenue between $10 billion and $100 billion make up half of revenue, employees, and physical capital.

Average, 2016–18, %



Note: Figures may not sum to 100% because of rounding.
Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

From this broad assessment of the business sector overall, in subsequent chapters we switch our focus to look in more depth at large corporations, those with at least $1 billion in revenue (as we described earlier in Box 1). This focus allows us to dig deeper into the economic impact of these companies and assess whether and how that has changed over the past 25 years.

[12] Based on data from the OECD Analytical MNE database, the portion of sales by multinational enterprises that was outside their home economies increased between 2005 and 2016 from 44 percent to 51 percent in France, from 48 percent to 54 percent in Germany, from 21 percent to 38 percent in Japan, from 51 percent to 59 percent in the United Kingdom, and from 28 percent to 30 percent in the United States.

[13] *Superstars: The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018, on McKinsey.com.

2. How economic value from corporations flows to the economy and households

In this chapter, we map how economic value flows from corporations to the economy and households. We then examine how these flows have changed over the past two decades (see Box 2, "Methodology used in the 'pathways' analysis"). We use our data set of parent companies headquartered in OECD countries with annual revenue exceeding $1 billion. These companies are the large corporations that make up $17 trillion of the $44 trillion in gross value added from the business sector in 2018. Together, they employ 109 million workers.

Economic value from companies flows to the economy and households via eight pathways

The economic gains of a company flow to households via eight pathways (Exhibit 7). Five of these are the pathways through which a company's economic value flows to those who contribute to production. One is the economic value consumers derive from products and services provided by the corporation. The remaining two are examples of spillovers that affect the rest of society or are otherwise not accounted for by the monetary flows because there are no market prices to capture them.

The following are the eight pathways.
(NOTE: the names used for the pathways throughout this paper follow the definitions below.)

Labor income pathway. These are monetary flows to employees in the form of wages and benefits, including contributions to social insurance and personal income taxes that workers pay on their salaries and wages. The benefits that companies provide versus those that come from government, such as access to healthcare plans, vary by country. This is the most direct economic pathway to households and, in particular, to households that contribute to the economic activity of the corporation.

Capital income pathway. These are monetary flows to shareholders and creditors in the form of dividends, share buybacks, and interest. This pathway does not include wealth effects from changes in the price of shares—that is, capital gains or appreciation of assets—although these are in part driven by expected cash from dividends or buybacks.[14] This pathway leads to households through their shareholdings, or indirectly through investment or savings vehicles they own that have invested in the company, including stock ownership, mutual funds, and private retirement accounts. This pathway also reaches households through public pensions invested in corporate assets and receiving commensurate cash flows.

[14] This focus on the actual monetary flow out of the company means that the pathway differs from the broader category of capital income commonly used to describe all income attributable to capital inputs.

Box 2

Methodology used in the "pathways" analysis

To measure the pathways through which companies impact the economy and households, we built a database of about 5,000 large corporations headquartered in OECD countries with revenue of more than $1 billion. We drew on a data set from McKinsey's Strategy & Corporate Finance Practice of about 18 million publicly listed and private companies. These companies are the "large corporations" we discussed in Box 1 in the previous chapter, that make up $17 trillion in gross value added. We supplemented the company-level data with OECD and other sources of data to create a complete data set for the economic variables we analyze in this report, which we refer to as the "MGI Companies and Economy" data set.

In mapping the impact of corporations to households and the economy, we index their economic value through each of the eight pathways we identify to $1 of revenue. The first six pathways—labor income, capital income, tax, investment, supplier payments, and consumer surplus—in our framework treat every dollar of revenue and consumer surplus the same to be able to account for flows similarly across companies. We acknowledge that all demand is not created equal from the perspective of societal benefit, even beyond the spillovers accounted for in our two other pathways. One example is that each transaction comes with different local multiplier effects depending on whether suppliers and workers are local, and whether sales induce complementary businesses in service and repair. More fundamentally, products themselves may have differing societal impact—for example, devising a financial instrument as opposed to building a bridge. We also do not examine in depth how the economic value flows to different household recipients across geographies and demographic groups in ways that could worsen or ameliorate social challenges like inequality. However, we do look at how capital income and labor income pathways, as well as consumer surplus, affect households in different income segments (see chapter 5). In the other two pathways, which are negative and positive spillovers, we seek only to illustrate how the activities of companies can affect households beyond the transactional flows. Specifically, we measure company activities that contribute to climate change and to productivity growth in the economy using company-level metrics of outputs (greenhouse gas emissions and company productivity proxies, respectively), but do not try to measure the aggregate monetary impact for households.

While these analyses provide a fact base on the role of corporations in the economy, they should not be viewed as a comprehensive environmental, social, and governance (ESG) accounting. We do not consider the impact of companies across the more than 200 metrics used to track progress toward the United Nations Sustainable Development Goals, for example. Rather, what we attempt to capture are the economic flows to households indexed to sales—primarily the market value of products and services sold, who receives it, and how. Thus, we exclude most nonmarket sources of well-being.[1]

To see how the impact of corporations through the pathways has changed by company type and over time, in inflation-adjusted or constant prices, we compared 1994–96 and 2016–18. We picked these dates to account for peaks or dips in the global economy and to create sufficient distance to identify broader trends that have emerged this century to date. In the earlier period, only about half as many companies fit our size criteria (which keeps the threshold constant relative to GDP).

The 37 countries in the OECD constitute 62 percent of global GDP and 17 percent of global population. We acknowledge that some important non-OECD economies are not included, most notably China and India, each of which accounts for a greater share of global population than the OECD. This is in part due to the challenge of using consistent data sources, but it also fixes our research design on countries where the nonfarm business sector reached a stable share at the beginning of our research period and country differences can be attributed to a more limited set of factors. We may include them in further research.

While we consider OECD economies generally, we focus particularly on the five largest: France, Germany, Japan, the United Kingdom, and the United States. Together, they account for 81 percent of our OECD data set's total revenue in our first period and 73 percent in our second period. At various times, we spotlight South Korea and the Netherlands. These two economies have large shares of revenue from global companies and add diversity to the mix. Including both raises the share of total revenue to 82 percent in the second period. Each of these seven countries represents different industry mixes, sources of corporate finance, patterns of ownership, and structures of corporate governance. They also represent different varieties of capitalism along dimensions of market coordination (versus liberal systems) and the degree of co-contribution on some pathways by the state.[2]

Finally, we do not address the effectiveness of the financial system or seek to provide normative arguments on the debates over shareholder primacy.[3] For further details, see the technical appendix.

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1 See Joseph Stiglitz, Amartya Sen, and Jean-Paul Fitoussi, *Report by the Commission on the Measurement of Economic Performance and Social Progress*, 2009.

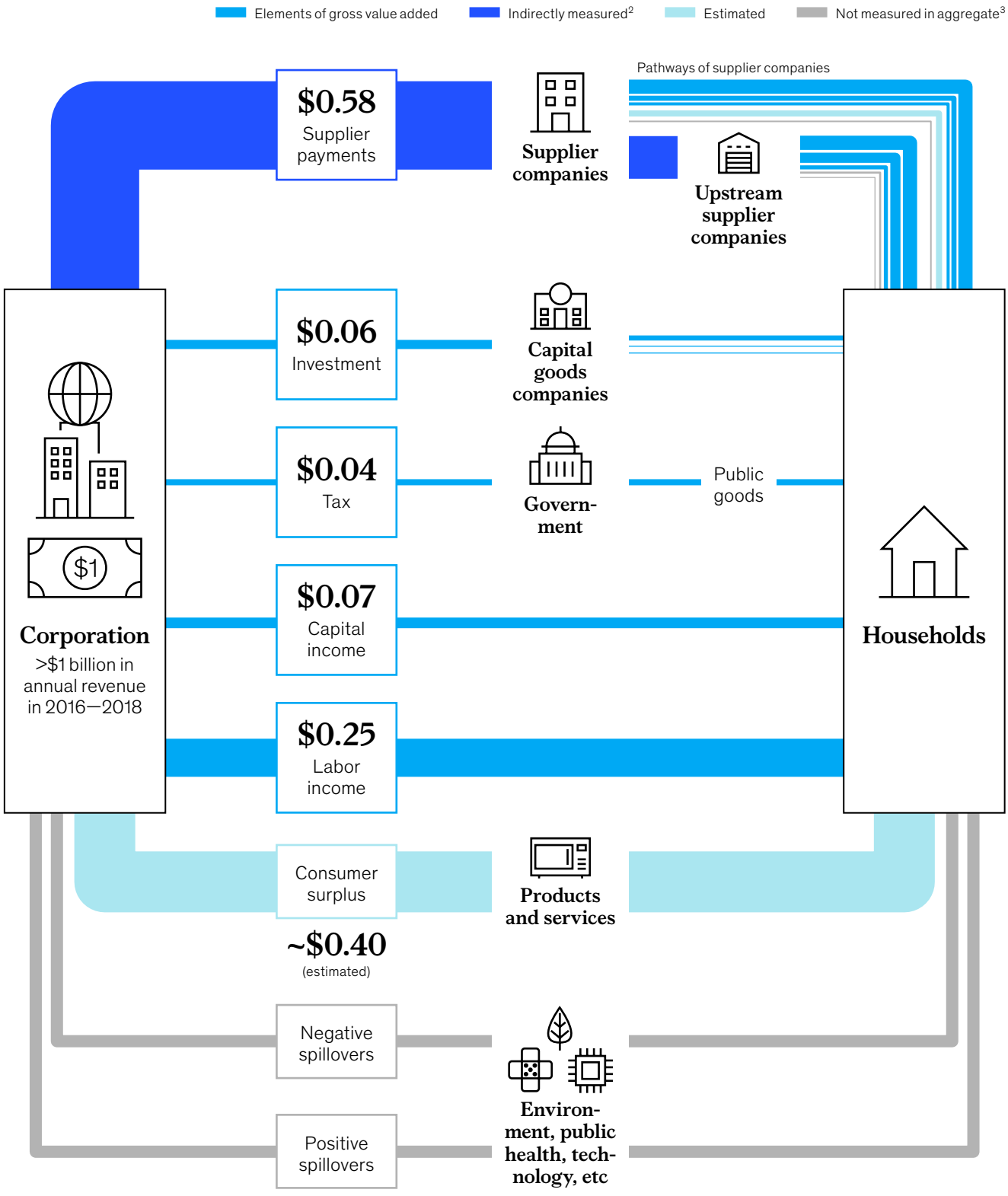
2 See for example, Peter A. Hall and Daniel W. Gingerich, "Varieties of capitalism and institutional complementarities in the political economy: An empirical analysis," *British Journal of Political Science*, November 2001, Volume 39, Number 3; Peter A. Hall and David Soskice, eds, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, Oxford University Press, 2001.

3 For a useful summary of these debates, see Luigi Zingales, Jana Kasperkevic, and Asher Schechter, eds, *Milton Friedman 50 Years Later*, ProMarket, Stigler Center, University of Chicago Booth School of Business, 2020; and Peter Gourevitch and James Shinn, *Political Power and Corporate Control: The New Global Politics of Corporate Governance*, Princeton University Press, 2005.

Exhibit 7

Corporate economic gains flow to households via eight pathways.

Value flow for every $ of corporate revenue, for average corporation with >$1 billion in revenue[1]



1. Revenue-weighted average of companies with >$1 billion in annual revenue, based in OECD countries, 2016–18 averages.
2. Supplier payments do not flow directly to households but rather via the pathways of supplier companies. This is true even when the large corporation on the left is itself a supplier; in that case, some of the consumer surplus is also transmitted via downstream companies.
3. We provide examples of quantified elements for spillovers such as emissions.

Note: Pathways refer to the channels through which value generated by companies from sales flows directly or indirectly to households. The pathways are: labor income (wages and benefits); capital income (dividends, share buybacks, and interest); taxes (corporate income and production process taxes); investment (money retained from profits and spent on capital assets to drive future value creation); and payments to suppliers (for goods like inventory and contracted services used in production). We also include consumer surplus (imputed value greater than price) but can only estimate it broadly; and two spillover examples, the impact on the environment and the growth of total factor productivity, which we analyze but do not measure in aggregate dollar terms in this research.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Tax pathway. These are the tax payments that a corporation remits directly to government, specifically corporate income taxes and taxes on the production process. They are part of the corporation's value added at the price it receives for selling the product (which excludes additional sales taxes).[15] The pathway's size depends in part on how countries decide to tax: through these channels, through sales taxes that affect consumer prices, or through personal income and payroll taxes, which are part of the labor income pathway. This pathway makes its way ultimately to households, via intermediation by the government through its provision of services to citizens and residents. In some cases, it flows to them through other pathways, for example as labor income in the form of subsidies or co-employee benefits, or as consumer surplus, through product price subsidies.

Investment pathway. This is the portion of earnings spent on investments in capitalized assets that are used in production. It ultimately impacts households through three sub-pathways, each of them indirect: first, as payments and thus income for the workers and shareholders of providers of capital goods, both physical such as property, plant, and equipment, and intangible like goodwill from acquisitions or software and data assets; second, through the use of those capital goods in production, which translates to additional revenue and economic value that then flows through all pathways; and, third, saved as cash (in other words, invested in a financial asset), which then remains available to spend on future investment or pay out through the other monetary pathways.

Supplier payments pathway. These are payments to other companies that are suppliers of inventory or other intermediate input goods and services used in the production process, such as outsourced business services. The monetary value subsequently flows to households indirectly as labor income, capital income, and tax payments of those other companies or through several companies in a supply chain or commercial ecosystem (as in the case of capital goods providers).[16] The supplier companies could be large as well as small and midsize enterprises (SMEs) that are important sources of jobs near physical plants, for example. They could also be located in other countries, and hence also lead to contributions such as employment there. Both of these are important dimensions for understanding which households in which geographies benefit from this pathway.

Consumer surplus pathway. We include this as a pathway because consumer surplus directly benefits households as consumers of the products and services produced by companies. Consumer surplus represents the value obtained by consumers when they are able to purchase a product or service for a price less than the highest price they would be willing to pay. In this research, we estimate consumer surplus in two different ways: a rough order estimate of the value per dollar attributable to the selling company and an estimate based on data related to price trends (see Box 3, "Methodology used to estimate consumer surplus"). Most companies have many more consumers than workers, making consumer surplus more diffuse as measured by how many households a company reaches through its pathways.

[15] Under "production taxes" we include taxes linked to production processes that are thus part of value added in the OECD STAN database (that is, at basic prices), not taxes on products such as VAT. In this way we follow a general rule of including all direct flows from revenue, as in the case of corporate income tax and employer contributions to employee social security, which is included under labor income, but we do not consider personal income taxes or employee contributions for which workers are responsible.

[16] We include supplier payments to illustrate how value flows from individual firms to households and include all stakeholders of a corporation. In an aggregate perspective, only the first four pathways—labor income, capital income, taxes, and investment in capital assets—are counted as elements of gross value added. Supplier payments cannot be added to these four if the aim is to aggregate the total value added of the economy, as this would amount to double counting; they become the labor income, capital income, investment, and taxes paid to other firms, although not necessarily in the same ratio as we show for our data set of large corporations (and they are themselves suppliers to other corporations in many cases).

Box 3

Methodology used to estimate consumer surplus

Consumer surplus is the subject of a growing body of academic research. We follow the microeconomic definition of consumer surplus as the willingness of a consumer to pay more than the actual price quoted in a market. This surplus—the difference between a demand curve and the price—is unobservable for any given purchase. Still, data on consumer behavior have always allowed for imputing of demand curves, and hence the size of the area above price. Given today's vastly increased availability of data, it becomes ever more feasible to measure consumer surplus for particular products.[1]

To estimate consumer surplus, we adopt two approaches.

Approach 1. First, for purposes of our pathways analysis, we estimate consumer surplus for all of the companies in our data set of large corporations on a per-dollar-of-revenue basis that is attributable to the corporation, just like the other pathways. We take a deductive approach by assuming that, in the long run in competitive markets, value is split equally between the many buyers and many sellers (who are similarly situated in bargaining power). Our starting point is the value-added portion, the share of value attributable to a company. We then adjust this based on evidence of markups above factor costs, which we measure as profits above the weighted average cost of capital, following the interpretation of markups by economist Simcha Barkai.[2]

This order-of-magnitude analysis puts consumers and workers on the same plane in relation to household impacts. However, given that this is a reductive approximation, our estimate is not precise enough to say more than that. Most likely it is an underestimation of total consumer benefit, since some products are provided without charge to consumers, albeit often in exchange for their data, as other researchers have highlighted.[3]

Approach 2. Our second approach applies when we can observe relative price changes of different products over time. A more precise analysis of consumer surplus is then possible under the assumption that a price decrease corresponds to pure gains for consumers over the volume of purchases plus additional surplus from more sales (or vice versa for price increases). The fundamental challenge is how to disentangle any product quality improvements from price changes, for which the use of hedonic price deflators is an important advance.[4]

This second approach will be used in chapter 4, when we examine changes to consumer surplus over time. There, we proceed by decomposing the change in revenue between 1994-96 and 2016-18 for large companies in our data set into price and volume components using granular sector and country production price data, including for business-to-business sales. This is not perfect, since companies may differentiate their prices from the detailed sector average, but it is reasonable for the more aggregated analyses that we do. This decomposition allows us to assign a price and volume change at a company level and then aggregate in a weighted fashion by company type to see which types of companies are passing gains on to consumers. As our company dataset does not cover the whole economy, we mainly compare company types to one another in this way and draw conclusions about their relative contributions to consumer surplus.

In addition to the above approach to understand changes over time, we also draw on our previous research on *The social contract in the 21st century*, in which we used data on consumer prices relative to consumer price indexes to give a consistent view of prices relative to inflation for all elements of consumer expenditure.[5]

Given the significance of the findings on consumer surplus and how consumer surplus is likely to continue to evolve, this is an area that will require further and ongoing research.

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1 See for example, Peter Cohen et al., *Using big data to estimate consumer surplus: The case of Uber*, National Bureau of Economic Research (NBER) working paper number 22627, September 2016.

2 Simcha Barkai, "Declining labor and capital shares," *Journal of Finance*, October 2020, Volume 75, Issue 5; and Jan De Loecker and Jan Eeckhout, *The rise of market power and the macroeconomic implications, Technical report*, NBER working paper number 23687, August 2017. To measure markups, we use economic profit—profit above the cost of capital—and consider only the positive economic profit (indicative of pricing power) when summing across companies.

3 For cases where the part of the product being monetized is not the primary source of user benefit, as with many media advertising models that social media have further extended, see, for example, Erik Brynjolfsson et al., "Measuring the impact of free goods on real household consumption," *AEA Papers and Proceedings*, May 2020, Volume 110, pp. 25–30; Karen Dynan and Louise Sheiner, *GDP as a measure of economic well-being*, Hutchins Center working paper number 43, August 2018.

4 See Ian Crawford and J. Peter Neary, *New characteristics and hedonic price index numbers,* CESifo working paper number 7529, February 2019; W. Erwin Diewert, John Greenlees, and Charles Hulten, eds., *Price Index Concepts and Measurement*, University of Chicago Press, 2009; *Consumer price index manual: Theory and practice*, International Labour Organization et al., 2004.

5 *The social contract in the 21st century*, McKinsey Global Institute, February 2020, on McKinsey.com.

The two final pathways are spillovers, by which we mean costs and benefits accruing to society and households that, since they are not traded in markets, are not acknowledged through the lens of market prices ("externalities").[17] Hence these effects do not show in monetary flows or in directly measurable and attributable ways, as we have for the other six pathways. They are nevertheless important to consider for their impact on the economy, society, and households. They include, for example, worker satisfaction from doing a job or, alternatively, the cost of injuries on the job. Indeed, many hundred indicators associated with the UN's Sustainable Development Goals could fall under our definition of a spillover. Unlike the monetary pathways above, we did not research spillovers comprehensively. Nonetheless, the two spillover examples we have chosen, one negative and one positive, are among the most important ones and are linked to corporations' activity in the economy. The examples of spillovers considered in this paper are the following:

Environmental externalities. Even as an example, environmental externalities are in themselves broad. Here we focus on greenhouse gas emissions as well as depletion of natural resources, which generate costs and benefits that are not often priced but that affect the well-being of all households and future generations. In this research, we do not size overall environmental costs from emissions, but rather use data on emissions and the use of natural resources in production (the portion that is priced as input costs) as proxies that can help us understand trends in the opportunity costs of these effects over time. While non-priced emissions are a negative spillover in aggregate, companies can also contribute positively by reducing climate risk.

Total factor productivity growth. The diffusion of productivity gains in the form of innovations in technology and organization, training workers, and developing leaders reflects company contributions to the economy beyond their commercial activity. As a positive spillover, total factor productivity growth is measured as GDP growth beyond what is attributable to increased capital and labor inputs. We do not try to quantify how each corporate activity adds to that economy-wide growth number. Rather, as in the case of our environmental analysis, we quantify examples of activities as proxies for their impact. Specifically, we use R&D expenditure and digitization metrics for technology creation and diffusion, and labor productivity for human capital development. Productivity growth finds its way to households in the form of stronger and more robust economic growth broadening the flow through all pathways from one year to the next.

Supplier payments are the largest pathway into the economy, but the main pathways that reach households most directly are labor income and consumer surplus

Indexed to one dollar of revenue that the average large corporation earns, we estimate that $0.25 of monetary value flows to households as labor income, $0.07 goes to shareholders and creditors as capital income, $0.06 is retained and invested for future revenue and incomes, and $0.04 goes to government directly as corporate income and production taxes. The value-added contribution of these large corporations to the economy's gross value added per dollar of revenue is thus $0.42. The rest of the dollar of revenue, $0.58, goes to supplier payments; as noted, these flow indirectly to households through the pathways of supplier companies. From the perspective of flows created by large corporations, the supplier pathway is the largest, reflecting the importance of the role of suppliers in how corporations carry out their business activities.[18]

[17] We use the term "spillover" as a more general one than "externalities," since we recognize that many of the effects that companies can have beyond what we track can accrue to market participants, for example in the form of the camaraderie and dignity of work or a sense of retirement security for savers who receive regular dividends. For a list of the 231 unique indicators across the 17 United Nations Sustainable Development Goals that offer a way for companies to track their societal impact, see *Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*, United Nations, Department of Economic and Social Affairs.

[18] Taking an aggregate view, the $0.58 would be netted out, since it goes to the value-added components of these suppliers but must be accounted for in our company-level perspective.

Consumer surplus represents value beyond what is measured as part of GVA, as noted in Box 3. We estimate that consumer surplus attributable to large corporations is about $0.40 per dollar of revenue. Based on this estimate, consumer surplus is thus one of the two largest pathways, along with labor income, through which households receive economic value directly from corporations. While we provide an estimate here, we will later discuss a relatively more precise quantification of consumer changes over time and by company type (see discussion in chapter 4 based on the second approach to consumer surplus described in Box 3).

For the two spillover pathways, we draw on previous MGI research on climate risk and productivity, which illustrate why these spillovers are so important to the overall contributions of companies.[19] For the environment, as discussed earlier, we do not attempt to estimate the monetary costs of greenhouse gas emissions for society. We only measure company emissions relative to revenue.[20] On average, this is about 1 kiloton per $1 million of revenue for scope 1-3 emissions, although this varies widely by company type. [21] For productivity growth, we use broad aggregate data sources, which show that annual growth in total factor productivity is less than 1 percent of value added per year across OECD economies. This amounts to less than $0.01 per dollar of revenue for large corporations, but the compounding effects boost the economy.[22]

The pathway sizing reflects the aggregate of our data set. However, the preponderance of the large companies is not evenly distributed across the different pathways. In aggregate, 29 percent of companies accounted for 80 percent of the revenue in our data set of about 5,000 OECD companies with more than $1 billion in revenue in 2017. When viewed pathway by pathway, this dispersion measure varies (Exhibit 8). It is less concentrated for labor income (for which 28 percent of companies account for 80 percent of the total), consumer surplus (28 percent), and supplier payments (24 percent) and more concentrated for capital income (just 17 percent of companies account for 80 percent of the total), investment (13 percent), and taxes (13 percent). Contributions to R&D and scope 1-3 emissions are in between, at 20 percent.[23]

Pathways have important subsegments within them, each with different characteristics

Each pathway has subsegments that reflect different aspects of the flow to households. For example, of the $0.25 in labor income, $0.03 represent employer contributions to social insurance and payroll taxes that affect households as savers. A similar portion comes out of the remaining labor income as the employee contribution. As a result, take-home pay is closer to $0.20.

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19 *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, on McKinsey.com; *Solving the productivity puzzle*, McKinsey Global Institute, February 2018, on McKinsey.com.

20 In our prior research on climate risk, we likewise did not try to quantify the GDP impacts of climate change, but others have done so, taking a variety of approaches. The findings are consequently starkly different, ranging from 10 to 50 percent of global GDP by the end of the century under an RCP 8.5 scenario. See *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, on McKinsey.com. See also Simon Dietz and Nicholas Stern, *Endogenous growth, convexity of damages and climate risk: How Nordhaus' framework supports deep cuts in carbon emissions*, Grantham Research Institute on Climate Change and the Environment, June 2014; Howard Covington and Raj Thamotheram, "The case for forceful stewardship (Part 1): The financial risk from global warming," SSRN, January 2015; and Martin L. Weitzman, "GHG targets as insurance against catastrophic climate damages," *Journal of Public Economic Theory*, March 2012, Volume 14, Number 2.

21 Scope 1 emissions are those from owned or controlled sources, scope 2 are those from generation of purchased power, and scope 3 from indirect sources in the rest of the value chain. We generally aggregate all three in this paper, with the idea that companies could potentially face impacts associated with these emissions as a result of decarbonization, whether directly or if costs are passed through the value chain, both upstream and downstream. This aggregation also means that emissions are double counted in many cases (for example, one company's scope 1 emissions could be another company's scope 3 emissions) and so cannot simply be multiplied by the total revenue of our data set of corporations to get back total emissions (which would exceed country aggregates). It is important to distinguish them in some cases, as we do when we discuss how companies create value and how that flows into the economy.

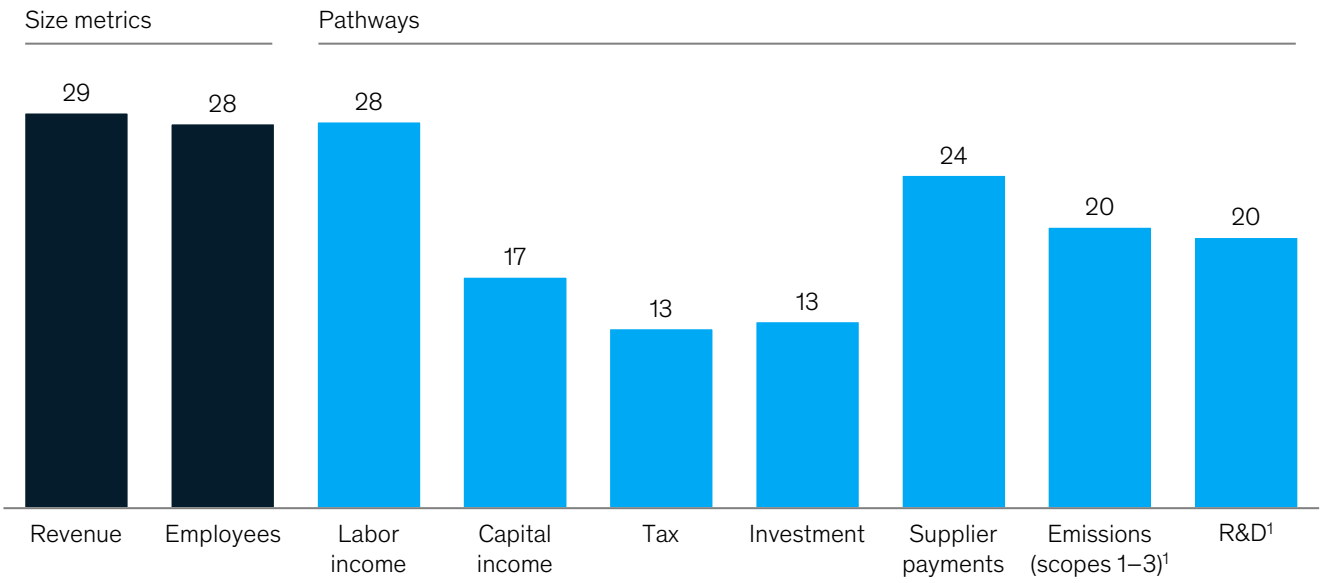
22 See also, *Will productivity and growth return after the COVID-19 crisis?* McKinsey Global Institute, March 2021, on McKinsey.com; and Nicholas Crafts and Terence Mills, "Economic models vs 'techno-optimism': Predicting medium-term total factory productivity rates in the US," VoxEU.org, July 2017.

23 The emissions number is in part a reflection of the double counting involved in the aggregation of scope 1–3 emissions for all companies in the data set. One way to avoid this is to focus only on the energy producers. For example, see Paul Griffin, "The carbon majors database: CDP Carbon Majors Report 2017," CDP Report July 2017, showing that 100 of these producers accounted for 71 percent of scope 1 and 3 emissions in 2015 (including state-owned producers).

Exhibit 8

The value flowing through the capital income, tax, and investment pathways is concentrated among fewer companies than for the other pathways.

Share of large corporations that account for 80 percent of the pathway total, %



1. Here we use emissions and R&D as proxies for the two spillover pathways.

Note: Pathways refer to the channels through which value generated by companies from revenue flows directly or indirectly to households. The pathways are: labor income (wages and benefits); capital income (dividends, share buybacks, and interest); taxes (corporate income and production process taxes); investment (money retained from profits and spent on capital assets to drive future value creation); and payments to suppliers (for goods like inventory and contracted services used in production). We also include consumer surplus (imputed value greater than price) but can only estimate it broadly; and two spillover examples, the impact on the environment and the growth of total factor productivity, which we analyze but do not measure in aggregate dollar terms in this research.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Furthermore, workers benefit from the labor income pathway in different ways. The $0.25 of labor income can be decomposed into an average of 2.7 employees per $1 million of revenue and about $93,000 in employer costs per employee. This split varies widely across companies of different types (as we discuss in chapter 3), as well as between the large corporations we focus on and smaller businesses. Large companies tend to pay higher wages and have lower employment per dollar of revenue than the average of the whole business sector in the OECD.[24] The employment effect slightly outweighs the wage effect. As a result, the labor share of revenue for our data set of large corporations is on average two percentage points lower than the labor share for all businesses, a finding similar to that by other researchers. Finally, the distribution of wages across otherwise similar companies and within them can vary substantially, notably with a widening gap between the top and bottom of the wage distribution.[25]

Similarly, the size of the supplier pathway is matched by the number and diversity of its participants, as well as their locations, and hence benefiting households. Even for companies of similar revenue size, the number of suppliers varies substantially. For example, among some of the largest companies that have more than $20 billion of input costs, the number of

[24] Firm-level wage data is limited in our data set; we therefore estimate them using a granular (GICS level 4) mapping of compensation from the OECD's Structural Analysis database adjusted for mixed income, the employment intensity of firms in our data set, and literature on large firm wage premiums as discussed in the text and following footnotes. For the evolution of the large company wage premium, we refer to sources including Nicholas Bloom et al., "The disappearing large-firm wage premium," *AEA Papers and Proceedings*, May 2018, Volume 108, pp. 317–22, and Emanuele Colonnelli et al., "A cross-country comparison of dynamics in the large firm wage premium," *AEA Papers and Proceedings*, May 2018, Volume 108, pp. 323–7. The employment intensity adjustment was calculated using firm-level data from our database. See the technical appendix for details.

[25] See Jae Song et al., "Firming up inequality," *The Quarterly Journal of Economics*, February 2019, Volume 134, Issue 1. The authors attribute one-third of a rise in wage dispersion between 1978 and 2013 to the rise in variance within firms and two-thirds to an increase in variance of the average wage between firms. For a broader summary of how differences in firms affect inequality, see Walter Frick, "Corporate inequality is the defining fact of business today," *Harvard Business Review*, May 2016.

publicly reported suppliers ranges from tens of thousands for the biggest global corporations in oil and gas and consumer products, to thousands for industrial manufacturers and global hypermarkets, to hundreds for technology hardware and air freight companies. With the proliferation of multisided digital markets, the very idea of a supplier is evolving, with millions of businesses selling through platforms to reach customers more directly than when their products become inventory for traditional retailers.

The supplier payments pathway is particularly important for SMEs. This has an impact on households because of the predominant role that SMEs play in employment. For example, in the United States, SMEs (defined here as companies with fewer than 250 employees) employ 45 percent of the overall private-sector workforce. In Germany, the share is even higher, at 64 percent—although not all these SMEs are suppliers to large corporations.[26] We find that on average 35 percent of supplier payments in the United States go to SMEs, making the jobs and incomes they provide a critical pathway by which large corporations affect households.[27]

The supplier payments pathway also differs in the locations of the suppliers. In a large global supply chain, the supplier pathway involves numerous companies, both domestic and foreign, depending on the activities of the companies. Even when a corporation's suppliers are in the same country, they may be concentrated geographically close to the corporation if there are efficiencies from co-location or they may also be based elsewhere, depending on a variety of factors including clustering benefits or due to incentives from public investment or policy.

The pathways are broadly similar across the major OECD economies, but with some national variations

The aggregate per-revenue-dollar numbers for the different pathways are broadly similar among the five largest OECD economies that we focus on throughout this discussion paper, France, Germany, Japan, the United Kingdom, and the United States. Nonetheless, they conceal some notable differences when we compare the pathways individually. The average size of the capital income pathway is $0.07. In the United States, it is larger than average, at $0.10. This ten cents per dollar of revenue translates into $1.5 trillion for the large US corporations in our data set on average in 2016–18. In the United Kingdom, the size of the capital income pathway is at the average, which translates to more than $200 billion for the UK companies. In France, Germany, and Japan, it is strikingly different, at about half the average.

Different financial practices explain some of these variations. In the case of the United States, the capital income pathway largely takes the form of share buybacks, which account for half of the total, compared to 30 percent for the rest of our sample countries.[28] In Japan and Germany, even large corporations rely more on banks for capital needs and pay more in interest, while households rely more on social insurance for their savings and retirement needs rather than the returns from owning stocks. In Japan, 80 percent of household income from financial assets (as opposed to wages and real estate) is from public pensions that are primarily pay-as-you-go.[29] In Germany the proportion from public pensions is even higher, at about 90 percent. To some extent, then, the fortunes of households are more closely linked to corporate profits in the United States and the United Kingdom than in Germany and Japan. The differences are often historical, based on the way social welfare systems were constructed and have evolved.

Every country has its specificities. For example, capital income in the United States is higher than average, but supplier payments are lower than average. In the United Kingdom, the labor income pathway is smaller and supplier payments higher. Germany and Japan also have

[26] US numbers based on Bureau of Labor Statistics data for 2020. German numbers are for the nonfinancial business sector for 2018, from the European Commission's 2019 SBA Fact Sheet.
[27] For the SME analysis we use the shares of production of SMEs in the United States by sector and apply them to the supply chains of our large corporation data set using input-output tables. See the technical appendix.
[28] To the extent that these are funded by corporate debt, this raises concerns that they ultimately come at the expense of other pathways; see, for example, William Lazonick, Mustafa Erdem Sakinc, and Matt Hopkins, "Why stock buybacks are dangerous for the economy," *Harvard Business Review*, January 2020.
[29] Japanese public pension schemes carry large reserves that depend to some extent on capital returns.

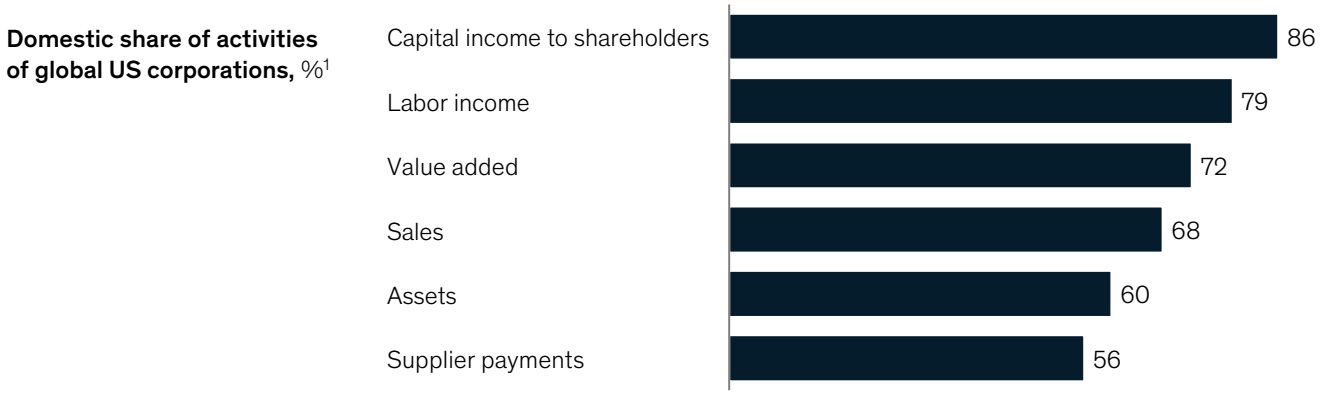
high supplier payments, while France has the largest labor income and tax pathways. These differences are largely due to the mix of companies headquartered in each country, a topic we discuss in chapter 3. Employment levels also differ by country. Corporations in our data set headquartered in the United Kingdom employ the equivalent of 45 percent of the domestic UK workforce, whereas that number is 28 percent in Germany, mainly reflecting the more internationalized profile of UK multinational companies, and 36 percent in the United States. (It should be noted that these numbers are not shares of a national workforce, since many of these workers are outside of these economies.)

For all such country differences, it is notable that most of the corporate impacts in the largest OECD countries continue to flow to their domestic suppliers and households. In the United States, 70 percent of corporate economic value flows to domestic households, while in Japan the number is 62 percent. In France and Germany, the proportion is just under half, and in the United Kingdom, close to 40 percent.[30]

Looking at the particular case of multinational US companies, for example, we find that 56 percent of supplier payments, 60 percent of assets, 68 percent of sales, 79 percent of labor income, and 86 percent of capital income (that is repatriated) from listed companies on average accrues to domestic households in the United States (Exhibit 9).[31] The domestic share of capital income, which we assume follows patterns of public equity ownership, is lower in the European Union, at only 46 percent as of 2017. (The European Union here includes the United Kingdom, which was still a member in that year). In Japan, by comparison, the figure is 70 percent.[32]

Exhibit 9

Sales, assets, and supplier payments of US multinational companies are spread more globally in their foreign affiliates than their income flows.



1. Estimated as the share of US parent company activities only relative to the combined share of their activities and those of majority-owned foreign affiliates (regardless of how much of the affiliate they own, which makes this a conservative estimate of domestic totals). Capital income to shareholders differs from our capital income pathway in that it does not include interest payments and it does include capital gains (since it is the proportion of shares owned domestically).

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Over the past quarter-century, some pathways have declined while others have grown, with varying national patterns

The eight pathways through which economic value flows to households have changed in several ways over the past 25 years (Exhibits 10 and 11).

[30] OECD Analytical MNE database. For a broader range of MNE features, see also C. Fritz Foley, James Hines, and David Wessel, eds, *Global Goliaths: Multinational Corporations in the 21st Century Economy*, Brookings Institution Press, 2021.

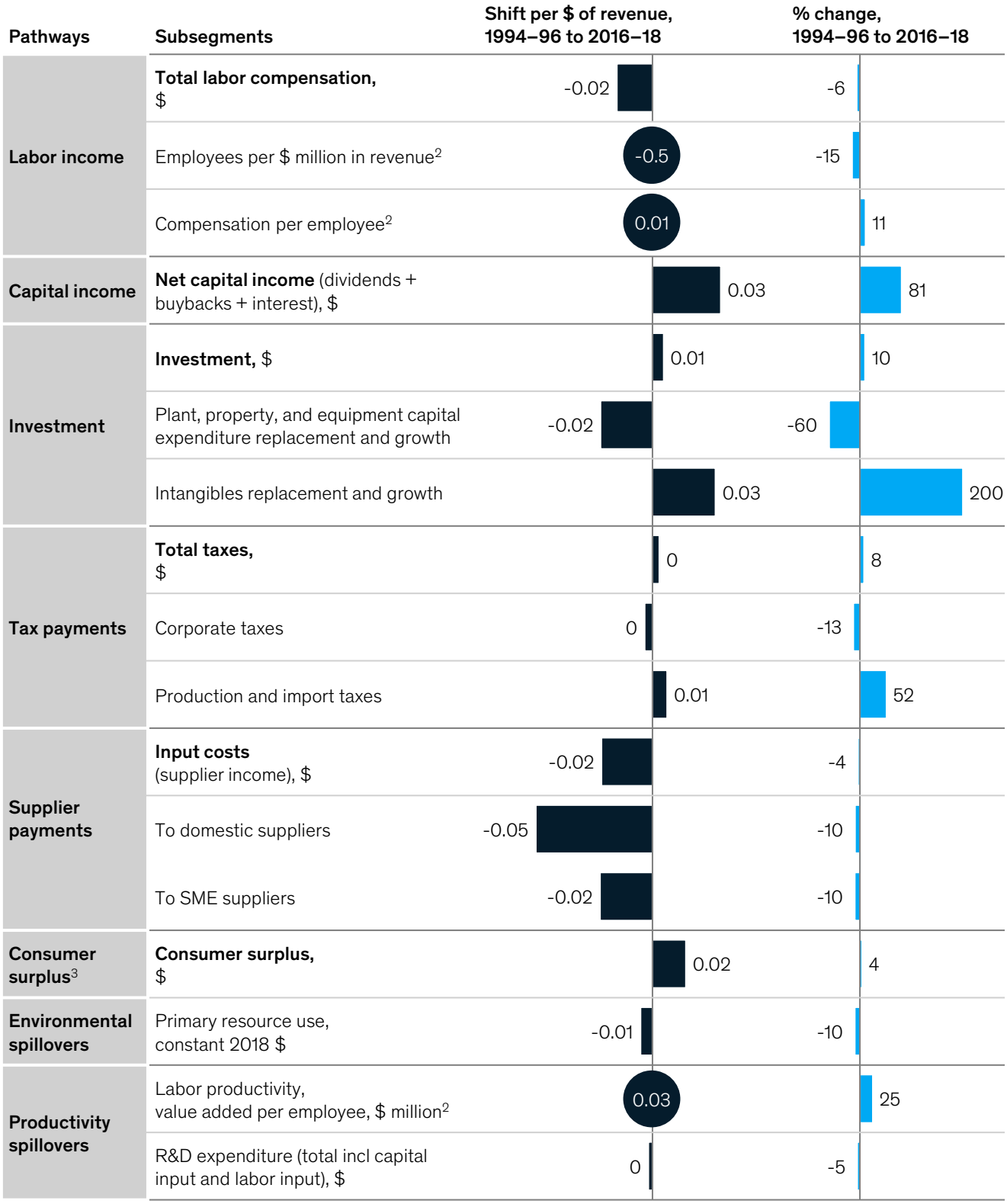
[31] These are likely conservative estimates of the domestic share since we compare the values for majority-owned US affiliates to the total of the parent and these affiliate companies, but a portion of those affiliate values are foreign. Data source is the BEA Activities of Multinational Enterprises database, which is also comprehensive across multinationals though our data set accounts conservatively for 70 percent by sales and likely more once the foreign revenue in the BEA numbers is netted out.

[32] *Owners of the world's listed companies*, OECD Capital Market Series, October 2019.

Exhibit 10

Each of the pathways and its components has shifted in the past 25 years.

Value flow for every $ of corporate revenue or as noted[1]



1. Revenue-weighted average of companies with >$1 billion in annual revenue, based in OECD countries, 2016–18 averages.
2. A black circle denotes that the scale for these metrics is different from the bars used in other rows.
3. This measurement follows Approach 1 in our consumer surplus methodology (Box 3) and the change is within the margin of error of the estimate.

Note: Pathways refer to the channels through which value generated by companies from revenue flows directly or indirectly to households. The pathways are: labor income (wages and benefits); capital income (dividends, share buybacks, and interest); taxes (corporate income and production process taxes); investment (money retained from profits and spent on capital assets to drive future value creation); and payments to suppliers (for goods like inventory and contracted services used in production). We also include consumer surplus (imputed value greater than price) but can only estimate it broadly; and two spillover examples, the impact on the environment and the growth of total factor productivity, which we analyze but do not measure in aggregate dollar terms in this research.

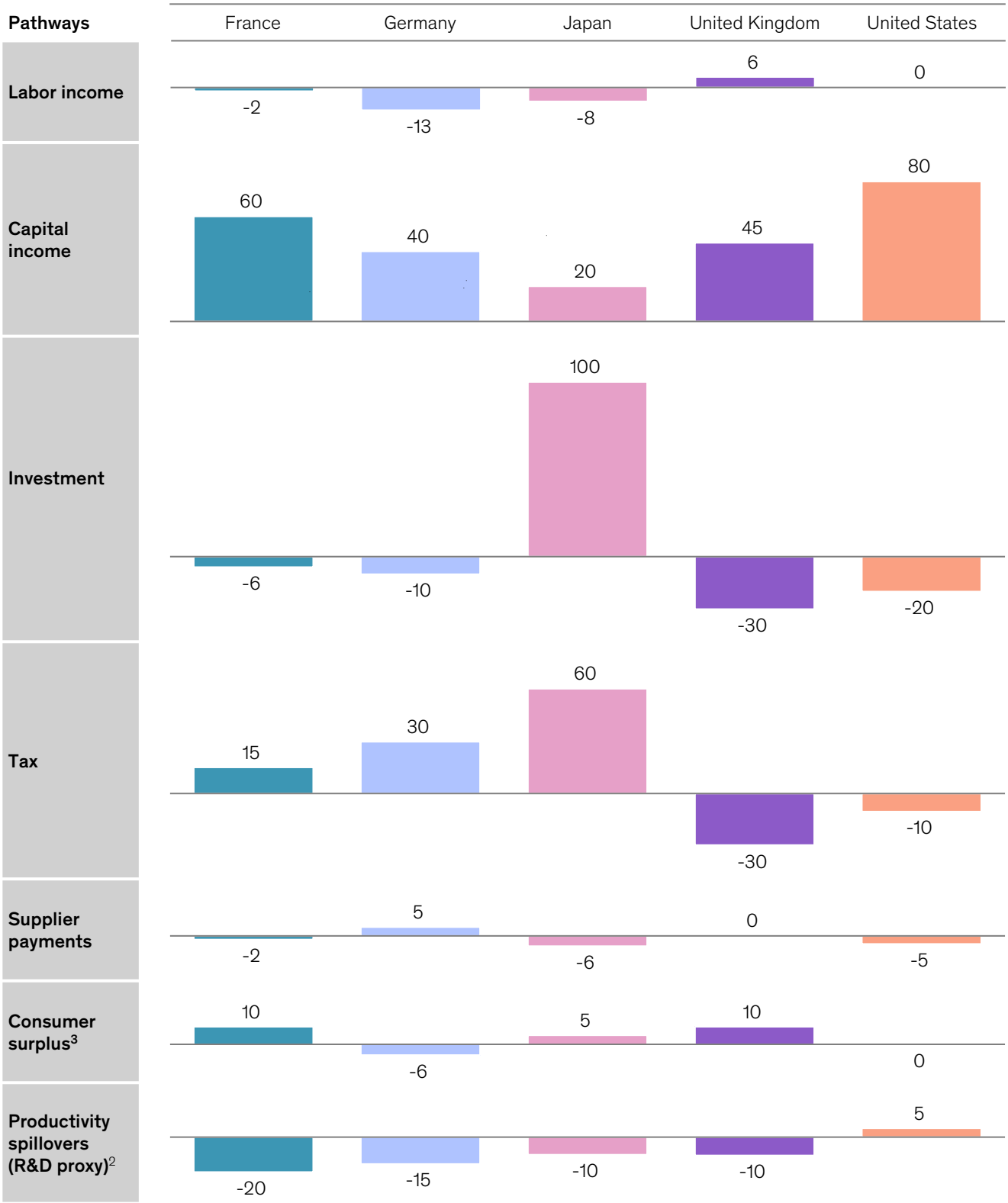
Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Exhibit 11

Shifts in pathways by country varied over the past 25 years.

Changes in pathways by country

Value flow for every $ of corporate revenue or as noted, % change 1994–96 to 2016–18[1]



1. Revenue-weighted average of companies based in OECD countries with >$1 billion in annual revenue, 2016–18 averages.
2. We highlight R&D as the best-measured proxy for over-time analysis. We do not have similar over-time data at a company level for emissions and thus do not include them in this chart.
3. This measure of consumer surplus is based on approach 1 as described in Box 3.

Note: Pathways refer to the channels through which value generated by companies from revenue flows directly or indirectly to households. The pathways are: labor income (wages and benefits); capital income (dividends, share buybacks, and interest); taxes (corporate income and production process taxes); investment (money retained from profits and spent on capital assets to drive future value creation); and payments to suppliers (for goods like inventory and contracted services used in production). We also include consumer surplus (imputed value greater than price) but can only estimate it broadly; and two spillover examples, the impact on the environment and the growth of total factor productivity, which we analyze but do not measure in aggregate dollar terms in this research.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

The most significant changes were in capital income and labor income

A key aggregate change is that the capital income pathway has grown. In the two decades between our reference periods, 1994–96 and 2016–18, dividends, share buybacks, and interest that companies paid to investors and creditors increased by 81 percent, from $0.04 to $0.07 per revenue dollar.[33] In absolute terms, this is growth from $600 billion to $2.7 trillion in 2018 dollars. The growth of $0.03 per revenue dollar in the capital income pathway amounts to $1.2 trillion more than the $1.5 trillion in capital income that would have resulted from a constant $0.04 per dollar of revenue. The share of that pathway flowing as share buybacks tripled in this period. This was primarily driven by US companies, whose share of the total capital income in our large company data set rose to 51 percent from 45 percent. By comparison, the revenue share of these US companies increased to 36 percent from 34 percent of the total.

As the capital income pathway grew, the labor income pathway shrank by 6 percent, falling from $0.26 to $0.25 per dollar of revenue. That is more than $600 billion lower than if the share had held steady. This result is generally consistent with the literature and our own prior research on the declining labor share, although it does not for now validate any single hypothesis about the causes.[34] In the United States, the labor share in our data set over our period of study is essentially flat. However, because the GVA share of revenue increased by $0.03 per dollar of revenue, the denominator increased and labor income as a share of GVA declined by 6 percent. That is about equal to the decline of the labor share for total US domestic production in the same period.[35]

The number of people employed per dollar of revenue generated declined by 15 percent. This decline took place at the same time as an increase in value added per dollar of revenue of $0.02, reflecting productivity gains. The decline is the equivalent of just under 20 million jobs. The gains from that productivity increase went more to capital income than to labor income: while labor productivity grew 25 percent over the 25-year period, a compound annual growth rate of less than 1 percent, compensation per employee in real terms increased only 11 percent over the period.

Corporate income taxes and production process taxes were relatively flat as a share of revenue in our data set as corporate income taxes declined and production taxes increased, the latter notably in Japan. However, since the capital pathway was widening, this represents a decrease in tax payments per unit of profit. In the United States, total taxes as a share of revenue decreased by 10 percent and corporate income taxes fell by 27 percent; relative to the capital income pathway, they declined by close to 40 percent. At the same time, government has become an even bigger consumer of business sales through procurement, with a 16 percent increase to $0.07 per dollar of revenue.

Supplier payments per dollar of revenue declined from $0.61 to $0.58. Germany, notably, saw a small increase in supplier payments while these decreased in other countries. The investment pathway increased from $0.05 per dollar of revenue to $0.06. Underlying this increase were significant investment shifts, notably a tripling of investment in intangible assets as a share of revenue.[36] By contrast, investment in tangible assets dropped by half on a per-revenue-dollar basis. Intangible investment amounted to one-third of tangible investment 25 years ago but now exceeds it. This pathway also includes increases in the company's savings, which can be invested or spent at a later time. This is an important

[33] For private companies in our data set for which data on income paid out to owners are not available, we extrapolate the aggregate capital income by archetype from companies for which we have reported data.

[34] *A new look at the declining labor share of income in the United States*, McKinsey Global Institute, May 2019, on McKinsey.com. Value added is about 40 percent of revenue for our data set and increased by two percentage points as a share of revenue; the net result is a labor share decline of 12 percent.

[35] In principle we should not expect the trend for large corporations with global revenue sources to align perfectly with the domestic total, particularly for the United Kingdom, because many London-based companies typically serve a broader region, and the domestic economy is far smaller than that of the United States.

[36] Intangibles cover a wide range of assets including goodwill, software, and brand value. See Carol Corrado, Jonathan Haskel, and Cecilia Jona-Lasinio, *Intangible capital and growth in advanced economies: Measurement methods and comparative results*, Institute of Labor Economics (IZA), discussion paper number 6733, July 2012.

factor that explains why Japanese companies saw an increase in this pathway over time and shifted from being net borrowers to net lenders.[37]

Consumer surplus per dollar of revenue increased by $0.02, within the margin of error of our estimate (based on approach 2 in Box 3), reflecting shifts in company value added and pricing power.[38] Both of these effects, more value added per revenue to share with consumers and increased pricing power in some cases, are too small to conclusively say consumer surplus per revenue meaningfully changed. Consumers also gain or lose based on price changes, but these are most meaningful when comparing across company types and their products and services, as we do in chapter 4.

As noted above, we do not attempt to calculate the rising cost of environmental externalities—a notable limitation of this research. But as the total concentration of emissions in the atmosphere continues to accumulate, physical climate hazards are increasing, creating new vulnerabilities for businesses and societies alike. Our prior research on climate change has highlighted key characteristics of climate risk, including its nonstationary nature as the Earth continues to warm; the nonlinear way in which socioeconomic aspects are likely to propagate as hazards exceed physiological, human-made, or ecological thresholds; the potential knock-on effects of physical hazards across regions and sectors as a result of interconnected socioeconomic and financial systems; and the regressive nature of climate risk, with the poorest communities and populations typically the most vulnerable.[39]

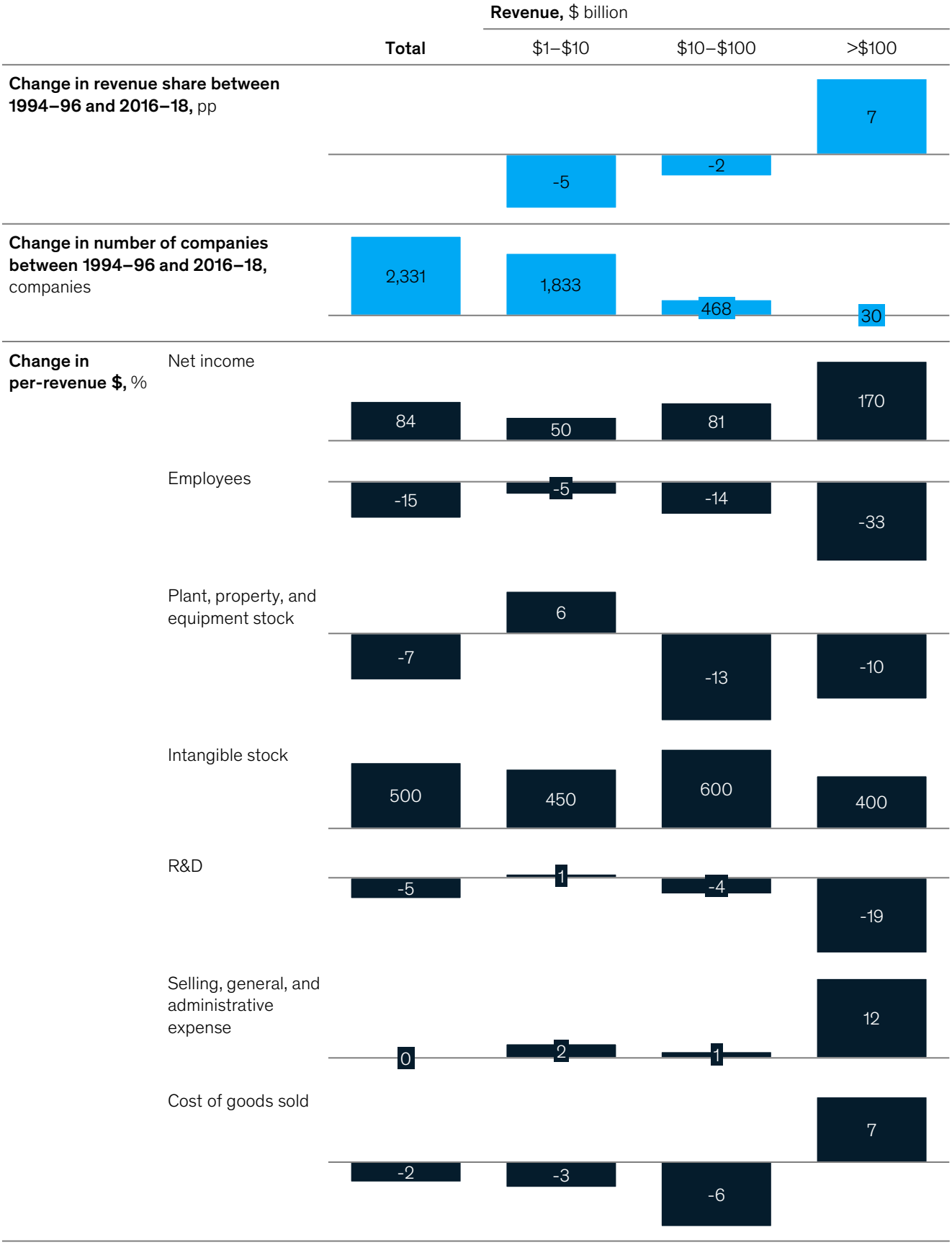
Underlying the growth and declines in pathways is a tale of changing business dynamics
To better understand why the pathways have grown or declined over time, we examine how the underlying factor inputs and the corresponding operational costs have evolved in ways that have contributed to the changes. For a variety of reasons, many businesses have evolved the mix of factor inputs, such as labor and capital, that they draw on to produce their output. For example, factories today are more automated than those of decades ago for reasons that include speed, scale, and process consistency, among others, leading to higher productivity. In line with this, many large corporations have increased their net income by reducing the intensity of factor inputs of labor and physical capital stock and increasing intangible stock relative to revenue (Exhibit 12). They have also reduced spending on R&D and to a small extent the cost of goods sold relative to revenue, while selling, general, and administrative costs held steady. Labor intensity is lowest for the largest corporations, presumably because of economies of scale and higher capital intensity.

Using our data set of large corporations and splitting them into those with annual revenue between $1 billion and $10 billion (in 2018 dollars), those between $10 billion and $100 billion, and those with more than $100 billion for our two time periods, we note some significant differences. Those with more than $100 billion in annual revenue added seven percentage points to their revenue share, compared with a two-percentage-point decrease for the $10 billion to $100 billion cohort and a decline of five percentage points for the $1 billion to $10 billion companies. The largest companies also reduced labor intensity by 33 percent. This translates to about five million fewer workers among large corporations with more than $100 billion in revenue and was more than double the reduction for the $10 billion to $100 billion cohort. The larger two segments also decreased their intensity of plant, property, and equipment (PP&E); combined with their growing share, the net effect was an overall decrease of PP&E stock per revenue of 7 percent. The growth in the net income per revenue of the largest company segment was double that of the $10 billion to $100 billion companies, and more than triple that of the $1 billion to $10 billion companies.

[37] This was part of a broader trend in the nonfinancial corporate sector in this period across countries including Germany and the United States. See Mai Chi Dao and Chiara Maggi, *The rise in corporate saving and cash holding in advanced economies: Aggregate and firm level trends*, IMF working papers 252, 2018.
[38] Pricing power is often indicated by the difference between price and marginal costs, relative to prices. For the pertinence of competition, see Thomas Philippon, *The Great Reversal: How America Gave Up on Free Markets*, Harvard University Press, Cambridge, 2019.
[39] *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, on McKinsey.com.

Exhibit 12

The biggest changes on key metrics occurred among the largest companies.



Note: The change in "Total" reflects both the changes within the 3 size categories as well as the increase in the share of revenue in the category of companies over $100 billion. For example, SG&A went up as a share of revenue in all company categories, but its value in absolute terms (not shown) is less among the large companies, which grew the most. As a result of this "mix" effect, SG&A in total barely increased. Not to scale across charts.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Academic literature and our own prior research on corporations suggest that investment in intangibles is associated with strong growth and outperformance.[40] Our research in this paper finds further evidence of this. For example, when we compare large corporations in the top quintile in total shareholder returns over the past three years to the rest, we see that they have 25 percent greater intangible assets on average.[41] This result correlates with a similar outperformance in labor productivity with lower labor intensity among these top-quintile companies, which employ 0.3 fewer workers per million dollars in revenue compared to the average firm in our data set. There is also some evidence from other researchers that the share of intangibles in the value of durable manufactured goods increased in the early 2000s as multinationals moved some production offshore and reduced the labor share of value added.[42]

As noted earlier, supplier payments per dollar of revenue declined from $0.61 to $0.58. The pattern varies by company type (as we will explore in chapter 3), but this decline is particularly important for domestic ecosystems and SMEs. Regarding the former, globalization in our period of study is reflected in the decrease in share of supplier payments from domestic business from 87 to 81 percent in OECD economies.[43] SMEs were particularly affected. Supplier payments to them from the large corporations in our data set fell to 35 percent of payments from 38 percent over the 25-year period in the United States, for example. The largest losses were in manufacturing, where they were compounded by the sector's shrinking GDP share.

In this regard, it is instructive to compare the United States and Germany, where the SME ecosystem has notable differences; for example, those in Germany have a greater orientation toward exports to other countries. Yet in both countries, smaller companies lagged larger ones in growth. Such consistency suggests root causes, for example a lack of resources to make necessary investments in digital and lower financial resilience and access to credit in the wake of the 2008 financial crisis.[44] Between 2006 and 2014, the net creation of companies with fewer than 250 employees was negative in the United States compared to the steady creation of more than 50,000 per year (the vast majority under 20 employees) over the 30 years prior. In Germany, the number of SMEs grew from 2006 to 2014, but not as fast as the number of larger corporations. In both countries, the SME ecosystem is proportionally thinning, although from different bases.

[40] Our prior research on "superstar" companies noted that they have more intangible assets than peers, along with relatively higher levels of digitization, greater skilled labor and innovation intensity, and more connections to global flows of trade, finance, and services. *Superstars: The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018, on McKinsey.com.

[41] Here we consider shareholder returns in absolute terms, which is essentially a combination of the effects of size and shareholder returns as a percentage. We do so to avoid focusing too much on higher returns on a much lower base that a percentage-only view would yield.

[42] The increasing role of intangible assets, especially in the knowledge economy, is broadly documented; for a review of this growing role and the impact on labor productivity dynamics, see, for example, Jonathan Haskel and Stian Westlake, *Capitalism without Capital: The Rise of the Intangible Economy*, Princeton University Press, 2018; Felix Roth, "Intangible capital and labor productivity growth: A review of the literature," *Hamburg Discussion Papers in International Economics*, 2019, Number 4. For the role of intangibles in labor shares of durable goods manufacturing, see Wen Chen, Bart Los, and Marcel P. Timmer, *Factor incomes in global value chains: The role of intangibles*, NBER working paper number 25242, November 2018. Sun and Xiaolan also highlight a mechanism by which investment in intangibles leads to commitment of increased wages in the future because part of the investment in intangibles is "inseparably attached to the employees" and thus portable, requiring higher wages to retain those workers. Both results are consistent with our finding that intangibles correlate with higher returns and labor productivity and lower labor intensity. Qi Sun and Mindy Z. Xiaolan, "Financing intangible capital," *Journal of Financial Economics*, 2019, Number 133.

[43] The reverse happened in non-OECD economies, which increased their domestic share from 82 to 87 percent as they rapidly developed their local business ecosystems.

[44] For analysis of how these themes have become that much harder for SMEs during the pandemic, see Andre Dua, Deepa Mahajan, Lucienne Oyer, and Sree Ramaswamy, "US small business recovery after the COVID-19 crisis," July 2020, on McKinsey.com.

3. How different types of corporations impact the economy and households

What explains these shifting pathways, and what types of companies are behind them? To address these questions, we developed a novel type of classification of companies that goes beyond traditional sectors to examine how specific companies affect specific pathway outcomes. We cluster companies based on three patterns: similar factor inputs (for example, labor and both physical and intangible capital), similarities in how they create economic value (for example, their products, cost structure, and R&D spending), and similar patterns of impact on households as characterized by the pathways previously discussed. This clustering enables us to see more clearly the relationship between how corporations operate, how they impact each of the eight pathways as a result, and how that impact has changed over time.

Clustering companies by what they do, how they do it, and their impact reveals eight distinct archetypes

We started with the corporations in our database with more than $1 billion in revenue and clustered them into archetypes using the methodology described in Box 4 ("Methodology for clustering companies"). Eight company archetypes emerged from this clustering. The infographics on the following pages describe each of the archetypes and their defining characteristics including their key factor inputs, how they create value, and how they impact each of the eight pathways identified in chapter 2.

Box 4

Methodology for clustering companies

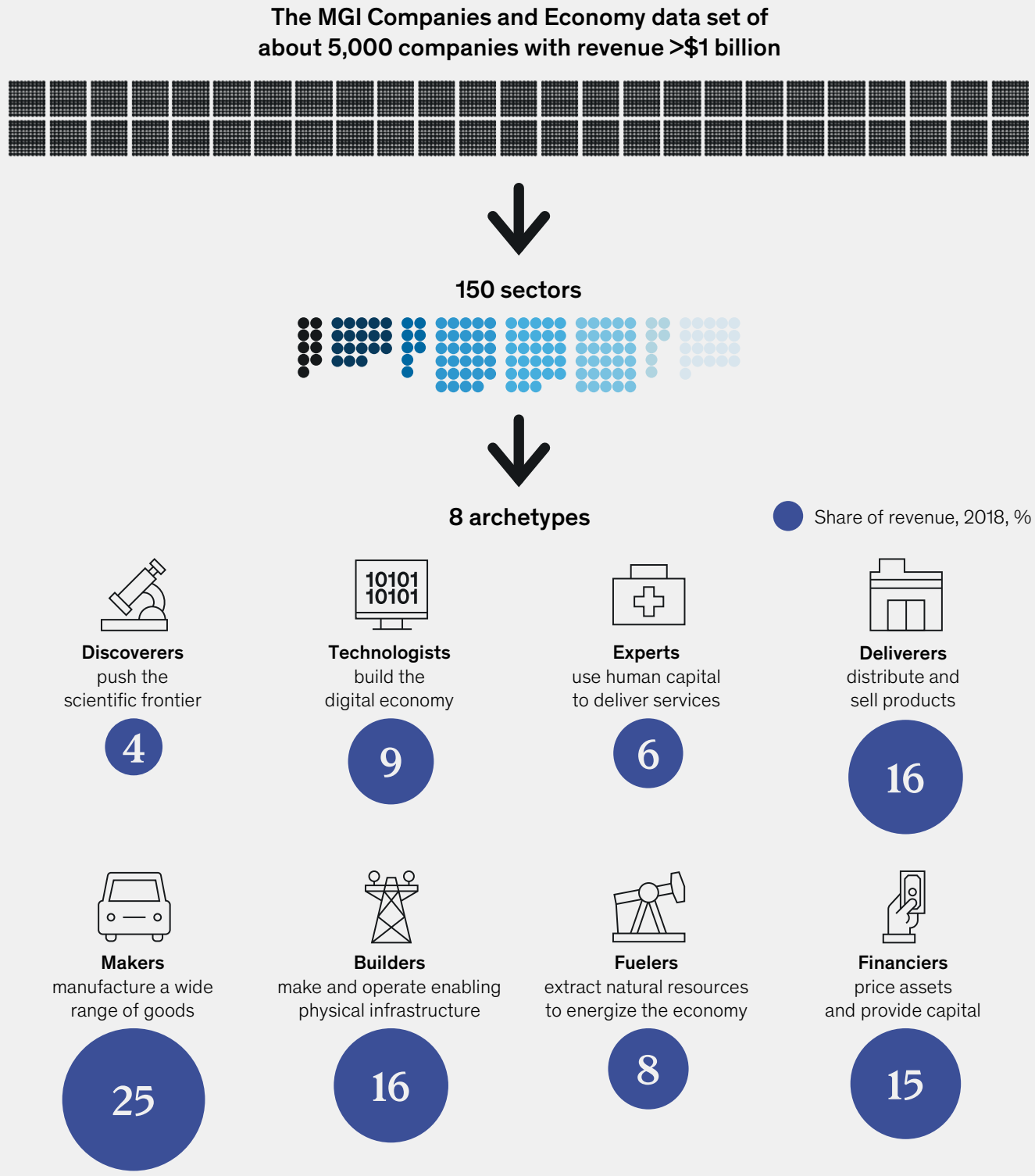
For the clustering of companies into eight discrete archetypes, we started with the level four ("sub-industry") Global Industry Classification Standard classification of companies—150 subsectors for our data set—and ran a series of least squares clustering analyses on a range of pathway and production metrics. The approach sorts companies to maximize similarity across metrics for companies that share an archetype and also to maximize differences across metrics between different archetypes. Once we had established the eight archetypes that emerged, we tested the correlation of each subsector with the archetype averages across different sets of metrics until each was optimally placed. Since there is some subjectivity in which metric to include and weight, we used sector- and company-level insights and judgments from McKinsey industry and corporate finance experts to inform the final clustering into archetypes.

Not all companies fall neatly into one archetype or another, including conglomerates and companies with a diverse range of activities. Indeed, some large and diverse corporations may fit into two or three archetypes. For example, a technology platform company that delivers goods to households will have characteristics of the Technologist archetype and the Deliverer archetype. Placement of the companies in our data set, including where we give examples in this paper, reflects the most dominant aspects and related metrics of the factor input patterns and activities of that company. Moreover, each of the archetypes has close adjacent archetypes or "cousins" based on the factors considered in the clustering. We note these adjacencies in the archetype descriptions in the following illustrations. For further detail, see the technical appendix.

The archetypes are intended in this research simply to help better understand and assess companies with similar characteristics in how they do what they do and their patterns of impact via the pathways to the economy and households. We will likely continue to refine our understanding, profiling, and patterning of these archetypes in future research.

From clustering to eight company archetypes

We grouped the 5,000 parent companies with more than $1 billion in revenue headquartered in OECD countries into eight archetypes based on three patterns: similar factor inputs (for example, labor and both physical and intangible capital), similarities in how they create economic value (for example, cost structure and R&D spending), and similar impacts on society as characterized by the pathways previously described. Some companies, by the diversified nature of their products and services, could fit into several categories; we have put them into the one we judged dominant.



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 1

Discoverers

181	3.7%	$1.6T	4.1%
Companies with revenue >$1 billion	Share of companies	Revenue total	Share of revenue

Archetype definition

Description

Discoverers invest in scientific research and develop IP to deliver sophisticated products and/or differentiated brands. With their innovation risk they deliver high capital income and productivity growth.

Example companies

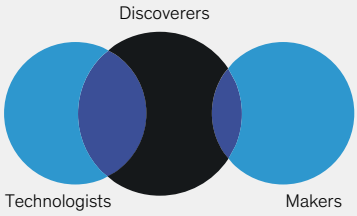
Pharmaceutical, biotech, healthcare technology, specialized household and beauty products, and beverage brands.

Key characteristics

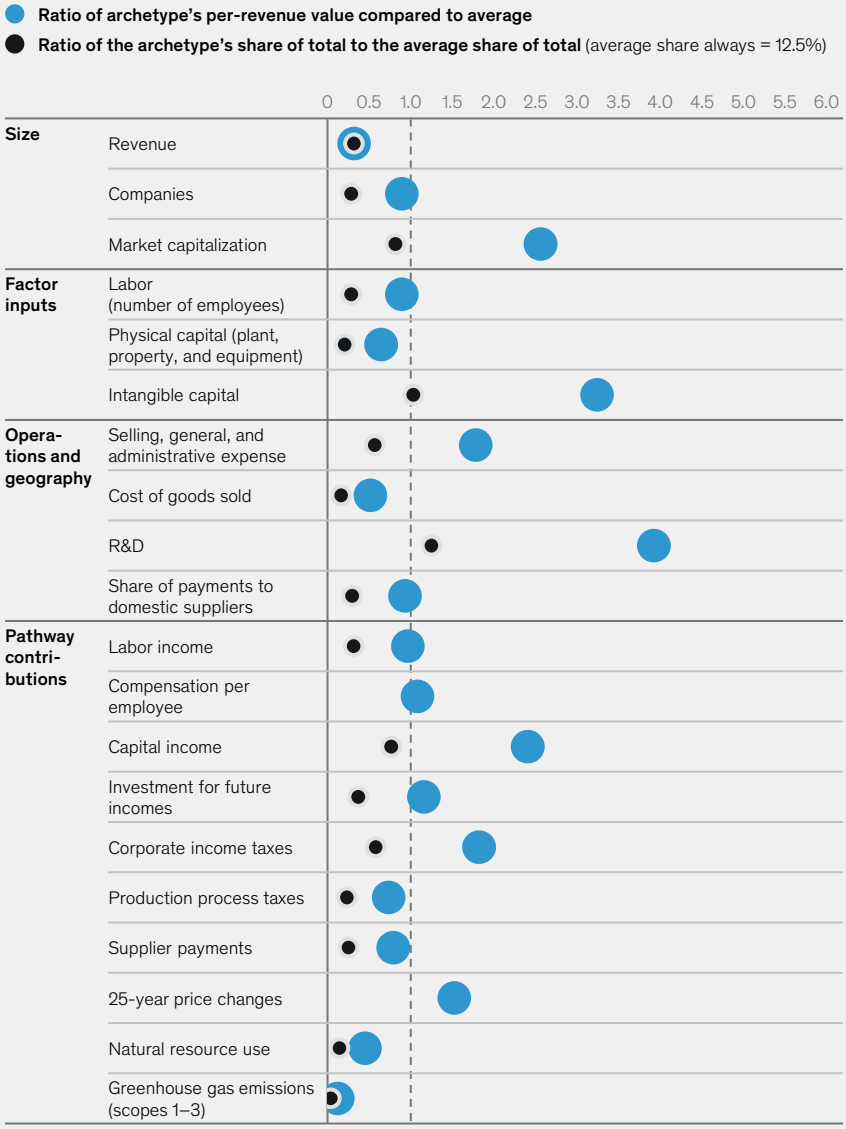
- 3x R&D and intangibles compared to average
- 2x capital income and market cap
- 50% price increase compared to average across archetypes since 1995
- Smallest archetype at 4% of revenue

Adjacencies

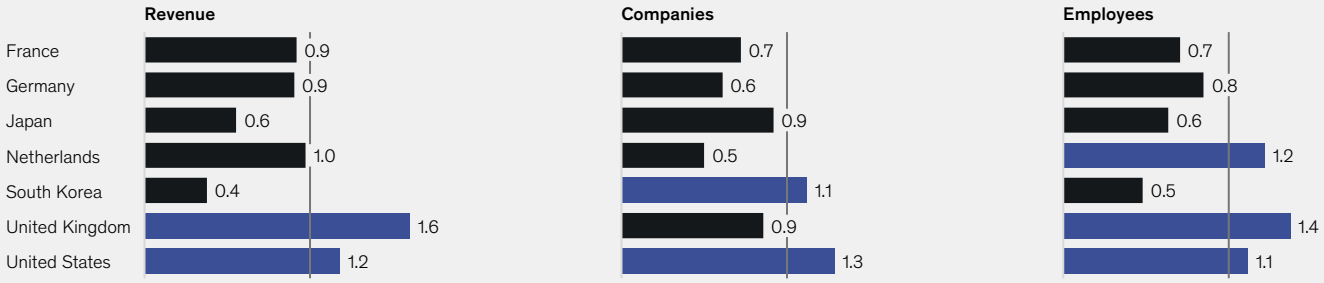
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 2

Technologists

458
Companies with revenue >$1 billion

9.2%
Share of companies

$3.6T
Revenue total

8.9%
Share of revenue

Archetype definition

Description

Technologists deliver high capital income for innovation risk with products and services that build the digital economy. They have high R&D activity, which goes to high capital and labor income growth as well as consumer surplus.

Example companies

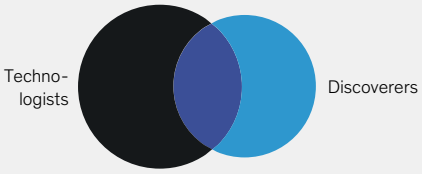
Information technology companies that provide hardware and software, as well as media and internet retail. These companies share similar pathway profiles despite a wide range of business models, including some that monetize products and services indirectly through advertising and others, like semiconductors and software companies, that do not.

Key characteristics

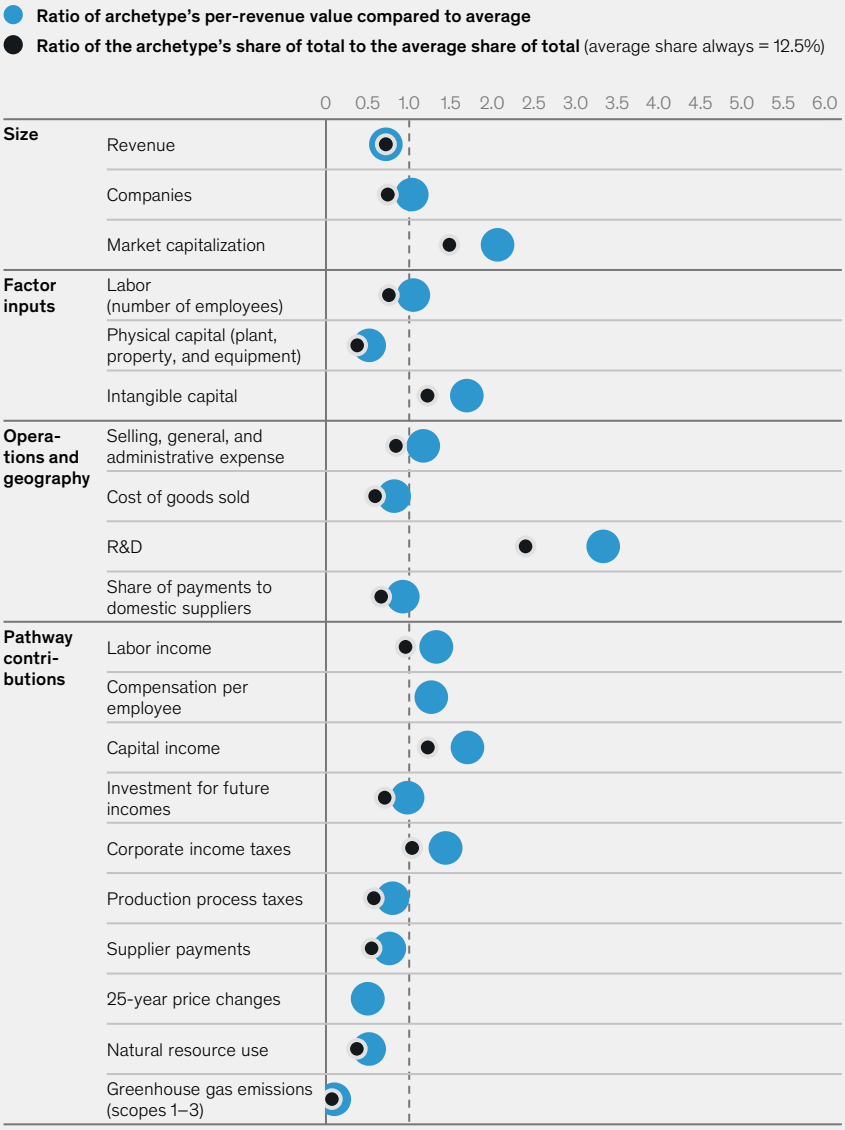
- 3x R&D compared to average
- 75% more capital income and intangibles, 2x higher market cap
- 50% price decrease compared to average across archetypes since 1995
- Highest GVA share of revenue

Adjacencies

Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 3

Experts

304	6.1%	$2.5T	6.2%
Companies with revenue >$1 billion	Share of companies	Revenue total	Share of revenue

Archetype definition

Description

Experts predominantly rely on human capital and its related skills, expertise, experience, and delivery capacity to provide services. Often, but not always, the human capital commands high wages for market valued specialization. They operate in ecosystems with contracted services and thus higher supplier payments, while capital income and investments are very low.

Example companies

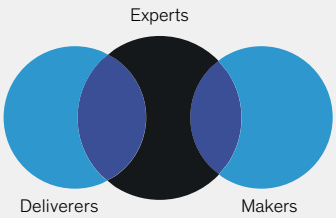
Professional services companies, for-profit hospitals, private universities, healthcare distributors, and managed care companies.

Key characteristics

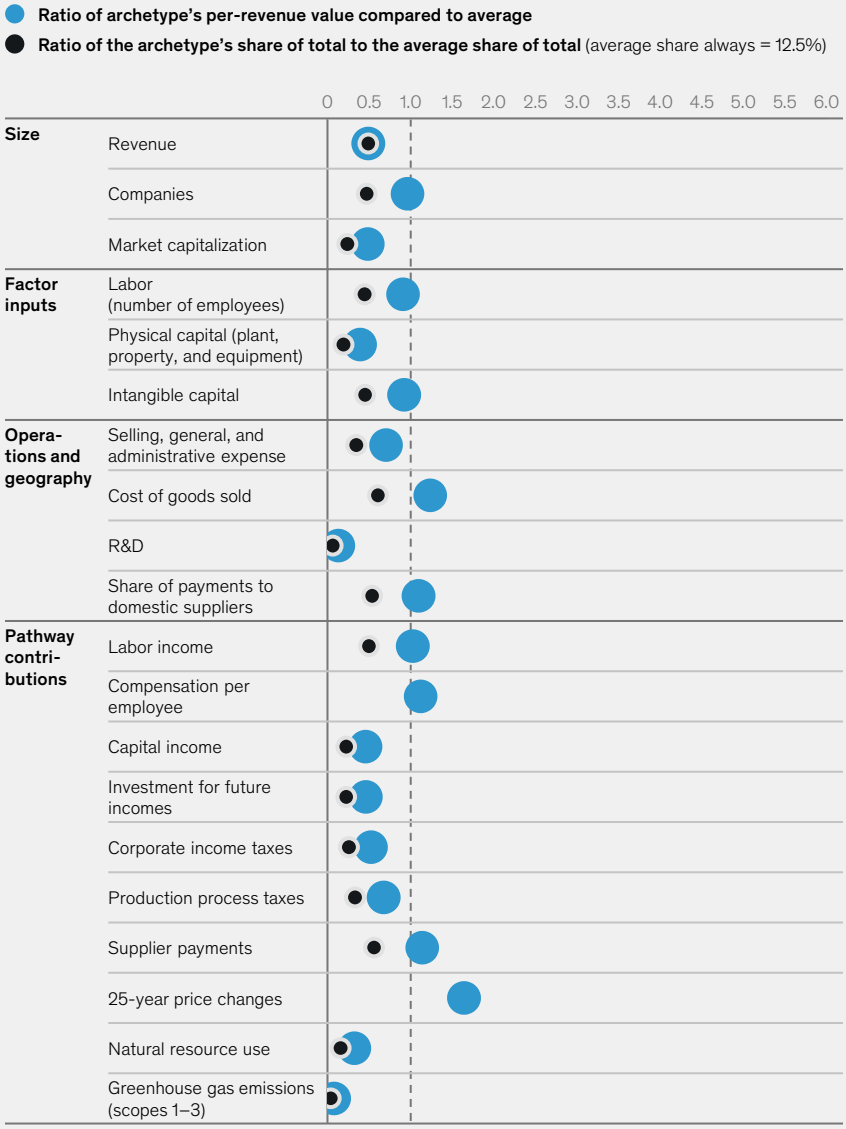
- 20% higher supplier payments than average
- 12% higher wages than average
- Below-average labor intensity and 0.5x capital income and investment
- 60% price increase compared to average across archetypes since 1995

Adjacencies

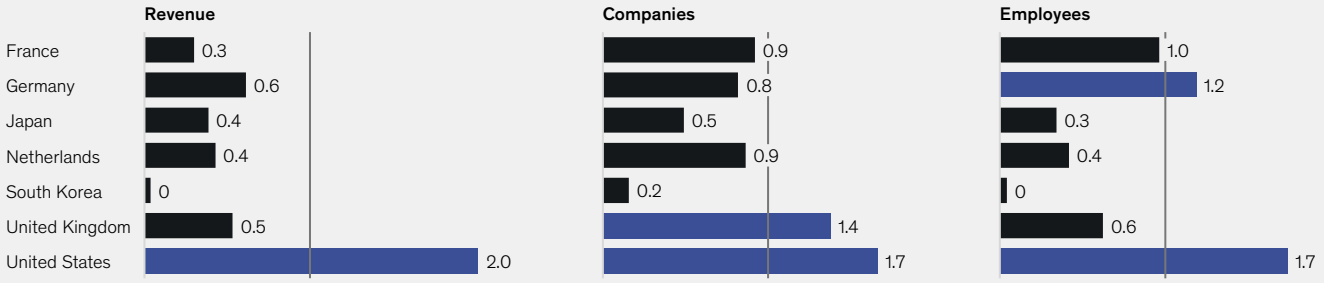
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 4

Deliverers

960
Companies with revenue >$1 billion

19%
Share of companies

$6.6T
Revenue total

16%
Share of revenue

Archetype definition

Description

Deliverers use established technology and a large labor force and many customer touchpoints to bring products and goods to end customers. They have a large and often low-wage labor force and high supplier payments.

Example companies

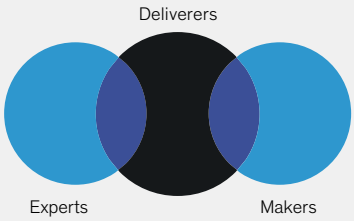
Retailers, hotel and restaurant chains, commercial suppliers and distributors (including air freight companies), leisure facilities, security and alarm services.

Key characteristics

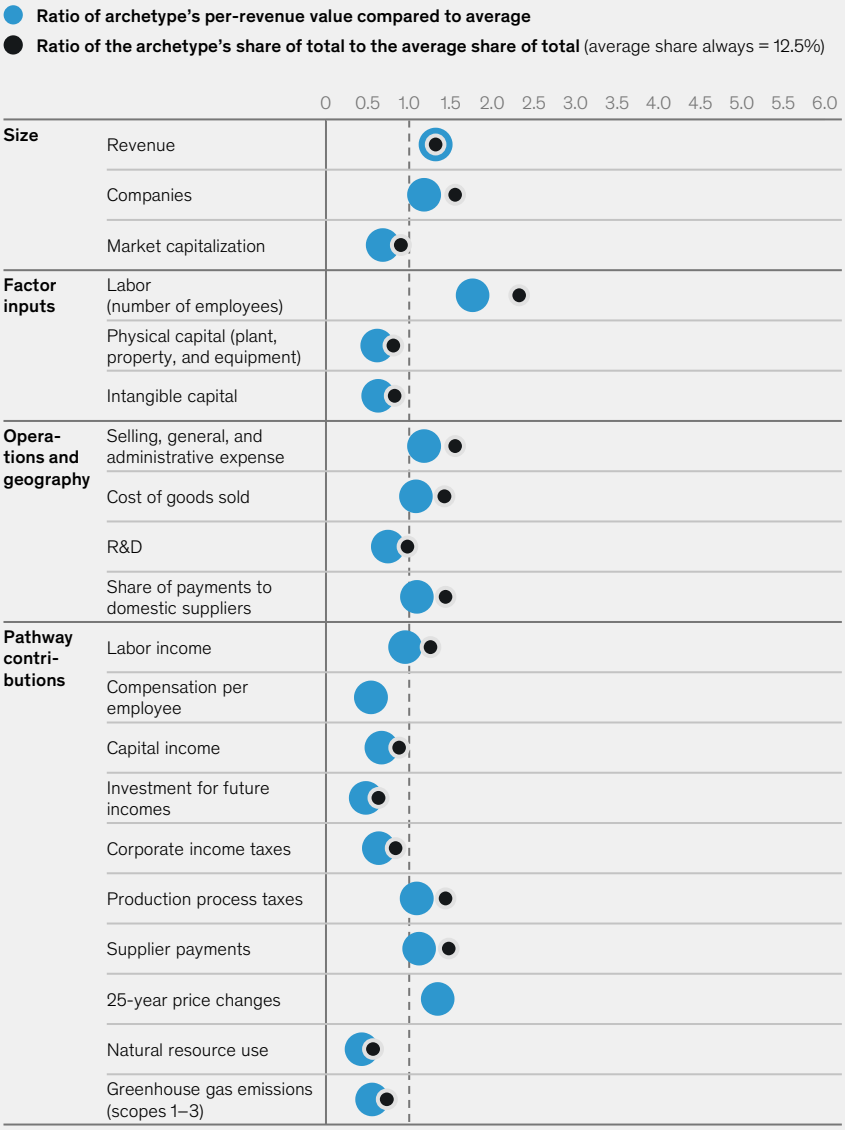
- 75% higher labor intensity than average and high revenue share mean 29% of workers are Deliverers
- Almost 50% lower compensation per employee than average
- Almost 20% of all supplier payments

Adjacencies

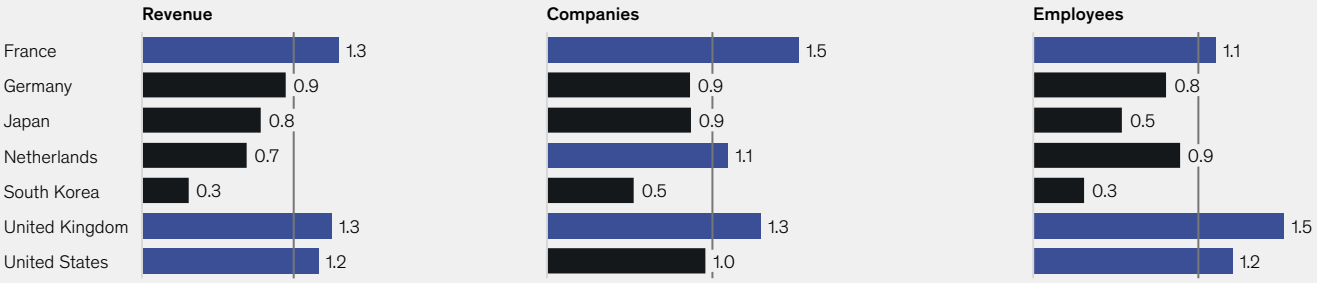
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 5

Makers

1,318
Companies with revenue >$1 billion

27%
Share of companies

$10T
Revenue total

25%
Share of revenue

Archetype definition

Description

Makers have the aggregate labor, capital, and know-how to make a wide range of products, without requiring extreme specialization or intensity in one factor input.

Example companies

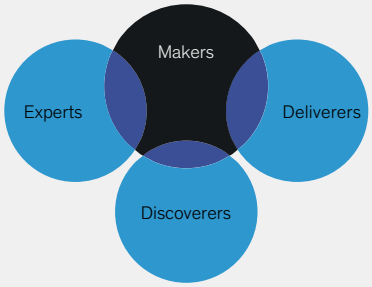
Manufacturers of a range of products from durable goods and textiles to automobiles, healthcare equipment, capital goods, and some light materials (but not drugs, semiconductors, or footwear).

Key characteristics

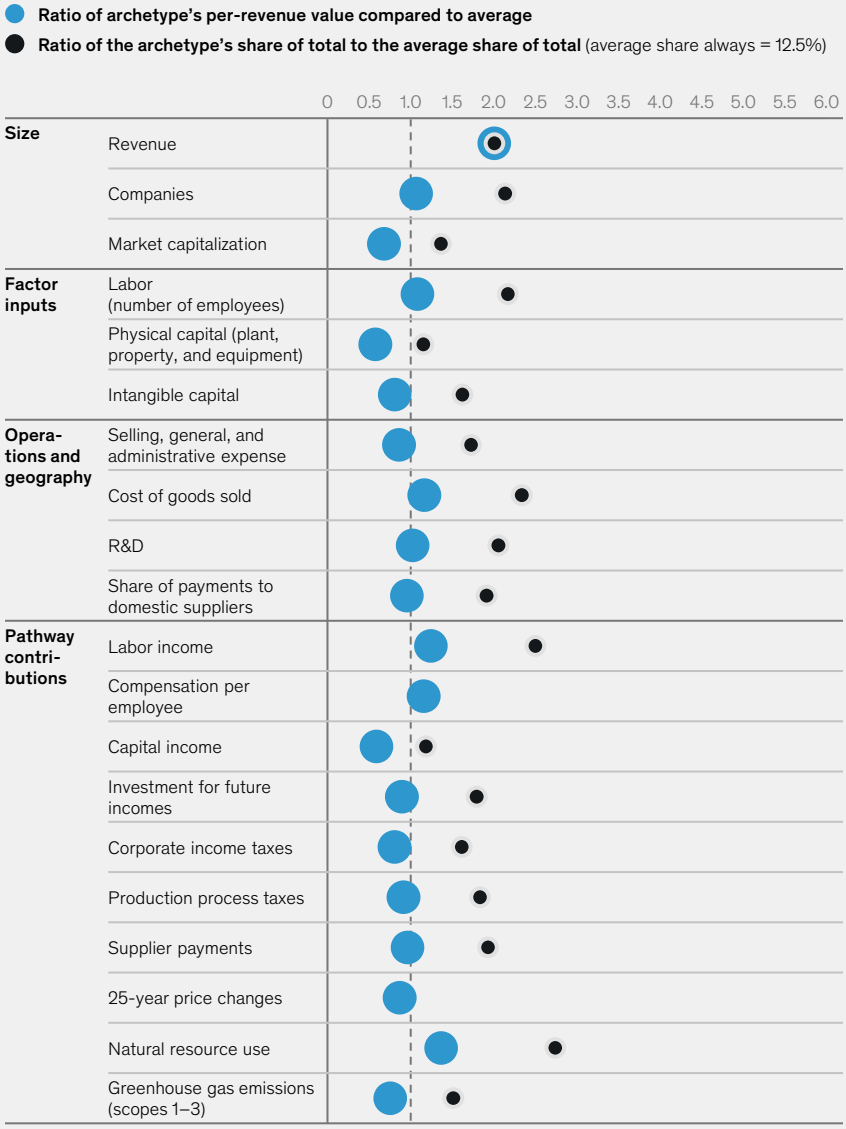
- Largest archetype at 25% of revenue
- Above-average employment and compensation per employee equals high and even labor income; with large revenue share, they have 30% of total labor income
- Above-average R&D and supplier payments result in 30% of total for both

Adjacencies

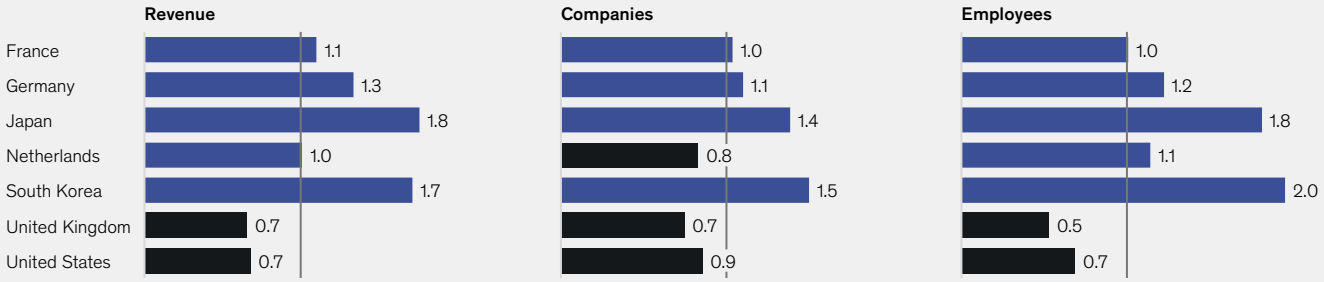
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 6

Builders

864
Companies with revenue >$1 billion

17%
Share of companies

$6.4T
Revenue total

16%
Share of revenue

Archetype definition

Description

Builders make, use, and operate physical materials and infrastructure. While they serve households directly, they are also enablers of commerce, facilitating just-in-time production as well as the provision of public goods, sometimes under regulated prices. Their physical character is reflected in high PP&E and emissions.

Example companies

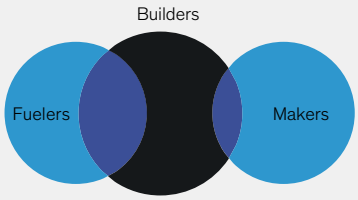
Utilities including power, water, and renewables; telecommunications; diversified mining and metals including steel; chemicals; and transportation companies including airlines.

Key characteristics

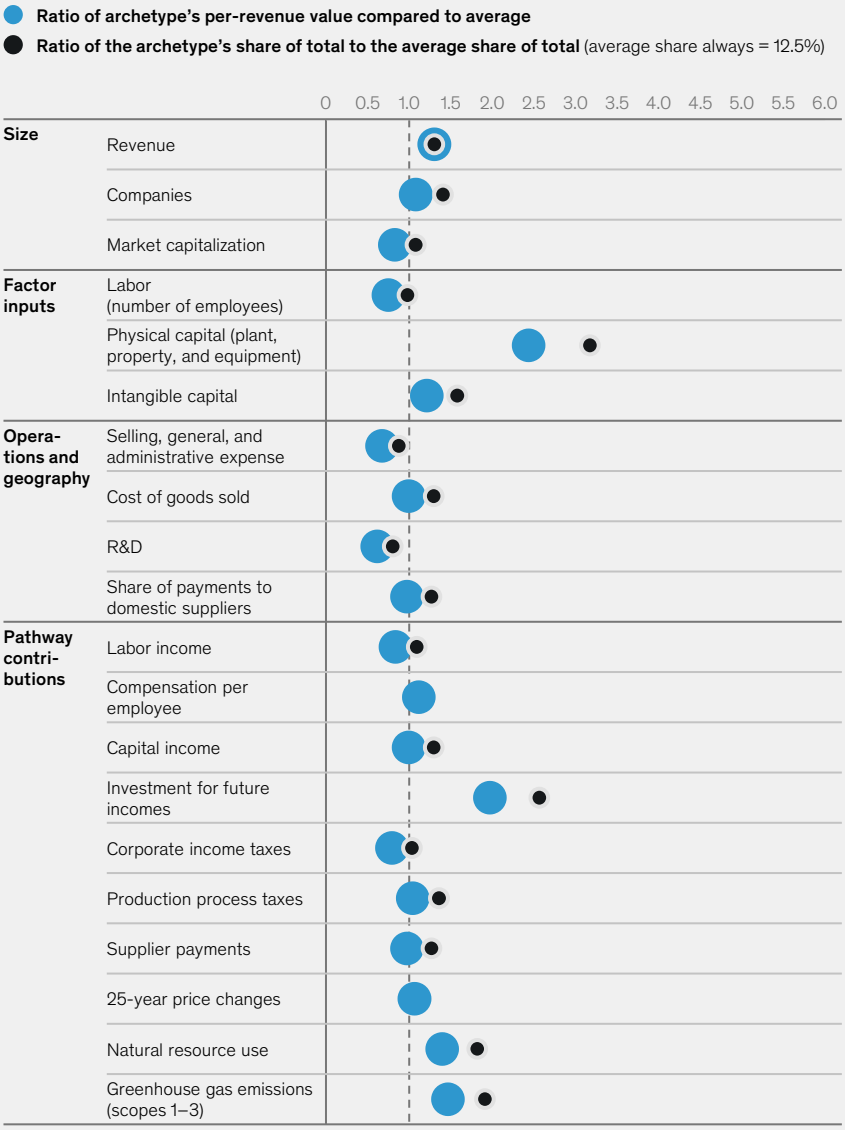
- 16% of revenue, 3rd-largest archetype
- 2.5x PP&E compared to average; combined with large size, results in 40% of total PP&E
- High across all three emissions scopes and 2nd-highest total after Fuelers

Adjacencies

Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 7

Fuelers

228	4.6%	$3.2T	8.1%
Companies with revenue >$1 billion	Share of companies	Revenue total	Share of revenue

Archetype definition

Description

Fuelers extract, distribute, and sell fuel. They make large physical investments, have the highest labor productivity and wages, pay the highest production taxes, and have the highest emissions.

Example companies

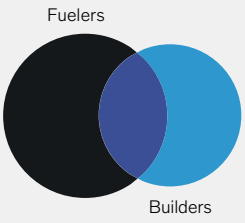
Oil, gas, and coal companies. This category includes both upstream and downstream operations, for example from oil platforms to gas stations.

Key characteristics

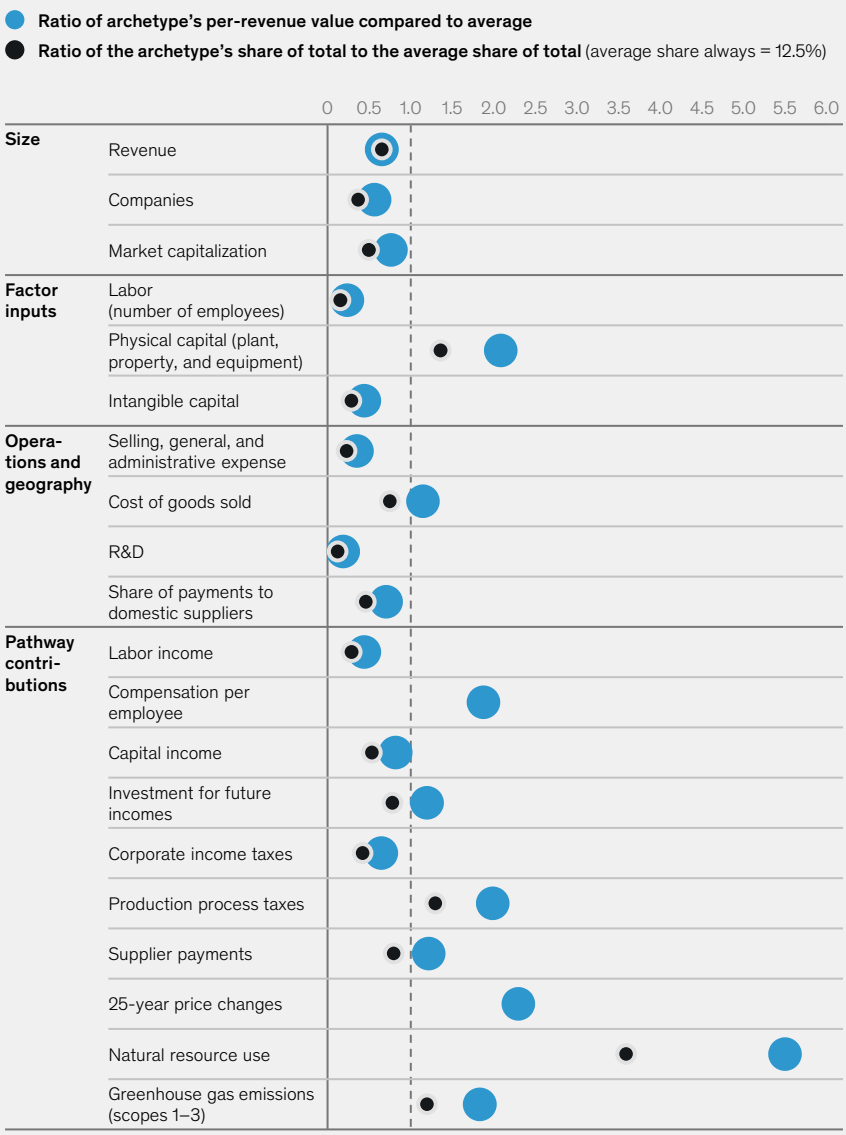
- PP&E and emissions more than 2x average
- Production taxes almost 2x average
- Wages 85% higher than average

Adjacencies

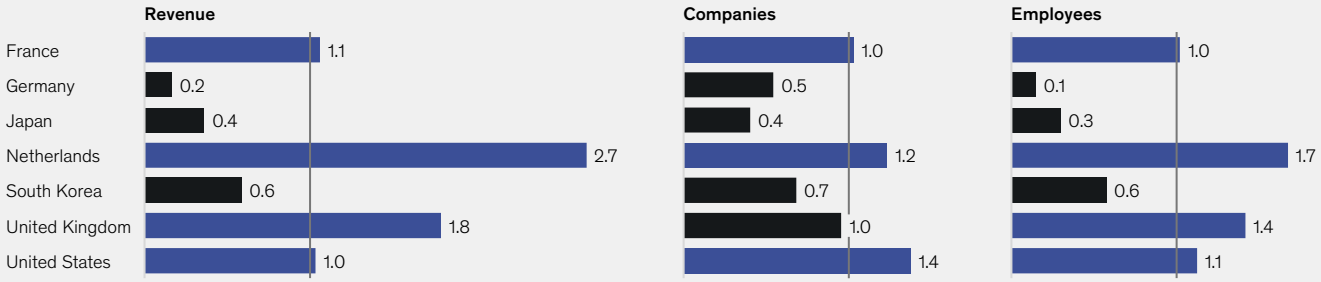
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Archetype 8

Financiers

643	13%	$5.9T	15%
Companies with revenue >$1 billion	Share of companies	Revenue total	Share of revenue

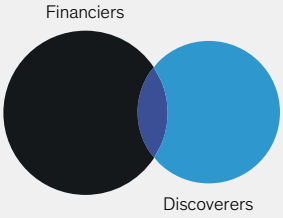
Archetype definition

Description
Financiers help price risk and provide capital and financial services for economic activity of households, businesses, commercial ecosystems, and government. They have the highest total capital income of all archetypes and the highest taxes. They also pay high wages.

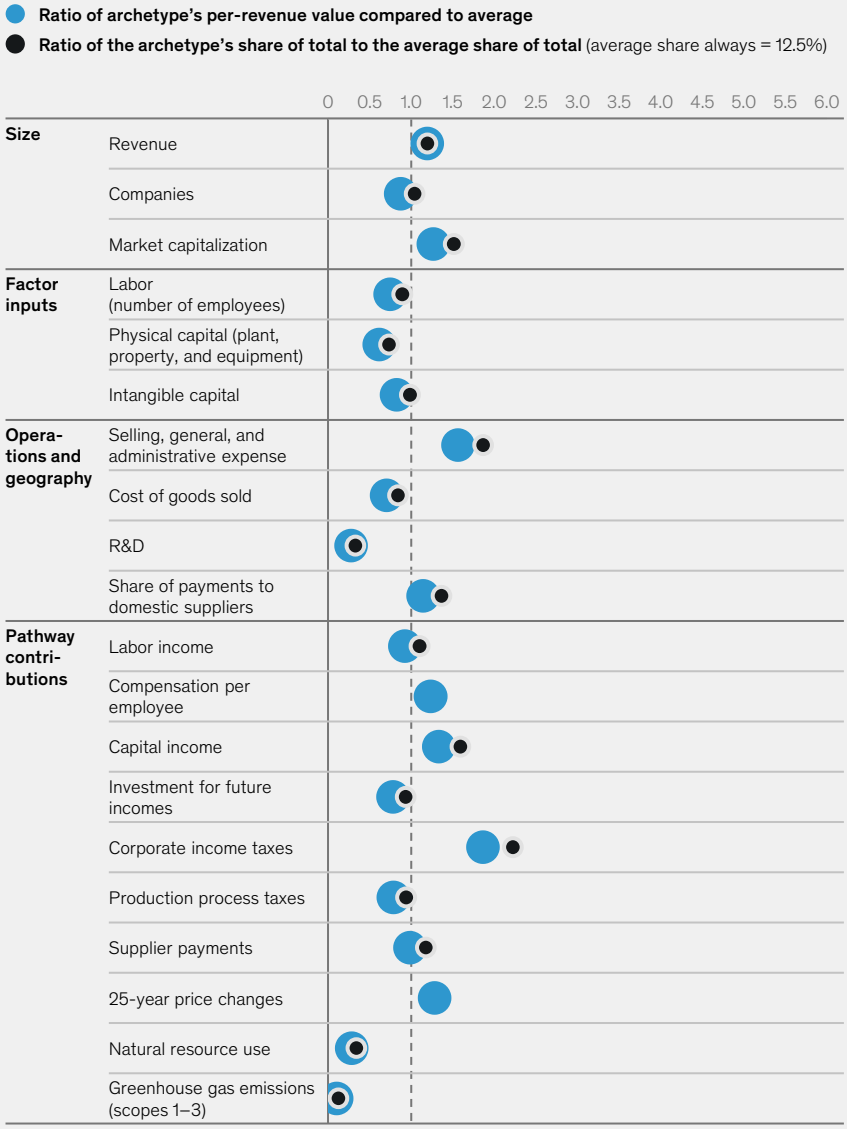
Example companies
Banks, insurance, and real estate companies of all kinds.

Key characteristics
- Compensation per employee is 20% above average
- Capital income per revenue 15% and market capitalization 30% above average
- Account for more than 25% of total corporate income taxes

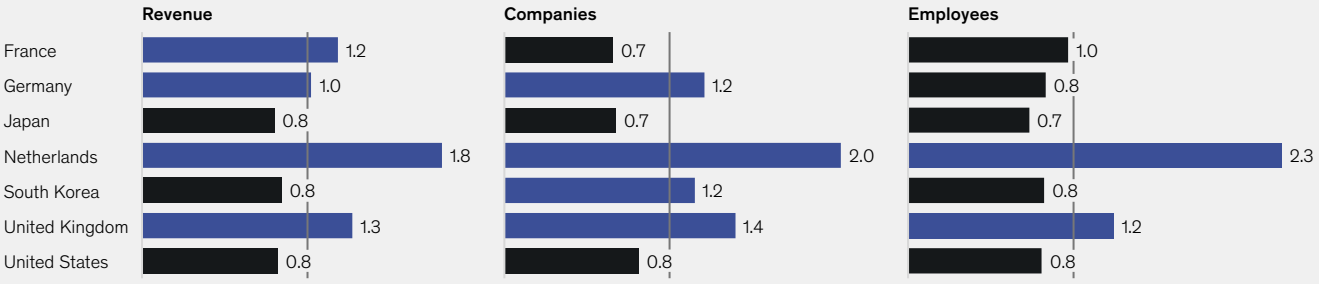
Adjacencies
Archetypes that are most similar to the one profiled on this page, and how close they are.



Metrics relative to other companies (average = 1.0)



Ratio of the archetype's share in each country relative to the archetype's share in the OECD for large corporations (average = 1.0); blue indicates above average



Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

The range of profiles that emerges from the archetyping exercise is fitting for a corporate landscape that has thoroughly reshaped itself and diversified not only over the past 25 years, the period on which we focus in this discussion paper, but over the past century. When Adolf A. Berle and Gardiner Means published their seminal investigation of major US companies in 1932, some 85 percent of the 200 largest nonfinancial companies were in manufacturing, materials, and other heavy industry.[45] Today, our analysis shows that less than half of the large companies are in these sectors. Many other types of business, including in services and the knowledge economy, have grown in importance in the meantime and cross many of the sector boundaries as traditionally defined (see Box 5, "A partial updating of Berle and Means").

Box 5

A partial updating of Berle and Means

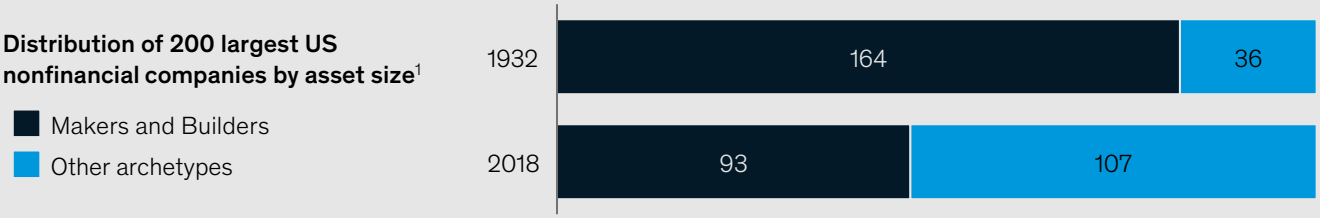
The seminal study on the modern corporation and private property by Adolf A. Berle and Gardiner Means is primarily known for its analysis of the consequences of separation of ownership and control of companies.[1] At the time of its publication in 1932, shares of large companies were becoming more diffuse across many shareholders at the same time that industries were becoming more concentrated. The question of whether the incentives for shareholder "principals" and manager "agents" needed to be better aligned became a central debate among economists. That debate has continued ever since, with new angles resulting from the rise of institutional investors and activist funds. While the corporate governance question is not our main concern, we are following Berle and Means in a second, often overlooked aspect—the need to take stock of the large company landscape in a period of enormous flux and growth of global corporations, as a way to understand their patterns of value creation and the subsequent impact on various stakeholders.

The primary causes of change for Berle and Means in the 1930s were the growing scale of corporations and, through their reliance on equity markets for external funding, their increasingly detached, quasi-public nature. Growth in scale continues today. But the flux we observe is equally due to the increasing diversity of company types in an era marked by rapid technological advances, changes in factor inputs (including labor and capital) and their relative mix, globalization and its impact on value chains, growth in global prosperity, and the growth in inequality within countries.

Just as Berle and Means implicitly raised the question of whether society had established the institutions and rules needed to manage unprecedented scale, we need a way of thinking about company diversity as part of any reevaluation of the role of companies in the economy and society that is now taking place. Do companies see similar stakeholder trends despite their different types? Or do they differ in their economic impact as well as in how they achieve it? Our archetypes are a first step in answering these essential questions for the corporate landscape shifts we observe. A comparison of the 200 largest nonfinancial companies today compared to the data set used by Berle and Means shows how companies fall more evenly across these archetypes today, making them suitable to the question of understanding the variety of company impacts (Exhibit 13).

Exhibit 13

The expansion of corporate activity over the last century reflects a large increase in the diversity of company types.



1. Among Financier firms, only real estate is included in the 200 nonfinancial firm sample with one firm in each case.
Source: Berle and Means, 1932; McKinsey Global Institute analysis

[1] Adolf A. Berle and Gardiner Means, *The Modern Corporation and Private Property*, Commerce Clearing House, 1932.

[45] Adolf A. Berle and Gardiner Means, *The Modern Corporation and Private Property*, Commerce Clearing House, 1932.

The archetype profiles in the preceding illustrations summarize the defining features of each one and indicate how they vary from average companies in our large corporation data set, as well as across countries. The metrics and sometimes surprising groupings of companies also allow us to derive some insights about patterns of business inputs, how they are used to create value, and the impact on each pathway that results.

Discoverers invest in scientific research and develop IP (often protected) to deliver complex products and with differentiated brands. They play an outsize role at the productivity frontier through innovation and investment: R&D expenditure averages $0.12 per dollar of revenue, compared to $0.03 for large corporations on average. This level of up-front, often science-based investment for uncertain future benefit (when it succeeds) results in the highest levels of market capitalization and impact on the capital income pathway per dollar of revenue, each of which is 2.4 times the average across archetypes. Pharmaceutical and biotechnology companies are prototypical of this archetype due to the degree to which science helps create their products. This archetype is also characterized by the market advantage that successful R&D can confer on the companies that achieve it and by the intellectual property protections patent laws confer on these companies for a period. But some more complex household products companies, and even some beverage and tobacco companies developing new products, fit this profile. In each case, they are using science-based investment to create products to meet demand but also to mitigate side effects and consumer concerns, whether that is through nutrition, broader health effects, or environmental effects of their supply chains. Their differentiated products tend to come with valuable brands, intangibles, and selling, general, and administrative expense (SG&A). This puts them adjacent to some Makers, such as healthcare equipment, and to Deliverers oriented toward selling, such as leisure products. While the Discoverer archetype is small in share of companies and revenue at 4.1 percent of the total of our roughly 5,000 companies, and even smaller in employment terms, at 3.6 percent share of employment, its uniqueness, while appealing to large demand markets, and the scalability of its products gives this archetype outsize impact. Since many of the products of Discoverers affect health and well-being, and because their discoveries are frequently protected for some periods, they are often subject to regulation and other societal considerations with respect to safety, pricing, and access to their products.

Technologists develop and deliver products and services that enable the digital economy. Like Discoverers, they have high R&D spending, at $0.11 per dollar of revenue, and correspondingly high capital income and market capitalization relative to earnings, at 75 and 100 percent above average, respectively. Many different business models characterize information technology companies, including those that provide software and hardware, as well as media and internet retail companies. Our clustering exercise brings them together into the same archetype through a variety of factors that include their tendency to be general-purpose technologies—in other words, their products can be used across a broad base of different types of consumers, companies, or sectors. Their products also often are foundational for other products and services. And their value-in-use is often interconnected and benefits from network effects, as in the case of social media and internet retail platforms. Technologists' products, like those of Discoverers, sometimes have IP protection. This links intangibles, especially data and software but also digital design, with the R&D to produce them, and the high productivity and impact on consumer surplus that result. That they rely on data and digital assets, and increasingly on digital infrastructure, to different degrees for their value creation affects how different Technologists contribute to the consumer pathway. Some companies classified as information technology in the GICS system but that are primarily engaged in manufacturing, including some electronic components and equipment (though not semiconductors), do not share the Technologist signature to the same degree. We instead place them in Makers. The products and services of Technologists often involve data of individuals and companies, and frequently serve as platforms for connecting users, buyers, and suppliers of products and services, often including their own. They also benefit (as do their users) from reach, scale, and network effects. As a result, they are often the focus of regulation considerations.

Experts rely predominantly on human capital and its related skills, expertise, experience, and delivery capacity and capabilities; it could be said that the value they deliver is embodied in the people who deliver it. Indeed, the predominant investment they make is in people. Their wages reflect that and are 12 percent above the average. This archetype includes for-profit hospitals and healthcare providers, business services including the legal, accounting, consulting, and other professional services firms, private universities, and other private educational institutions.[46] These companies tend to operate in ecosystems with contracted services and thus have the second-highest supplier payments. This fragmentation is also one reason they have a lower share of revenue in our large company data set than do their corresponding products and services in the economy overall. They also have the lowest capital income pathway, at just $0.03, less than half the average, resulting in the highest share of labor income relative to GVA.

Deliverers mainly rely on established technology, a large labor force, and many customer touchpoints to bring products and goods, often created by companies in other archetypes, to end-customers as efficiently and as effectively as possible. This often involves low-cost transaction approaches that are capable of high volumes, efficient retail formats, and marketplaces; often, their innovation consists of improving these activities. This characteristic of high volumes requires efficiency of operations, often across widespread geographies, and the physical assets or supply networks to enable it. In addition, recognizable brands become valuable, giving customers confidence in the experience no matter where their touchpoint occurs. Deliverers' employment of 4.7 workers per dollar of revenue is by far the highest among large corporations, almost double the average, and their wages are the lowest. Deliverers also make high payments to suppliers, at $0.65 of every dollar of revenue, and they have the third-lowest capital income, after Experts and Makers. Like Experts, they pay relatively low corporate income taxes and have a high share of labor income relative to GVA. Their SG&A per dollar of revenue is about 20 percent above average, reflecting the scale and scope of their activities related to sales and distribution and their investment in brand infrastructure. Retailers, hotel and restaurant chains, and commercial suppliers and distributors bringing goods and services to market are prototypical, but the archetype also includes air freight and trucking; these latter companies share core Deliverers' features but also a higher intensity of physical assets, often related to retailing and distribution infrastructure and facilities, putting them adjacent to Builders. Deliverers include some companies whose differentiating value is in brand and selling, such as footwear and luxury apparel makers and brewers, and which is reflected in higher SG&A costs. Deliverers largely compete at low margins and high scale, but those with branded manufactured products tend to be more profitable. The large number of workers employed by Deliverers, their often lower average wages, the relatively larger potential for automation of work activities, and price pressure on their margins put Deliverers at the heart of considerations about the future of work.

Makers have the aggregate labor, capital, and know-how to make a wide range of products, from durable goods and appliances to automobiles, healthcare equipment, capital goods, and some light materials such as glass and containers. Indeed, from the perspective of factor inputs, their labor and tangible and intangible investment are closest to the average of all archetypes. While most Makers are manufacturers, not all manufacturers are Makers. We categorize those with specializations that match other archetypes—like R&D for manufacturing pharmaceuticals (Discoverers) or semiconductors (Technologists), heavy physical capital for manufacturing chemicals (Builders), and primary value in brands that sell products like footwear (Deliverers)—in those archetypes. Makers are the largest and most "average" archetype in their profile across the pathways. They have a major impact on workers, with a labor income pathway that is more than 20 percent larger than average. Makers are the only archetype other than Technologists to combine above-average wages and employment intensity. They differ from Technologists in that they have much higher

[46] We include private or incorporated universities that fit our revenue criteria in the Experts archetype. Because higher education as well as healthcare are public to different degrees across countries, this archetype, unlike others, has country variation on its defining variables as discussed below.

supplier payments and lower capital income. Their economic activity is also more widely spread geographically, both within their home countries and beyond, than for any other archetype, for example due to the need for space or proximity to raw materials. Taken together, the large size of the archetype, the relatively high wages its companies pay many workers, their creation of supply chains which crisscross the world, and their multiplier effects in stimulating activities of other companies and local economies put Makers at the center of national debates about competitiveness, supply-chain resilience, and middle-class and middle-wage jobs.

Builders make, use, and operate physical infrastructure, and thus have high intensity of physical assets and capital-to-labor ratios, and they use more energy in production (reflected in scope 1 and 2 emissions) than any other archetype. While Builders serve households (and other businesses) directly, the utility, telecommunications, diversified mining and metals, chemicals, and transportation companies in this archetype also facilitate wider commercial activities that benefit other companies as well as households—for example, by enabling just-in-time production, as well as the provision of public goods like highways. Their scale, their enabling function, and the sometimes public nature of their products can make them highly regulated. They spend $0.12 of every dollar of revenue on maintaining and growing their assets. This is the highest among archetypes and almost double the average. Some $0.06 of that goes to property, plant, and equipment (PP&E), also the highest. Their $0.06 investment in intangibles is among the three highest, along with Discoverers and Technologists. This is evident, for example, in telecommunications, which have some of the highest values of intangibles per dollar of revenue in the form of licenses and industrial software.[47] Other examples of high-intangible Builders are renewable electricity generators, which also rely on licensing and IP, and industrial gases and specialty chemicals, which are adjacent to pharmaceutical companies in the importance of IP. The role of Builders in providing and operating enabling infrastructure is somewhat similar to that of Technologists and is often the focus of regulatory considerations of access, pricing, safety, and national security and resilience.

Fuelers are companies that extract and produce primary energy, such as oil, gas, and coal, which is used by households as well as other companies. The product itself plays a large role in defining the archetype, as it does for Financiers, making them closer to traditional sector definitions than other archetypes. Both Fuelers and Financiers enable other types of companies and have specific patterns of factor inputs, operations, and impacts on pathways. Fuelers often include both upstream and downstream operations, for example from oil platforms to gas stations. These companies make large physical investments, with $0.05 per dollar of their revenue going to PP&E maintenance and growth. This puts them adjacent to Builders in that respect, but they have much lower labor intensity and more supplier input costs, resulting in the highest labor productivity and wages. That can make their activities the center of entire local economies, particularly where coal mines or oil wells are far from major population centers. They also have the lowest labor income share of revenue among our archetypes, although they pay high wages. They also pay the highest production taxes. The nature of their activities, especially with respect to environmental spillovers, puts them at the forefront of the climate debate, as reflected in their emissions (highest for scopes 1, 2, and 3 combined).

Financiers, like Fuelers, are largely defined by their product and services—that is, mostly to do with money. Banks, insurance companies, and real estate investors that help price risk and provide capital and financial services for economic activity have operating models and even accounting standards that are distinct from those of other companies. Nonetheless, our pathway metrics put them on terms comparable to other archetypes in how they impact households.[48] They stand out with a capital income pathway that is 40 percent above average and with 21 percent of total capital income, the highest of all archetypes, and the largest tax

[47] See *Connected world: An evolution in connectivity beyond the 5G revolution*, McKinsey Global Institute, February 2020, on McKinsey.com.

[48] We should note, however, that for banks in our framework, revenue is net of interest, such that the "inputs" of deposits are not supplier payments analogous to inputs in other archetypes.

pathway. Financiers have the second-highest SG&A per revenue dollar of all archetypes, in part because of accounting standards for their services. Retail banks and consumer finance also need to invest in marketing and, at times, physical branches to instill confidence in customers who may not otherwise be able to differentiate among their banking options. Given the pervasive role of Financiers in the economy, along with the complexity and importance of their operations—that is, their capacity to produce systemic economic risk—they are closely monitored by regulators and supervisors.

Three side-by-side comparisons of company archetypes highlight key similarities and differences

In the following pages, we examine the eight archetypes through three side-by-side comparisons that bring out similarities and differences. (Later in this chapter, we will consider patterns across countries.)

Comparison of pathways and sub-pathways indexed to a dollar of revenue
The differences in pathways and sub-pathways of each archetype come into sharp relief in the side-by-side display in Exhibit 14. The metrics are generally on a per-revenue-dollar basis to highlight the defining profile of each archetype; below we also weight these impacts by revenue to understand the overall economic impact of each archetype. The heat-map coloring is based on the high and low values in each row, showing which archetypes stand out. Read vertically, the most pronounced features are visible. For example, we see Discoverers and Technologists with the highest values for capital income, market capitalization, intangibles investment, market power as measured by positive economic profit, and R&D expenditure. Builders and Deliverers also stand out for having the highest investment flows and employment per dollar of revenue, respectively. Makers have relatively high GVA per dollar of revenue and low market power and thus high consumer surplus. Fuelers followed by Builders have the highest emissions, though Makers also have relatively high emissions due to scope 3 emissions (from their value chain and product use).

Analysis of the sub-pathways highlights further distinctions. For example, no archetype is below average in both wages and employment intensity, but Technologists and Makers are both above average in both, which is why they stand out in the aggregate labor income pathway. Corporate taxes are greatest for the archetypes with the highest capital income, as expected, but production taxes are much more even and slightly negatively correlated with capital income. This results in a more even tax pathway across archetypes overall. The market power of Discoverers and Technologists, and the high supplier payments paid to domestic suppliers of Experts and Deliverers—driven by both the high level of supplier payments and domestic share—also stand out.

A revenue-weighted comparison of archetypes and their impacts on the pathways
Exhibit 15 provides a different side-by-side comparison of the archetypes, this time weighted by share of revenue to show patterns across factor inputs, value creation metrics, and impact on the economy. Read horizontally, the revenue-weighted effect becomes apparent and we can see which archetypes have the biggest impact in total for a given metric. Considering that 12.5 percent represents an average share (in other words, if a metric were split evenly across the eight archetypes), we can see, for example, that Fuelers have a greater share of investment and taxes (10 percent each) compared to their revenue share of 8 percent, but this in turn remains below the 12.5 percent average; by contrast, their PP&E intensity is so high that even with their small revenue share, they account for 17 percent of the total.

Exhibit 14

The eight archetypes show large differences in their pathway and subsegment impacts.

~5,000 companies in each year's sample based in OECD countries with >$1 billion in annual revenue, 2016–18

Low — High

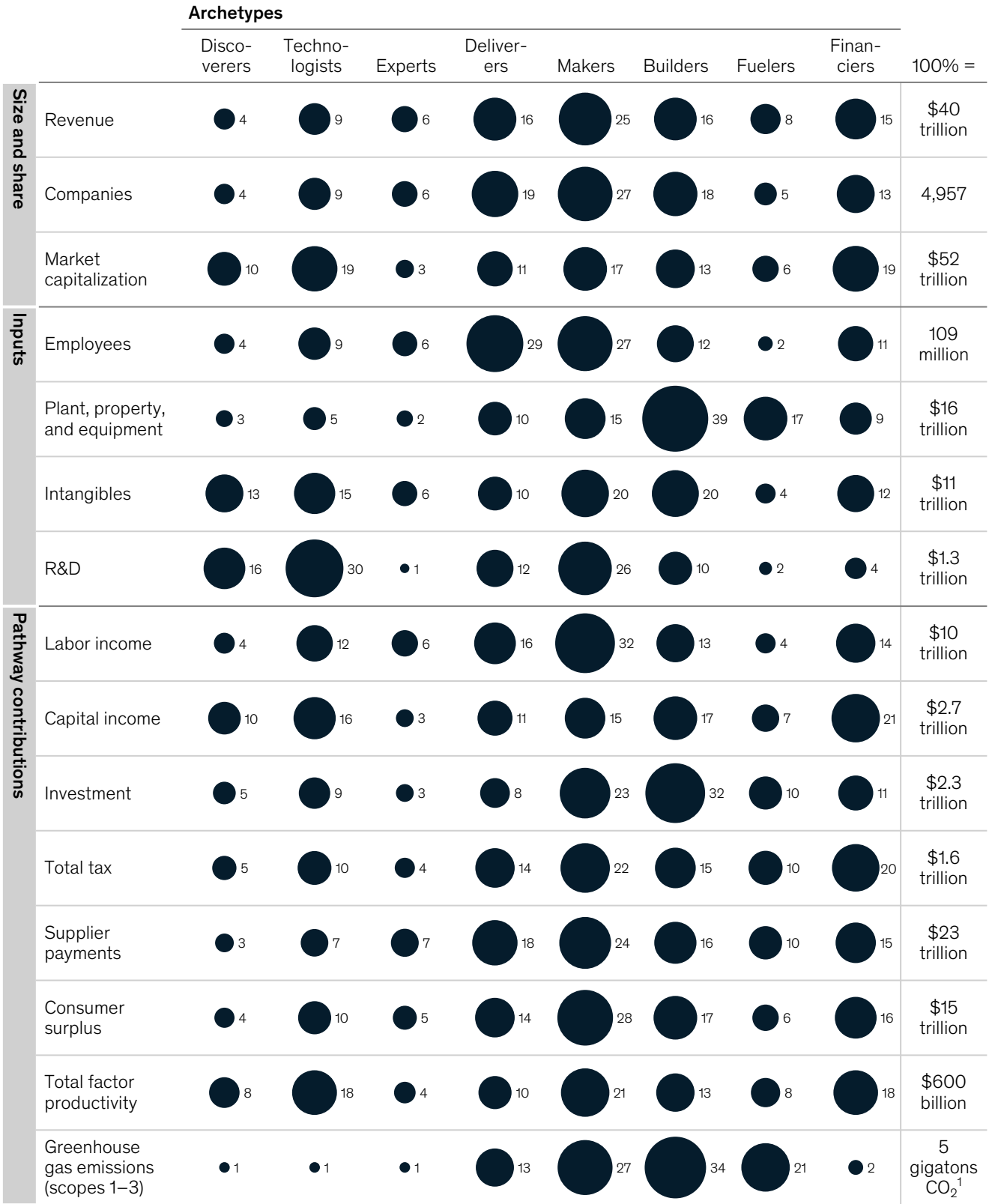
Pathway	Impact of companies on economy for every $1 of revenue (except as noted)	Disco-verers	Techno-logists	Experts	Deliver-ers	Makers	Builders	Fuelers	Finan-ciers	All com-panies
Total measures	Revenue, $	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Revenue, % of total	4	9	6	16	25	16	8	15	100%
	Value added, $	0.53	0.56	0.34	0.35	0.44	0.43	0.29	0.43	0.42
Labor income	**Total labor compensation,** $	0.24	0.33	0.26	0.24	0.31	0.21	0.11	0.23	0.25
	Employees, number per $ million	2.4	2.8	2.5	4.7	2.9	2.0	0.6	2.0	2.7
	Compensation, $ million per employee	0.10	0.12	0.10	0.05	0.11	0.10	0.17	0.11	0.09
Capital income	**Capital income** (incl dividends, share buybacks, and interest), $	0.17	0.12	0.03	0.05	0.04	0.07	0.06	0.10	0.07
	Market cap (stock), $	3.36	2.74	0.64	0.91	0.89	1.10	1.01	1.68	1.32
Invest-ment	**Capital investment,** $	0.07	0.06	0.03	0.03	0.05	0.12	0.07	0.05	0.06
	Plant, property, and equipment capital expenditure replacement and growth	0.00	0.01	0.00	0.01	0.01	0.05	0.05	0.01	0.02
	Intangibles replacement and growth	0.06	0.05	0.02	0.02	0.04	0.06	0.02	0.04	0.04
Tax payments	**Total taxes,** $	0.05	0.05	0.02	0.04	0.04	0.04	0.05	0.06	0.04
	Corporate taxes	0.04	0.03	0.01	0.01	0.02	0.02	0.01	0.04	0.02
	Production taxes	0.01	0.02	0.01	0.02	0.02	0.02	0.04	0.02	0.02
Supplier payments	**Input costs (supplier income),** $	0.47	0.44	0.66	0.65	0.56	0.57	0.71	0.57	0.58
	To domestic suppliers	0.35	0.33	0.59	0.58	0.43	0.45	0.40	0.53	0.47
	To SME suppliers	0.16	0.16	0.25	0.27	0.19	0.18	0.24	0.14	0.21
Consumer surplus	**Consumer surplus,** $	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.4
	Producer value added at basic prices, $	0.43	0.48	0.33	0.33	0.42	0.42	0.29	0.41	0.39
	Market power: economic profit, $	0.10	0.07	0.01	0.02	0.01	0.02	0.00	0.02	0.02
	Output price index (100 = 1995)	137	45	148	121	78	96	206	115	90
	Production index (100 = 1995)	192	1053	976	376	345	351	261	512	445
Environ-mental spillovers	Total CO_2 equivalent emissions, scopes 1–3 (kilotons per $ million revenue)	0.2	0.2	0.1	0.9	1.2	2.3	2.8	0.2	1.1
	Primary resource use in supply chain, $	0.02	0.03	0.02	0.02	0.07	0.07	0.27	0.01	0.05
Produc-tivity spillovers	Labor productivity, $ million per employee	0.22	0.20	0.14	0.07	0.15	0.22	0.46	0.21	0.16
	R&D expenditure (total incl capital input and labor input), $	0.12	0.11	0.00	0.02	0.03	0.02	0.01	0.01	0.03

Note: This heat map shows the full range of pathways and sub-pathways via which corporate revenue flows to households by each of the eight company archetypes in our analysis. The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways.
Source: BEA; BLS; IHS Markit; Carbon Disclosure Project; MGI Companies and Economy data set; OECD; McKinsey Global Institute analysis

Exhibit 15

Weighting the archetype impacts by revenue shows their overall share of impacts on the pathways and other economic indicators.

Archetype features, share of total by row, %



1. Total is netted to scope 1. The bubbles in the row show share of the total scope 1–3 to reflect relative contributions. As summing scope 1–3 across archetypes involves double counting, we use scope 1 only as an order of magnitude estimate of total emissions for the large corporations.

Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Other notable concentrations that emerge from this revenue-weighted view are the high market capitalization of Financiers and especially Technologists, almost 40 percent of total versus their 24 percent of revenue. This tracks their large impact on capital income: Financiers account for more than 20 percent of total capital income, the highest of any archetype. Accordingly, they also pay the highest taxes per revenue as a percent of the total, along with Makers. Patterns for the labor income, investment, supplier payments, and consumer surplus pathways are closer to the pattern of revenue distribution, with Deliverers, Makers, and Builders accounting for about 60 percent of total in each case, as they do in revenue. Discoverers, Technologists, and Financiers channel risk capital into their activities, with higher capital income and total factor productivity spillovers as a result.

Among the Deliverers, Makers, and Builders, a "division of labor" is also clear. Deliverers account for 43 percent of employment among the three; at 29 percent of the total, Deliverers are the largest archetype by employees, bigger even than Makers, which have 27 percent. Builders account for 63 percent of the physical capital among this group and almost 40 percent of the total. Fuelers also stand out in physical capital and emissions, despite their relatively small revenue share. In the context of emissions, it is notable that Makers rise to the second largest archetype, reflecting the downstream impact of their products and large revenue share. In the revenue-weighted view, Experts stand out the least, mainly because they are the second smallest archetype, but also because their distinctive features—human capital and the supplier ecosystem that supports it—tend to have less overall variation than the other metrics we observe.

A "fingerprint" comparison of company archetype impacts on the pathways

A different, side-by-side "fingerprint" comparison of impacts by company archetype brings out other notable features (Exhibit 16). They include the "spiky" contribution profiles of Discoverers and Technologists, which are significantly above the average on two pathways compared to the other archetypes as well as the average. These are capital income pathway and productivity spillovers, which we proxy through an index of R&D expenditure, digitization metrics, and labor productivity growth. This combination of capital income and productivity reflects in part the higher risk-reward profile of R&D-intensive activities. Technologists and, to a lesser but still significant degree, Makers, have the greatest impact on consumer surplus, as measured here by price decreases over the past 25 years. This differentiates them from Discoverers, which have tended to raise prices. Financiers share the capital-income-and-productivity-spillovers profile with Discovers and Technologists but in a more muted fashion on a per-revenue-dollar basis.

A second fingerprint pattern of high labor income and high supplier payments is evident in both Experts and Deliverers. This is paired with their below-average investment and capital income pathways. This similarity belies key differences in how that labor income pathway is composed: Deliverers have far more workers and lower wages. Deliverers have almost three times as much revenue as Experts and almost five times as many employees. Makers have above-average labor income, but their supplier payments are about average. Their other spike is in delivering lower prices for consumers, the result of being in sectors with tradable goods and high levels of competition.

Builders and Fuelers are distinguished by a third combination, that of investment and emissions. However, Builders have delivered relatively larger consumer surplus through the price channel, in part due to the communications companies in that archetype. These two asset-intensive company archetypes are also distinguished from each other in their impacts by the much smaller labor income pathway of Fuelers. That is in turn driven by a capital-to-labor ratio for Fuelers that is 2.5 times higher than the (already high) level for Builders, resulting in higher wages but far lower labor intensity.

Exhibit 16

Each archetype has a different profile across pathways.

Pathway impacts by archetype

1. All metrics on a per-revenue-dollar basis except: consumer surplus is price decreases; environmental is defined as scope 1-3 emissions; and productivity spillovers are an index of labor productivity growth since 1995, R&D expenditure as a share of revenue, and a digitization index of production and customer interactions.

Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

The distribution of company archetypes and their relative weights vary across countries

Archetypes have very different profiles in how they affect households. Their distribution by country can thus make a big difference in the national relationship between corporate activities and impact on households and the economy.

Comparing shares across countries, we see that among companies headquartered in Germany and Japan, Makers account for more than one-third of revenue, whereas in the United Kingdom and the United States they account for considerably less, only one-fifth (Exhibit 17). The United States has three times the average archetype revenue share for Discoverers, Technologists, and Experts, while the United Kingdom is overweight in Financiers, Fuelers, and Deliverers compared to the average distribution in our data set of OECD countries.

While Makers consistently represent a smaller share of revenue in the United States compared to most other OECD countries, Experts account for a much larger share, as Exhibit 17 shows. The main reason for this is that many of the functions that Experts deliver, especially in higher education and healthcare, are publicly provided in many countries. This also means that, outside the United States, a bigger share of companies in that archetype are adjacent to Deliverers, in the sense of having larger workforces and lower wages, such as some business services firms. As a result, Experts in the United States have wages 40 percent higher than those of the average US-based corporation in our data set, whereas in France they are more than 20 percent below average and only 10 percent higher than for Deliverers.

To understand the role that different countries play in the overall OECD mix of company archetypes, we also weight the archetype shares of each country by the overall revenue of large corporations in each country (Exhibit 18).

The large US revenue share, 36 percent of total, accentuates the company archetypes on which it has a high share compared to the overall OECD average. Specifically it accounts for 74 percent of the large corporate revenue in the OECD from Experts, 61 percent of Technologists, and 45 percent of Discoverers. As noted, the high share of Experts has largely to do with varying public-sector roles across countries. However, the comparatively large share of Technologists and Discoverers does not have that explanation and instead means that the US companies have a larger share of global markets than companies from those archetypes from other OECD countries. Likewise, Japan accounts for 28 percent of Maker revenue compared to its overall OECD revenue share of 16 percent while Germany accounts for 12 percent, compared to 8 percent revenue share, and the Netherlands accounts for 11 percent of Fuelers compared to its 4 percent total revenue share.

Most country differences of pathway measures (and subsegments) are due to differing mixes of company archetypes. (The cross-country divergences in wages for Experts mentioned above is an exception.) In other words, the profiles of economic impacts by different company archetypes transcend national boundaries, which is a reflection of globalized markets.

Exhibit 17

The share of total revenue of each archetype differs as viewed by country.

Share of revenue per archetype by country, 2016–18, %

X Archetype revenue in country as share of country's total large corporation revenue

	France	Germany	Japan	Nether-lands	South Korea	United Kingdom	United States	OECD
Discoverers	4	4	2	4	2	5	5	4
Technologists	5	3	6	3	15	5	15	9
Experts	2	4	2	3	<1	4	12	6
Deliverers	22	15	13	12	5	20	19	16
Makers	27	38	44	25	43	17	17	25
Builders	14	22	18	5	18	15	11	16
Fuelers	9	1	3	22	5	15	8	8
Financiers	18	14	12	27	13	20	12	15
Total large corporation revenue in country, $ trillion	2.2	3.1	6.4	1.6	1.8	3.0	15	**40**

Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. The revenue in this chart is an average of the years 2016–18 for these large corporations. Read horizontally, the chart shows how the proportion of each archetype compares with the OECD average and other countries.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Exhibit 18

The share of each archetype's total large corporation revenue in the OECD differs by country.

Share of total archetype revenue in the OECD by country, 2016–18, %

X Archetype revenue in country as share of OECD total revenue for that archetype

	France	Germany	Japan	Nether-lands	South Korea	United Kingdom	United States	Rest of OECD	Total archetype revenue in OECD, $ trillion
Discoverers	5	7	9	4	2	10	45	19	1.6
Technologists	3	3	10	1	8	4	61	9	3.6
Experts	2	4	6	2	<1	4	74	8	2.5
Deliverers	7	7	13	3	1	9	43	17	6.6
Makers	6	12	28	4	8	5	24	14	10
Builders	5	11	18	1	5	7	24	29	6.4
Fuelers	6	1	6	11	3	13	37	23	3.2
Financiers	6	8	13	7	4	10	30	22	5.9
Total	5	8	16	4	5	7	36	18	**100** / **40**

Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. The revenue in this chart is an average of the years 2016–18 for these large corporations. Read vertically, the chart shows how the proportion of each archetype compares with the country average in terms of its share of the OECD total large company revenue. Figures may not sum to 100% because of rounding.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Discoverers provide one example of cross-country consistency: companies in this archetype have earnings before interest, taxes, depreciation, and amortization that are almost twice the average in each major OECD economy; this affects three of our pathways—capital income, taxes, and investment in capital assets. Similar consistency is evident in the defining features of other archetypes, for example the gains Technologists pass along to consumers through price cuts, the high capital incomes of Discoverers, Technologists, and Financiers, the employment intensity of Deliverers, and the physical asset intensity of Builders and Fuelers.

As a result, differences in how company archetypes impact the economy and households in a given country stem mainly from the weight of the archetype in that country. For example, consider employment and labor income. In Exhibit 19 we see that Technologists account for 17 percent of labor income for US corporations, more than double the contribution that archetype makes in any country other than Japan. For UK corporations, 21 percent of labor income is from Financiers, the highest by far, as is the labor income of Fuelers there relative to other countries, at 8 percent of the country total for that pathway. The United Kingdom, the United States, and to some extent France have high employment in Deliverers, with one-third or more of the total, but in no country's case do they account for even one-quarter of labor income, reflecting their low wages.

We can estimate the share of domestic employment based only on general data on multinational enterprises collected by the OECD. From that analysis we conclude that these multinational enterprises' share of employment in each home country ranges from 10 percent of total employment in the domestic economy in Germany to 18 percent in the United States. (This is not the entire share of employment in each country from companies in our data set since it does not include employment from foreign corporations.)

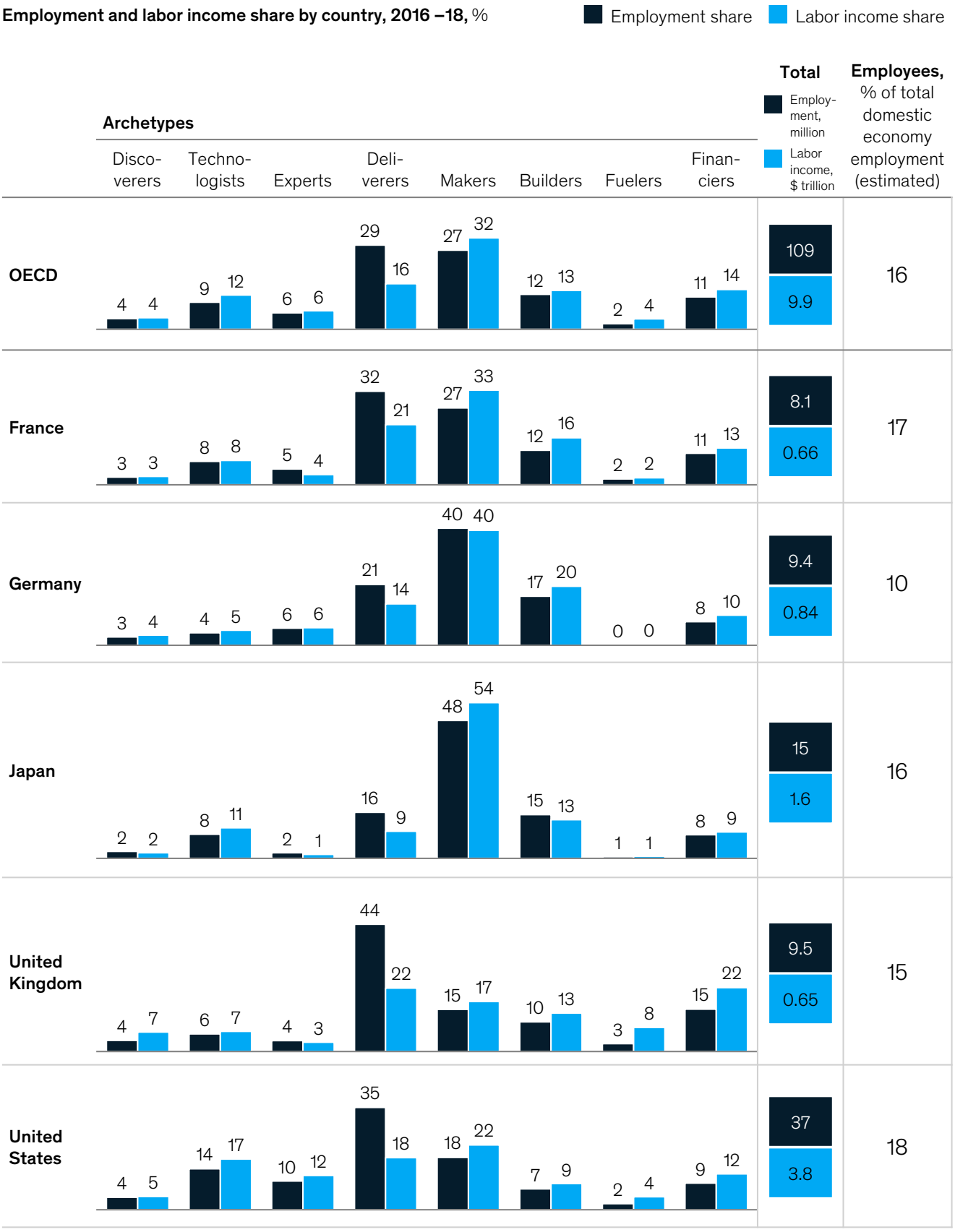
Company archetypes retain consistent characteristics even in countries where an archetype has a large revenue weight and includes globally leading companies, such as Makers in Germany and Japan and Technologists in the United States. In all three countries, Makers are above average in their labor income pathway and its subcomponents relative to the rest of their archetypes, and below average in capital income and physical capital intensity. Similarly, in Germany, Japan, and the United States, Technologists spike in capital income, market capitalization, intangibles, and R&D relative to other archetypes within each country, though capital income is a bit lower in Japan relative to the other archetypes there. Builders are very similar across the three countries, showing their characteristic investment spike, particularly in physical capital. Some differences are notable, including R&D for Makers that is above average in Germany but below average in the United States. In this case, it reflects the possibility that Makers in Germany push the productivity frontier more than they do in other countries, reflecting Germany's global leaders in automotive, for example. Production taxes vary from country to country, as tax regimes reflect national policy decisions.

The defining elements of the archetypes also transcend differences in company size—in other words, whether their annual revenue is between $1 billion and $10 billion, $10 billion and $100 billion, or more than $100 billion. For example, Discoverers and Technologists spike on R&D and capital income across size segments; Deliverers are always the most labor-intensive; and Builders and Fuelers have twice the PP&E stock of the average in all the different size segments.

Exhibit 19

Employment and labor income shares from our sample of corporations for the United Kingdom and United States differ from France, Germany, and Japan.

Employment and labor income share by country, 2016 –18, %



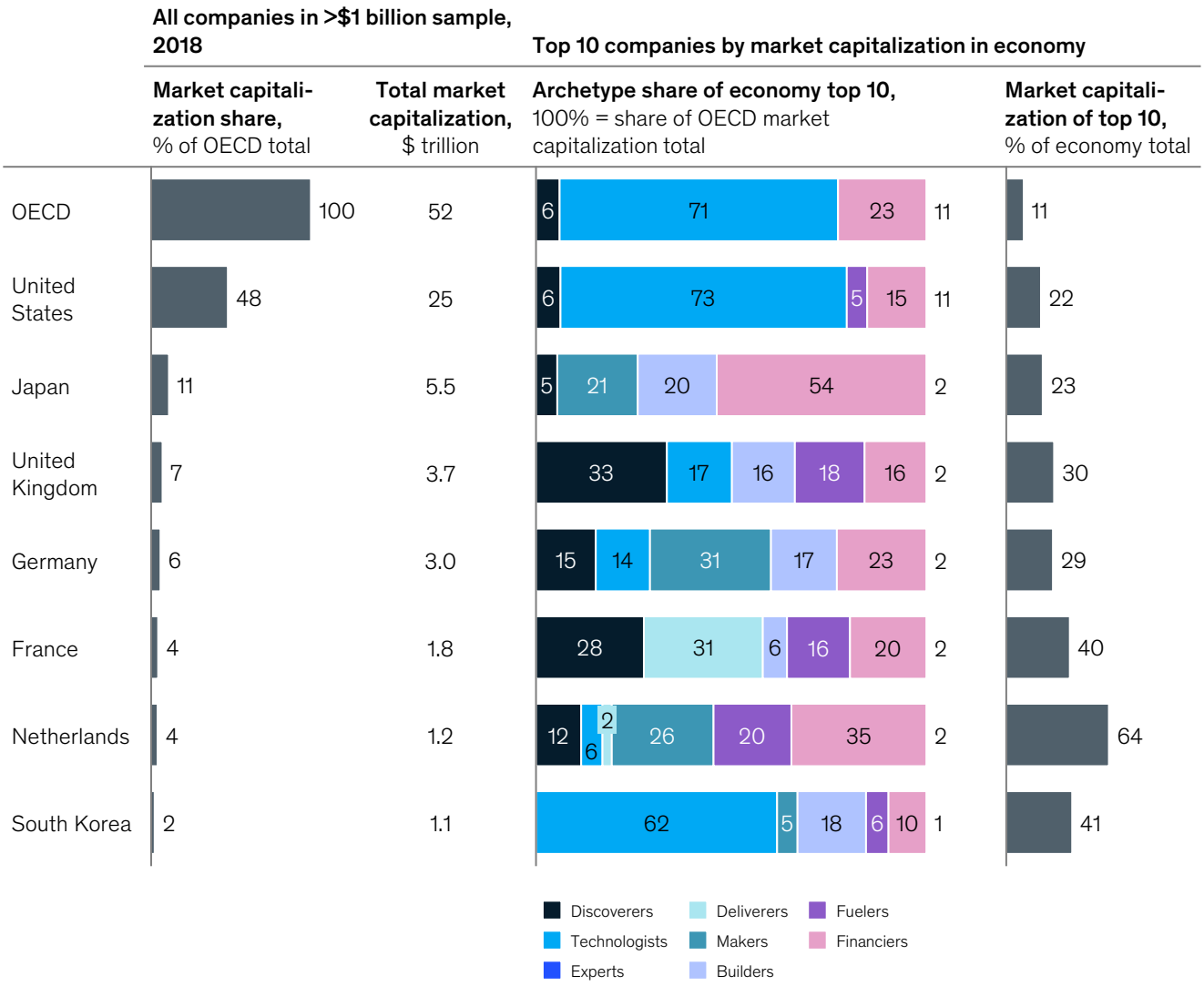
Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. Figures may not sum to 100% because of rounding.

Source: MGI Companies and Economy data set; OECD; McKinsey Global Institute analysis

The largest companies by market capitalization cluster into different archetypes and in different mixes by country (Exhibit 20). The top ten companies by market capitalization account for 11 percent of our entire company data set in 2018, driven primarily by Technologists in the United States. Within the United States, the top ten companies account for 22 percent of the total market capitalization, of which 16 percent is from those same Technologists. The picture is quite different elsewhere. The most consistent trend is that every country, including the United States, has a substantial share of top ten companies from Financiers, confirming the systemic importance of the largest ones. The remaining companies are spread across all other archetypes, indicating how countries have leading companies of different types. This manifests in a preponderance of Makers in Germany and Japan, Fuelers in the Netherlands and the United Kingdom, Discoverers and Deliverers in France, especially luxury goods companies, and Technologists in South Korea.

Exhibit 20

The mix of the largest companies differs significantly by country.



Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. Figures may not sum to 100% because of rounding.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

4. How the mix of corporation types and their impacts have changed

The shifts in the pathways through which corporations impact the economy and households—which we explored in chapter 2—are one part of the story about how the corporate landscape has changed. Another part of the story relates to the different role of each of the archetypes over the past 25 years. In this chapter, we examine how the balance of archetypes and trends across and within archetypes explains the pathway shifts that have occurred over the period.

The share of long-predominant company archetypes, notably Makers, is declining as others grow

The trend away from Makers and Builders as the dominant archetype among large corporations that was evident in the 20th century has continued, and indeed accelerated, since 1995. At that time, 56 percent of large corporations in our OECD data set were Makers and Builders. Two decades later, by 2016–18, that number had dropped to 41 percent (Exhibit 21). The biggest shift was a 12-percentage-point decline in the share of revenue held by Makers. An exception was Germany, where the share of revenue of Makers held even. Discoverers also declined in share by one percentage point of total revenue due to the decrease in relative share of personal, household, and tobacco products.

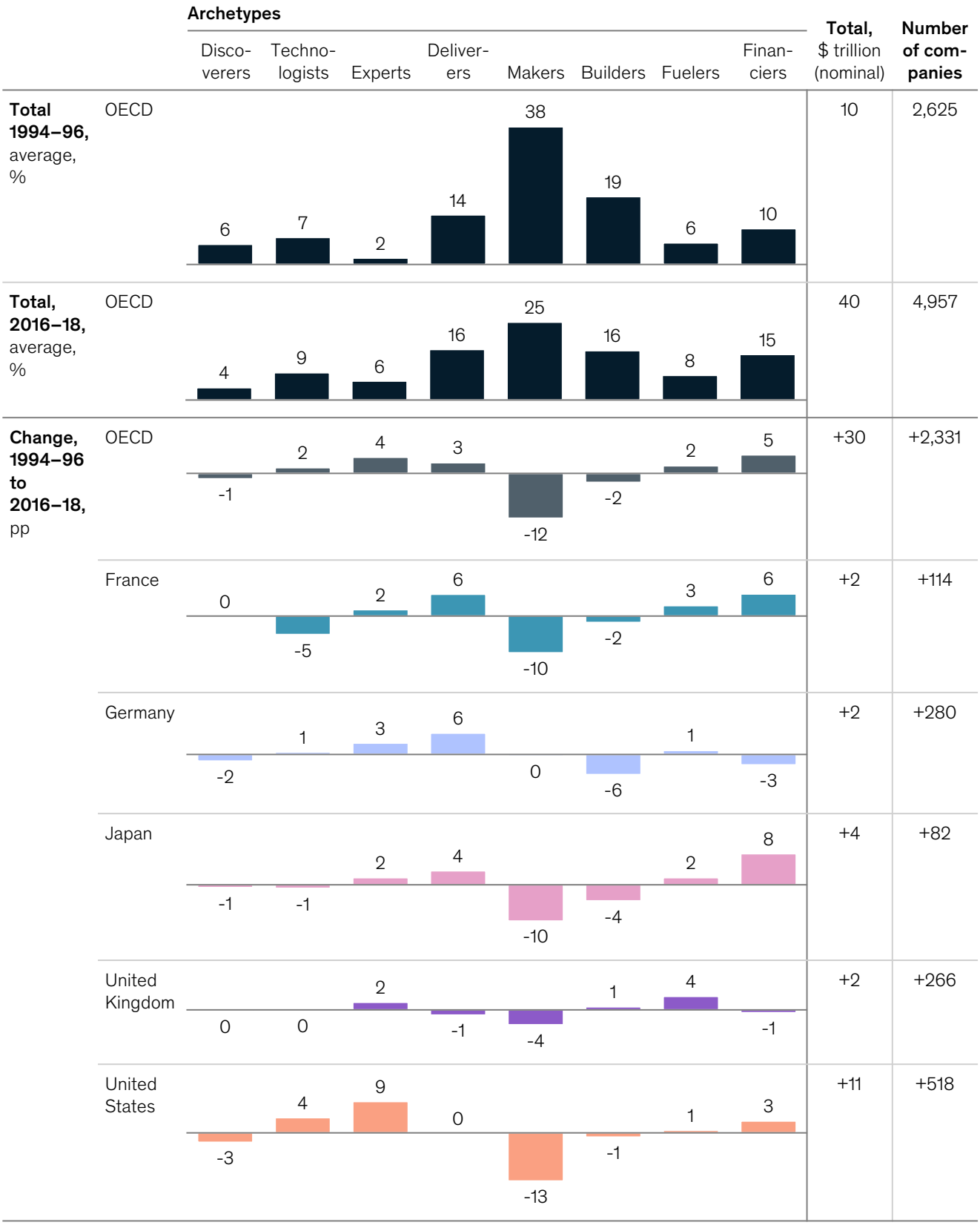
The other five archetypes all expanded their share of revenue. Of these, Financiers, Experts, and Deliverers had the largest growth as OECD economies became more service oriented. These three archetypes together increased their revenue share by 12 percentage points. This evolution reflects the natural response of companies to meet more differentiated demand as GDP per capita in the OECD increased from about $30,000 to $40,000 (in 2018 dollars) in this period. Because each archetype has its own profile of economic impact, the change in distribution is an important explanation of the changing pathway outcomes.

The shifts we observe are due to company size as much as, or more than, company prevalence. While Makers' revenue as a share of the total fell by 12 percentage points, the number of large Maker corporations dropped by fewer, about nine percentage points. This effect was especially strong in the United States, where the number of large corporations declined by just three percentage points, but the share of revenue for Makers declined by 13 percentage points. Germany saw the opposite effect: while the revenue share for Makers remained steady, the number of large Maker corporations fell by seven percentage points, indicating a larger average size with more globally leading companies.

Exhibit 21

The corporate landscape is marked by a large decline in the Makers' share of revenue and large increases for Financiers, Experts, and Deliverers, with country variations.

Share of revenue per archetype per country



Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. Figures may not sum to 100% because of rounding.

Source: McKinsey Global Institute analysis

Such shifts in the share of archetypes have large implications for employment and wages. Among the three fastest-growing archetypes, Financiers and Experts accounted for a nine-percentage-point increase in revenue share while Deliverers grew by only three percentage points. In employment share, however, the first two accounted for an increase of eight percentage points while Deliverers gained nine percentage points. Since Financiers and Experts have wages about 20 percent above the average and Deliverers' wages are only half the average, this archetype's growth pattern contributes to one dimension of polarization of wages (inter-archetype polarization), compounded by faster wage growth within Financiers and Experts.[49] Indeed, for anyone employed by a large corporation in 1995, the chance of working in an archetype with wages within 15 percent of the average was over 80 percent, whereas by 2017 that number had dropped below 50 percent.

Some of the aggregate pathway changes are the result of the changing share of revenue of each archetype over time. As a result of this change, the contribution of the archetypes collectively across each pathway rises or falls as a percentage of the total. Makers provide one clear example of this mix or composition effect: they have one of the highest labor shares, at $0.31 per dollar of revenue in 2016–18 compared to the $0.25 average in our data set. As the revenue share of the Makers archetype has declined as a share of the total, the overall labor income pathway has waned commensurately. Overall, about two-thirds of the change in the labor income pathway derives from the change in revenue shares across archetypes, with the rest due to changes within each archetype. The types of company in an economy matter for how economic value flows to households.

Compared to other economies, in the United States the share shift from Makers went less to Deliverers, who already represented a high share in 1995, and instead went to three high-intangibles or high-skill archetypes—Technologists, Financiers, and Experts. The increase for these three archetypes represented one-sixth of total revenue for large US corporations, a major shift that was less marked in the other economies. Since the US share of revenue in our OECD data set increased from 34 to 36 percent, the US mix shift represents a substantial change in the overall corporate landscape: the US companies in these three archetypes increased their share of the total revenue of all large OECD corporations from 8 to 15 percent.

Some of the pathway shifts over time are the result of evolution of the archetypes themselves and how they do what they do

Some pathway shifts are due more to the evolution of each archetype than to the changing revenue shares of each archetype in the economy. Some trends such as increases in capital income and intangible investments are evident across archetypes, but differ in how much they changed over the past 25 years. Other changes, such as in labor income and supplier payments, go in different directions across archetypes. We also see a general trend of specialization, as archetypes continued to make their defining features (as defined in the last chapter) even more pronounced.

Shifts in capital income and labor income pathways

Shifts in the per-revenue values of archetypes are particularly evident in the case of capital income, for which changes are almost entirely attributable to increases within each archetype. Capital income growth features most prominently among Technologists, Financiers, and Discoverers. Each of these saw more than 150 percent growth in capital income as a share of revenue over the 25-year period, on average. Financiers are also one of the larger archetypes by revenue and accounted for one-third of total growth in the capital income pathway, increasing their share from 8 to 21 percent. These three archetypes together accounted for more than two-thirds of the total increase in capital income.

[49] For a discussion of wage polarization, see *The social contract in the 21st century*, McKinsey Global Institute, February 2020, on McKinsey.com; and *The future of work after COVID-19*, McKinsey Global Institute, March 2021, on McKinsey.com. Also see David Autor, *The polarization of job opportunities in the U.S. labor market*, Center for American Progress and The Hamilton Project, April 2010.

In the per-revenue-dollar view, the increases in the capital income pathway do not necessarily mean a decrease in the labor income pathway. Indeed, their growth is correlated (Exhibit 22). For example, Technologists and Financiers have the largest labor income pathway increase (along with Deliverers), which, together with the capital income increase, necessarily means that they are increasing their GVA share of revenue. This may be happening because they are capturing more value through larger markups or increased demand on the consumer side or accounting for more of the value added along their supply chains.

By contrast, we see a lower capital income increase and a decrease in labor income as a share of revenue among the asset-heavy "traditional economy" large corporations classified as Makers, Builders, and Fuelers. Each of these saw a labor income pathway decline over our 25-year reference period, although for Makers it was essentially zero. These changes take place in an environment of tough price competition (often from non-OECD companies), and these companies are finding ways to preserve capital income. For Builders and Fuelers, the decrease in labor income was accompanied by an increase in supplier payments, indicating increased specialization and outsourcing of activity. For Makers, income shifted from labor to capital income as they sharply decreased their average size and revenue share of the total corporate mix. This indicates withdrawal from some product markets (ceding them to Makers headquartered outside the OECD) and attempts to preserve margins and thereby increase market capitalization per unit of revenue.

Deliverers preserved their labor income pathway more than the other "traditional economy" archetypes, such as Makers, Builders, and Fuelers, over the past 25 years despite seeing similarly small wage increases. They did so by maintaining their core economic contribution of employment intensity—the only archetype to do so in real terms, while compensation per employee rose across all archetypes. These trends take place in the context of an almost fourfold increase in revenue in real terms in our large company data set, such that even with the decreased employment per dollar of revenue, employment rose by 2.5 times.

Exhibit 22 shows that the capital income pathway growth was in all cases greater than labor income growth. Similarly, from a per-worker perspective, labor productivity growth, ranging from 14 percent over the last 25 years for Deliverers to about 55 percent for Discoverers and Fuelers, generally exceeded wage growth (Exhibit 23). Only among Experts and Deliverers did wages keep pace. Given that Experts represent only 6 percent of employment in our data set, their relatively larger wage increase did not shift the overall effect, which is that productivity grew by 25 percent while wages grew by only 11 percent in aggregate. This result is also due to the large shift of workers to Deliverers, which have the lowest wages.

Shifts in investment pathway

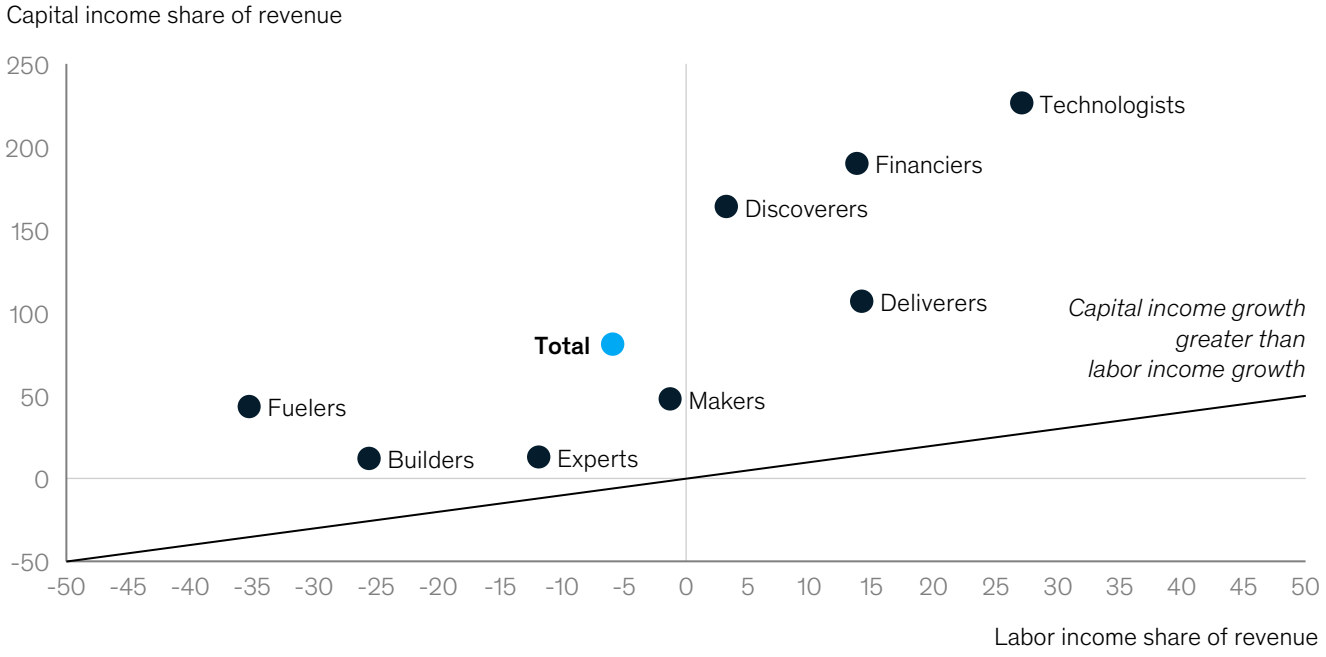
The growth of the investment pathway, while relatively small at less than $0.01 per dollar of revenue, was marked by the major shift to intangibles, which grew in proportion from one-quarter to more than one-half of the total. All archetypes increased their intangibles per dollar of revenue, with the largest increases from Discoverers and Technologists. This paralleled their large increase in R&D—the only archetypes to see such growth—which contributes to the intellectual property reflected in their intangibles. However, 60 percent of the overall growth in intangibles came from Makers and Builders, attributable to their large size and adaptation to the knowledge economy, even as they lost revenue share.

We thus see a deepening of the defining features of archetypes in many cases, whether in factor inputs, such as employment intensity of Deliverers and physical capital of Fuelers, or in how companies create value, such as R&D and intangibles in Discoverers and Technologists, or in the pathway outcomes such as capital income among Financiers, Discoverers, and Technologists, and wages for Experts. In other words, more diversity in the mix of archetypes has accompanied more specialization within them (Exhibit 24).

Exhibit 22

Growth of capital income per revenue dollar was highest among archetypes that also had positive growth of labor income per revenue dollar.

Change from 1994–96 average to 2016–18 average, %



Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue.
Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

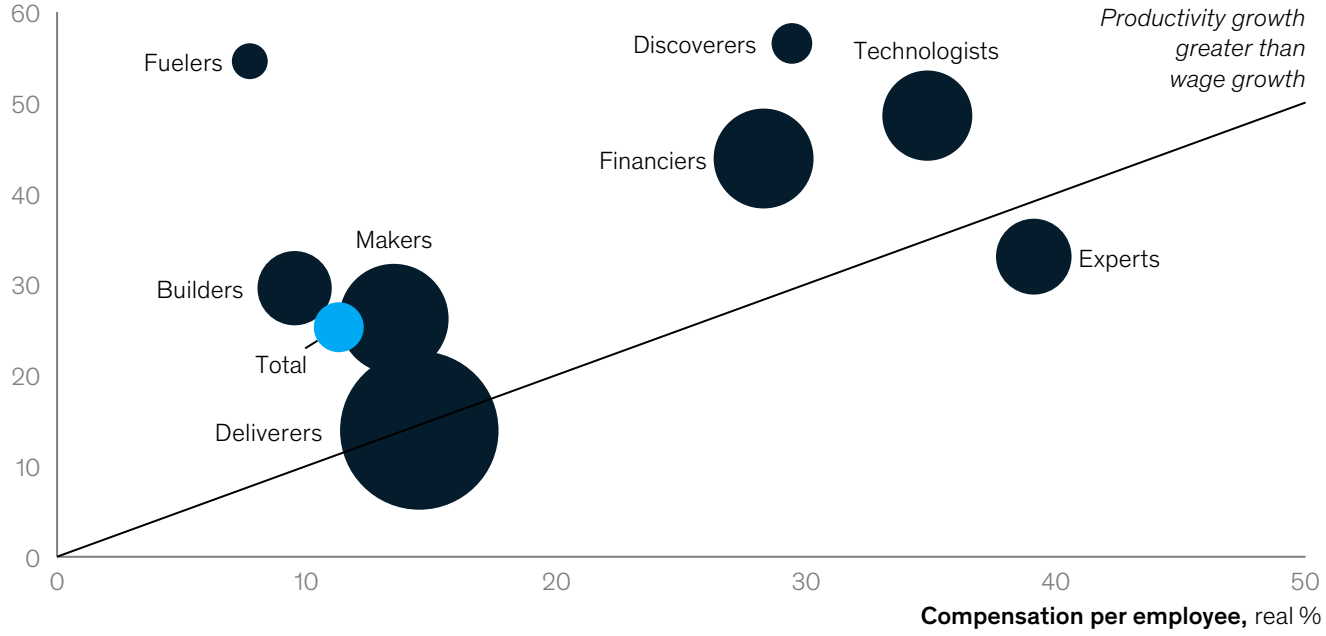
Exhibit 23

Growth of labor productivity exceeded wage growth for all archetypes except Experts.

Change from 1994–96 average to 2016–18 average, %

Bubble size indicates share of additional employees from 1994–96 to 2016–18

Labor productivity, real %



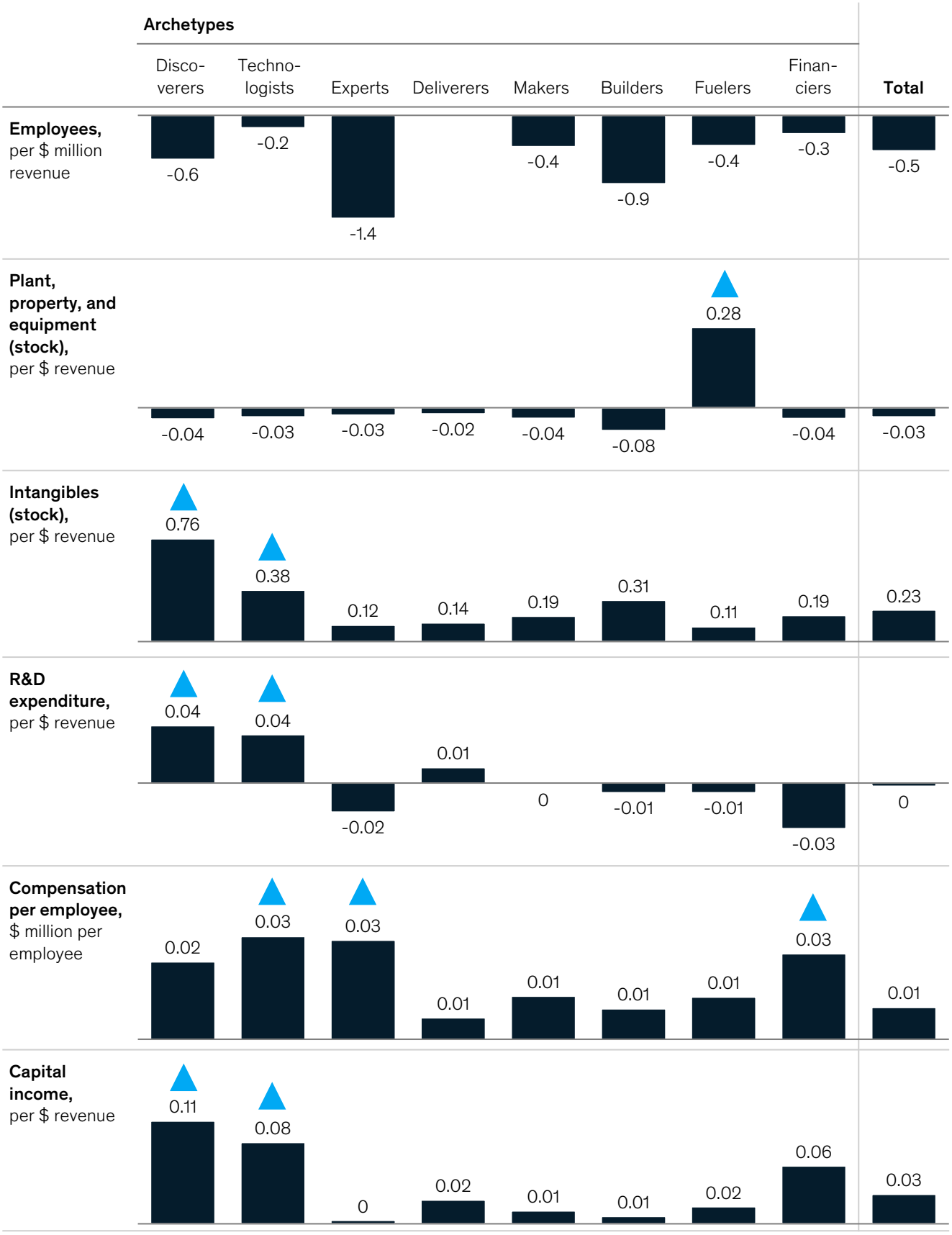
Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue.
Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Exhibit 24

Most archetypes became more pronounced in their core features in the past 25 years.

Change from 1994–96 to 2016–18

▲ Increase that further distinguishes archetypes in their already distinctive economic impacts



Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue in 2016–18. Not to scale across charts.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

Shifts in tax pathway

With their high profit share, Financiers pay the highest corporate income tax as a share of revenue. The growth of the Financiers archetype thus accounted for the 8 percent increase in the tax pathway, which was otherwise even across the other archetypes. Within the tax pathway, corporate income tax payments declined by just over 10 percent, outweighed by the increase in production taxes. This pattern was driven by Fuelers more than any other archetype as they had the largest per revenue increase in production taxes and largest decrease in corporate income taxes. Discoverers, Technologists, and Financiers saw minimal change in their tax payments (of both types) relative to revenue, despite large increases in their capital income. These archetypes already paid the highest corporate income taxes. Given their high and rising share of intangible assets, especially intellectual property, some of these companies have more scope to allocate incomes via transfer pricing to countries with lower tax rates. This contributed up to $600 billion that other researchers estimate is lost in tax revenue due to tax havens and profit shifting.[50]

Shifts in supplier payments pathway

The narrowing of the supplier payments pathway, like the reduced labor income pathway, was due in part to the mix effect of the decline of Makers. But it was also driven by Technologists and Financiers as they increased their share of GVA for each dollar of revenue. Overall there was a 6 percent decrease in the domestic share of supplier payments from all production within the home country of the corporation, which ranged from a decrease of 3 percent for Deliverers and Financiers to a decrease of 10 percent for Discoverers (Exhibit 25). The share fell by 7 percent for Makers, one of two archetypes along with Technologists that saw most of the change go to supplier companies outside of the OECD. These shifts were generally larger in European countries and Japan than in the United States. For example, Germany saw a six-percentage-point decline in domestic supplier share as companies there buttressed productivity via outsourcing. Four of the six percentage points moved to other OECD sources. The United States saw a two-percentage-point decline, split equally between OECD and non-OECD suppliers.

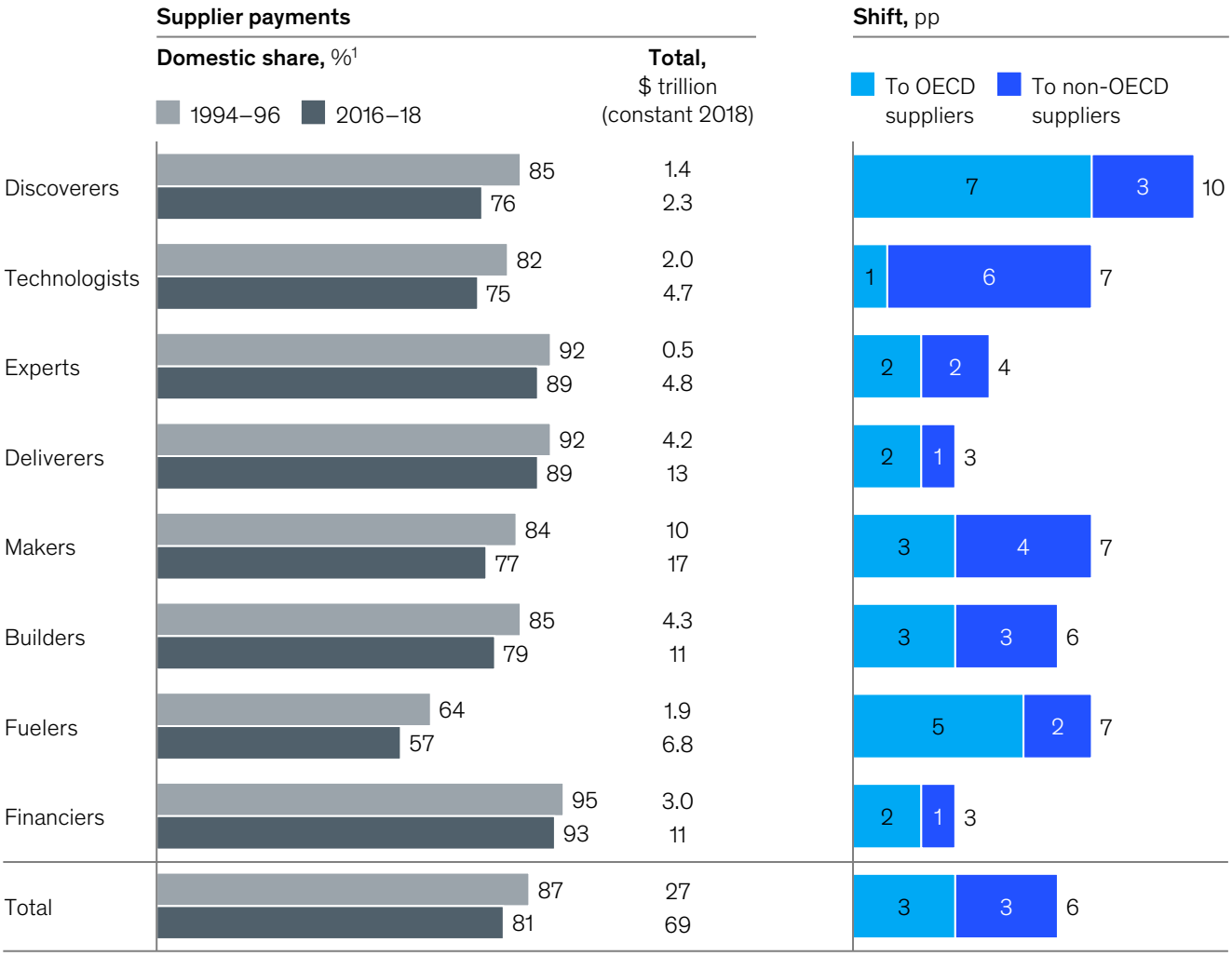
Shifts in consumer surplus pathway

The impact on consumer surplus varies widely by archetype, as revealed by decomposing the archetype revenues into price and volume components. All archetypes grew substantially in revenue terms because large corporation revenue overall roughly quadrupled in nominal terms. However, price changes affect archetypes differently. For example, Discoverers and Experts, who provide healthcare products and services among others, raised output prices by 37 and 48 percent, respectively, after accounting for new products (Exhibit 26). For Experts, this increase went hand in hand with a tenfold volume increase, the second largest for any archetype. However, the price increase reduced the consumer surplus from that additional volume. Technologists did the opposite: their prices to consumers dropped by about 50 percent over the past 25 years, and their volume increased the most, amounting to huge consumer gains. Falling prices and rising quality of high-tech equipment such as computers and mobile phones are the tangible evidence of this substantial increase in consumer surplus, which also reflected increased variety. Because revenue was already four times larger for Technologists than for Experts in 1994–96, Technologists' growth had a much bigger impact in absolute terms. Makers also saw a decrease in prices, although not as pronounced.

[50] Nicholas Shaxson, "Tackling tax havens," *Finance and Development*, September 2019. See also Ruud A. de Mooij, Alexander D. Klemm, and Victoria J. Perry, *Corporate income taxes under pressure: Why reform is needed and how it could be designed*, IMF, February 2021. Some researchers estimate that up to 40 percent of the profits of multinationals are shifted to tax havens globally. See Thomas R. Torslov, Ludvig S. Wier, and Gabriel Zucman, *The missing profits of nations*, NBER working paper number 24701, June 2018.

Exhibit 25

The share of supplier payments to domestic suppliers for the domestic portion of production has decreased across all archetypes.



1. These are domestic supplier shares for all domestic production, not just large corporations, which have an even larger share of non-domestic supplier payments.

Note: The eight archetypes are based on a clustering of companies by their production characteristics and pattern of contributions through pathways. The data set consists of about 5,000 parent companies headquartered in OECD economies with more than $1 billion in revenue. Figures may not sum to 100% because of rounding.

Source: MGI Companies and Economy data set; World Input -Output Database; McKinsey Global Institute analysis

Exhibit 26

Technologists and Makers saw relative price declines and two of the largest volume increases in absolute terms.

Volume and price trends by archetype, 1994–96 vs 2016–18

1. Numbers in the boxes are a multiple comparing time 2 with time 1. X = X-times change in price from Time 1 to Time 2 (>1 increase, <1 decrease)

Note: The chart applies "approach 2" as defined in Box 3 on our methodology for consumer surplus and decomposes revenue shifts into price and volume components, which both affect consumer surplus. The rightward direction of the arrow for all archetypes means that volumes increased for all archetypes, adding consumer surplus with each extra unit. Arrows that tilt upward reflect price increases over that time, reducing consumer surplus for every unit of volume; these archetypes also saw lower volumes to the extent that consumers buy fewer more expensive products. The downward tilt of the arrow for Technologists and Makers means that prices decreased and thus consumer surplus increased for each unit of volume sold. In addition, consumers purchased more volume than had prices stayed flat. We do not compare prices here to inflation as they are aggregated by company home markets across countries; our aim is to show the comparative trends across archetypes.

Source: IHS Markit; MGI Companies and Economy data set; McKinsey Global Institute analysis

As our previous research showed, this trend of lower prices in computers and mobile phones and some manufactured and tradable goods is consistent across the United States and European countries and flatter in Japan.[51] In that research, we compared consumer prices relative to inflation to understand the impacts on households, including those with different expenditure patterns.[52] Among the findings was that prices for clothing, communications, furnishings, and recreation fell relative to general consumer prices in advanced economies between 2000 and 2018. As we noted in this earlier research, most of the price declines were in tradable and globally competed sectors and product markets that are also typical of Makers and Technologists, and often involve Deliverers as consumers access the products. Based on these price declines, and holding all else constant, the average person could work six fewer weeks a year and still consume the same amount of these categories as in 2000. However, this was offset by sharp increases in housing, healthcare, and education costs for consumers, which were particularly difficult for lower-income households because they eroded a significant proportion of income gains between 2000 and 2017, and, in some countries, all the income gains in that period.[53]

Spillover pathways

While company-level data on environmental externalities is becoming more comprehensive as expectations and mechanisms for disclosure improve, our data over time for our large corporation data set is not robust back to 1995. Nonetheless the differences in intensity across archetypes of environmental metrics are stark. This allows us to deduce which ones are more responsible for overall trends. In the case of emissions, Fuelers and Builders have the highest emissions per revenue dollar in scopes 1 and 2 and, along with Makers, the highest scope 3 emissions as they enable the rest of the economy and consumer activities. These archetypes are most in the crosshairs for the increasing impacts of climate change. Builders are also by far the largest producers of waste per dollar of revenue, at five times the average, and are more than ten times the average in water use by volume per revenue dollar.

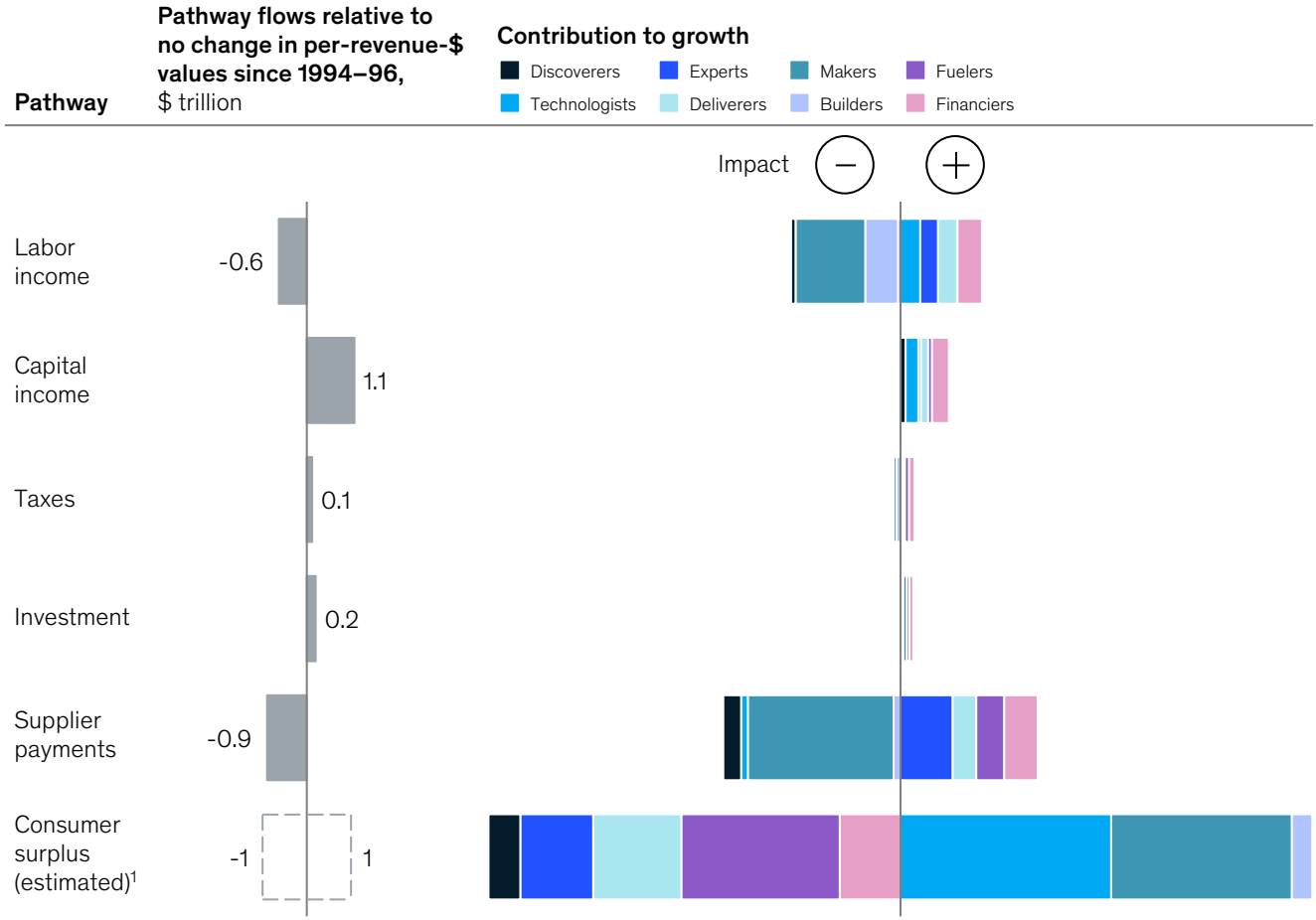
Using input-output tables, we also calculated the various archetypes' dependence on primary resources, which can serve as a proxy for determining which companies likely contribute the most to land degradation and resource depletion. Today, the average corporation in our data set uses $0.05 of inputs from primary resource industries for every dollar of revenue. This is driven largely by Fuelers, which require $0.27 per dollar of inputs from primary resource industries. The average corporation also requires 10 percent fewer primary resource inputs than it did in 1994–96, driven by reductions among Discoverers, Technologists, Experts, and Deliverers.[54]

[51] *The social contract in the 21st century*, McKinsey Global Institute, February 2020, on McKinsey.com.
[52] Exhibit 27 reflects the weighted average of our company-level data and price trends in their home country, and thus cannot be easily compared to inflation, which is country-specific; the main purpose is to show the relative consumer surplus shifts across archetypes.
[53] *The social contract in the 21st century*, McKinsey Global Institute, February 2020, on McKinsey.com.
[54] World Input-Output Database.

Each company archetype is therefore associated in positive and negative ways with pathway shifts. Their individual impacts are summarized in Exhibit 27, where the overall revenue shift from Makers to Financiers, Deliverers, and Experts is readily apparent, as is the evolution of Technologists within each pathway. While OECD economies have diversified their corporate makeup in broadly similar ways as they have grown more affluent, the US corporate landscape has changed further to date in this increased diversity of archetypes. To the extent that the mix and evolution of archetypes account for pathway shifts, societies will need to consider the implications for households. One of the most important aspects of this consideration is how different types of households are affected by pathway shifts, especially households of different income levels, which we consider in the next chapter.

Exhibit 27

Pathway shifts across all companies can be attributed to the relative growth of each archetype.



1. Consumer surplus is based on estimates of the counterfactual of constant prices with assumed price elasticities for different goods and services, where the change in consumer surplus is measured following approach 2 in our consumer surplus methodology box in chapter 2. We use a range of elasticities from the literature that give a net impact of between positive and negative $1 trillion, as indicated on the left side of the chart. The relative contributions on the right side of the chart are for the case where the net impact is zero. These price trends are not benchmarked to inflation and so the main focus here is on the relative contributions of the archetypes on the right side. In the main text, we discuss our previous research that showed the household impact of consumer price trends when indexed to inflation.

Note: The chart on the left reflects how much larger or smaller the pathway would have been in 2016–18 (in absolute terms) if the per-revenue size of the pathway had not changed since 1994–96. On the right side we decompose this result into how much of the change is attributable to each archetype. This includes both the change in the pathway value for the archetype and the effect due to its increase or decrease in share of revenue.

Source: MGI Companies and Economy data set; McKinsey Global Institute analysis

5. How different household income segments are impacted

What is the impact on different household income segments of the economic flows from corporations? The general issue of inequalities between household segments has been widely discussed in the literature as well as our own prior research.[55] Here we add to that discussion by linking the impact of corporations on the economy that has been the focus of this discussion paper, to the impact on different household segments. To do this, we assess how economic value from companies flows via each of the pathways discussed in chapter 2 to different household income segments and how that has changed over time. We assess this in two parts based on availability of data: first we examine the capital, labor, and tax pathways and how these flow to different household segments, and how that has changed over time. Second, we assess the other direct pathway, specifically consumer surplus and how that flows to household segments, and how that has changed over time. Where relevant, we link the impact on different household segments to the different corporate archetypes discussed in chapter 3 and the shifts over time discussed in chapter 4.

Economic value from corporations flows via capital, labor, and tax pathways to reach different household income segments in different proportions

We make use of country-level data to assess how economic value from the corporate sector flows to different household income segments for the capital, labor, and tax pathways where the data makes that possible (see Box 6, "Methodology for assessing capital, labor, and tax pathways from the corporate sector to different household income segments"). While the analysis in previous chapters focused on OECD countries, for this assessment we narrow this comparison to the three largest OECD economies, Germany, Japan, and the United States.

The three countries differ in several respects that affect flows of value from companies to different household segments. For example, US companies tend to rely on capital markets for financing more than those in Germany and Japan, and capital income plays a larger role in the country's household savings on average. German and Japanese companies rely more on banks for financing, and, in the Japanese system, cross-company financing within keiretsu conglomerates. Provision for old age in these two countries is more heavily dependent on pay-as-you-go public pensions. While these three cases are not fully representative of the systems in the OECD, they cover some of the most important differences for thinking about how the pathways affect different types of households.

The flows from the corporate sector differ from the rest of the economy in terms of which households benefit. For example, in the economy overall, the labor income pathway impacts of nonprofits and government flow broadly to middle- and lower-income households, and account for a low share of the income of the top 10 percent of households—about 10 percent of their income in the United States and less than 5 percent in Germany and Japan. Since government incomes overall account for a much higher share, generally at least 20 percent, they are concentrated in the lower household income segments.

[55] See *Inequality: A persisting challenge and its implications*, McKinsey Global Institute, June 2019, on McKinsey.com.

Box 6

Methodology for assessing capital, labor, and tax pathways from the corporate sector to different household income segments

To analyze how the labor income and capital income pathways reach different household income segments, we return to data on the OECD's corporate sector, as defined in Box 1 in chapter 1, totaling $38 trillion in GVA. (The 5,000 large corporations making up $17 trillion in GVA that we used as the basis for our analyses and findings in chapters 2, 3, and 4 are a subset of this corporate sector.)

We match the labor income, capital income, and tax pathways of the corporate sector using OECD data to the different types of income that households receive as indicated on household surveys from national statistics agencies.[1] The main reason for focusing on the corporate sector is that capital income and labor income from large corporations go to many countries, and it is not possible to say how they affect the different income segments within a single country. In addition, we use the corporate sector rather than the even larger full business sector because the corporate sector excludes mixed income from small, informal businesses and thus allows for better measurement of the capital income and labor income pathways. The corporate sector also considers these pathways in a way that is similar to the one we used in other parts of this paper for large corporations.

We focus more closely on Germany, Japan, and the United States. In these countries, the corporate sector totaled about $17 trillion in value added for 2018 (a number coincidentally similar to the total GVA of our data set of large OECD corporations). This compares to the $38 trillion total for the corporate sector in OECD countries. In the three countries, household survey data generally allows us to distinguish between wages and salaries from formal, private-sector employment, income from financial investments, and income from public pensions. For simplicity and ease of interpretation we assume that tax payments that go into the government treasury (as opposed to social insurance) are shared equally by all citizens who benefit from public goods.[2]

1 A minor difference is that the capital income pathway in corporate sector accounts is based on accounting that nets out depreciation (leaving tax, labor, and capital income as the corporate contribution to "net domestic income"), whereas our pathways methodology measures capital income directly as a cash flow, but the difference is not significant for this discussion.

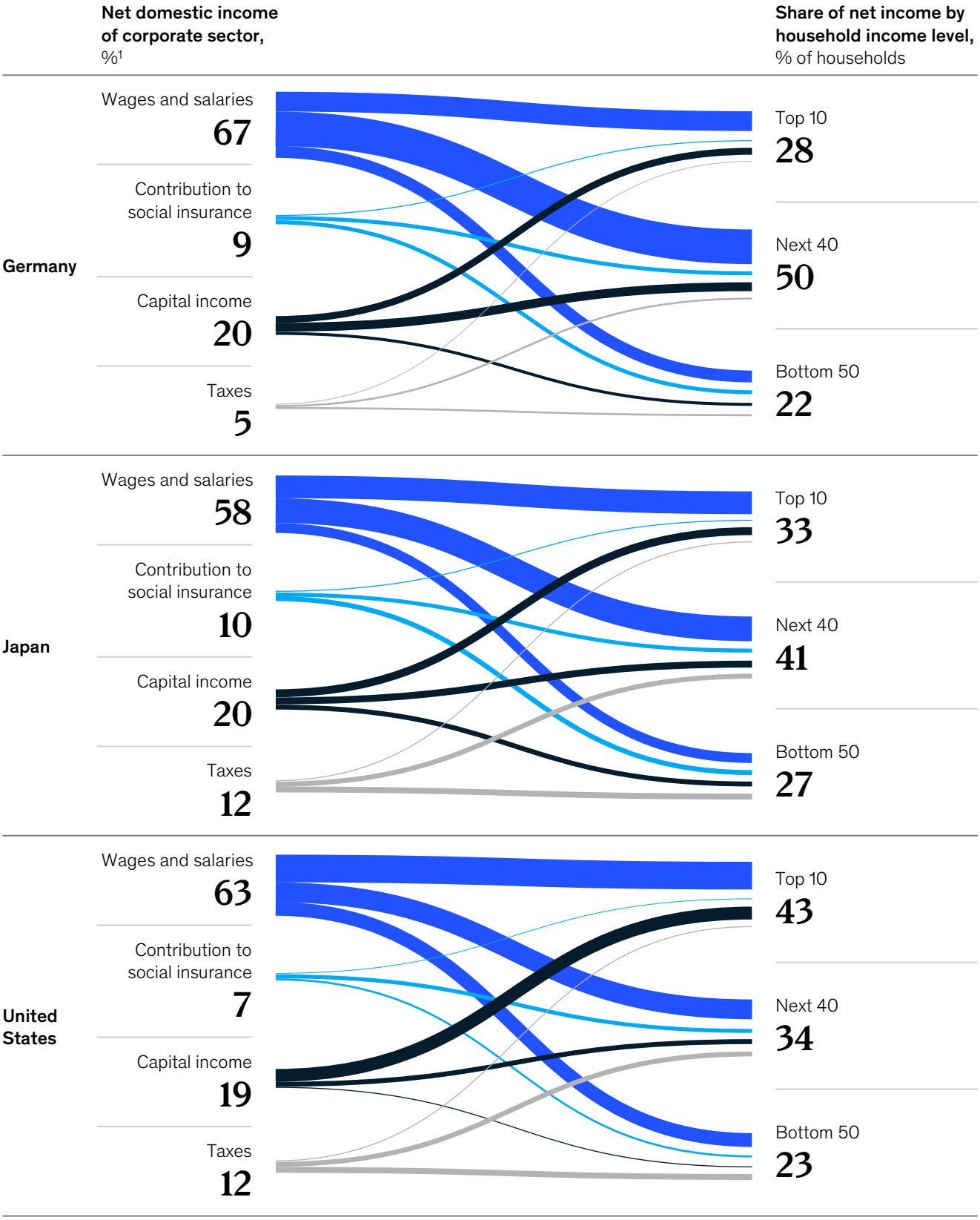
2 This assumption of proportionality isn't perfect, but, for example, the largest outlays are for national defense, education, and transportation. Error from this assumption will have a small impact in our analysis since the tax payments pathway is already small compared to the others.

By contrast, the flows of the corporate sector via the labor income, capital income, and tax pathways have a different pattern to different household segments. Based on the data and methodology we outline in Box 5, we estimate that 43 percent of the total across the labor income, capital income, and tax pathways in the United States goes to the top 10 percent of households and only 23 percent to the bottom 50 percent (Exhibit 28). In Japan, 33 percent of the total of these pathways flows to the top 10 percent and 27 percent to the bottom 50 percent. In Germany, just over half flows to the middle 40 percent of households, with 28 percent going to the top decile and 22 percent to the bottom half. The components of these totals—that is, the labor income, capital income, and tax pathways—are each quite different for each household segment, and vary by country, as we discuss next.

Exhibit 28

Labor income, capital income, and taxes flow to different household segments.

2018



1. The categories on the left of the chart together constitute a "net domestic income" view of the corporate sector, following the available categories of data in OECD economic sector accounts. Wages and salaries and contributions to social insurance are the same elements of our labor income pathway; tax matches the tax pathway; and capital income is very similar to our capital income pathway except that it is based on national accounts accounting rather than actual flow of cash for dividends, buybacks, and interest. In every case our pathways are on a per-revenue basis, whereas here they are shown as a share of their total.

Note: The thickness of each line here is scaled to reflect the size of that flow. Figures may not sum to 100% because of rounding.

Source: BEA; Cabinet Office of Japan; IMF IFS; IRS; Japan Comprehensive Survey of Living Conditions (MHLW); Japan National Ta x Agency; OECD; Song et al., 2019; Statistical Office Germany; Survey of Consumer Finance; World Bank; World Inequality Database; McKinsey Global Institute analysis

Labor income pathway. Labor income accounts for most income in all the deciles of the income distribution, including the top decile, where it remains about two-thirds of net household income from the corporate sector in our three countries. In the United States, 45 percent of labor income goes to the top decile, compared with 29 percent in Germany. Japan is similar to the United States, at 39 percent. The contributions to social insurance are part of the labor income pathway and have an equalizing effect in all three countries, especially Japan due to the size of the contributions; in the United States, they are not as large, but the share going to the bottom 50 and next 40 percent of households is higher.

Capital income pathway. Highest-income households take a bigger share of capital income than labor income, especially in the United States. There, the top 10 percent of households receive 30 percent of their income from capital income and 66 percent from labor income, compared to 14 percent and 61 percent in those categories for the middle 40 percent. In Germany, the top 10 percent receive 26 percent from capital income and 70 percent from labor income, while the middle 40 percent receive 18 and 70 percent, respectively, with similar numbers in Japan. Given this uneven distribution, any increase in the size of the capital income pathway means that income will tend to flow disproportionately to the highest-income households.

Tax pathway. The tax pathway is in some ways the most diffuse pathway in household impact, as it is both intermediated by government, so the connection to companies is less visible, and funds public goods or services that are by definition usable by any household.[56] Given our assumption that benefits from tax payments to government revenue are shared equally by all households, they have a strong equalizing effect determined by the size of the pathway. This size is highest among the United States and Japan and lowest for Germany, reflecting the policy choices of these countries. Specifically, these patterns reflect particularly low production process taxes in Germany, while corporate tax totals are more similar across countries.[57] The result of these factors, combined with the way in which the other income pathways are spread across household income levels, is that the tax payments pathway is equivalent to about 10 percent of the total income from corporate sources for the bottom 50 percent of households in Germany, 20 percent for that segment in Japan, and 25 percent in the United States.

Over time, both labor income and capital income have become more concentrated among the top 10 percent of households in Germany and the United States (Exhibit 29). Shifts within the capital income pathway are a big driver of the change over time in flows to different household segments. In the United States, the effect of a growing capital income pathway is compounded by the increasing concentration of equity ownership and other investments tied to corporate profits. The top decile of US households increased its share of equity, pooled funds, and retirement savings by seven percentage points between 1995 and 2019 to two-thirds of the total, largely at the expense of the next 40 percent of households, while the bottom 50 percent has consistently held well under 10 percent of the total. This corresponded to an annual growth rate of wealth from equity ownership of 50 percent more for the top 10 percent compared to the bottom 90 percent.[58]

[56] Transfers are more like income in this respect, accounting for 64 and 41 percent of income in the bottom and second-lowest quintiles in the United States, mainly from social security, and bigger shares of middle quintiles in Germany and Japan as already discussed, but the disintermediation still generally applies.

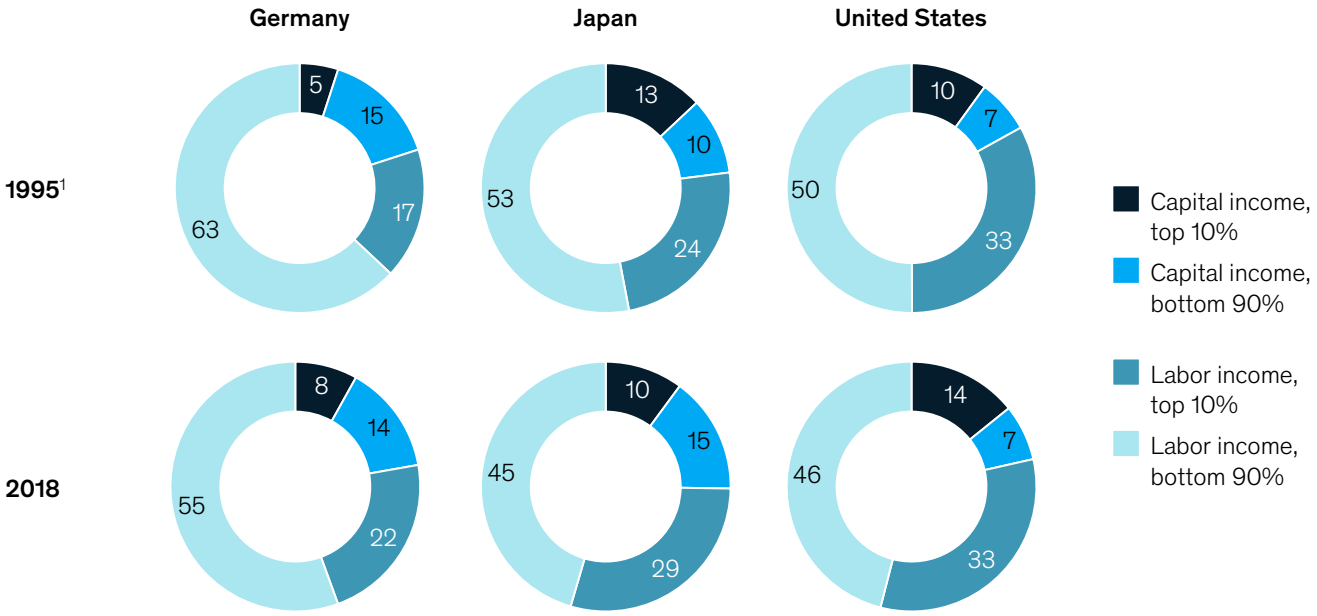
[57] Japan's government revenue from corporate taxes as a share of GDP remained above that of Germany and the United States at 4 percent compared to 2 percent, but has decreased significantly since the mid-1990s. See OECD Global Revenue Statistics database.

[58] Due to data limitations for time one (1994–96) the labor trends we discuss here are economy-wide.

Exhibit 29

Labor income and capital income increasingly go to the top 10 percent of households.

Pretax capital income and labor income by household income level, % of total



1. Capital income is based on distribution of assets in stocks, funds, and retirement accounts in the United States based on the Consumer Finance Survey; income flows from capital income and private pensions in Germany and Japan based on household surveys; labor income based on household surveys in all cases. To have both the capital-labor split and income-level split back to 1995 we complemented household survey data with labor share decline values from AMECO for Germany and Japan and income level splits from the World Inequality Database for Germany. See technical appendix for details.

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

Source: AMECO; Federal Reserve Consumer Finance Survey, 1995 and 2019; Japan Comprehensive Survey of Living Conditions (MHLW) ; OECD; Statistical Office of Germany; World Inequality Database; McKinsey Global Institute analysis

In both Japan and Germany, household savings behavior is strongly influenced by public pension systems. Exhibit 29 shows capital income, including private pensions, increasing in Germany among the top 10 percent of households since 1995. However, this does not include public pensions, which are funded through contributions from the labor income pathway and account for seven times as much household income with a more even distribution. In Japan, the top quintile of households accounts for 23 percent of total financial assets, including those pensions, based on household survey data.[59] Financial investments there that depend on the corporate capital income pathway are evenly distributed, with just over one-third going to the top decile compared to the two-thirds share in the United States. Capital income has become less concentrated in the top decile in Japan due to private pensions; when we exclude those pensions, we observe an increase of capital income in the top decile from 12 to 15 percent of total household income instead of a decline. The reverse is true of capital income for the bottom 90 percent. The increase in the income share of the top 10 percent of households in Japan was stronger for labor income.

[59] We do not generally consider public pensions as part of the capital income pathway, but in Japan's case they are partly dependent on capital income due to a large reserve of assets that are invested.

The concentration of capital income and labor income in top-income households may also affect economic growth through household saving and spending patterns. One portion of the higher income and savings of the top 10 percent of households is channeled to investment in real estate. It thus stays within the economy of that household rather than being recycled into the corporate economy in the form of new companies and other productive investments. Another portion of the higher savings is helping finance the borrowing of lower-income households, potentially keeping a floor under the demand for private-sector healthcare, education, and real estate—activities that fuel capital gains through both corporate and household businesses—that would otherwise see falling demand as prices rise.[60]

Several archetypes drive the shifts in capital and labor income. For example, Financiers, Technologists, and Discoverers together increased their share of capital income from 25 percent to 47 percent of the total. Those additional 22 percentage points account for $600 billion that we can more or less assume is distributed to households in the manner shown in Exhibit 28. While we do not estimate the flow of labor income by archetype to different income segments due to data availability, we know from previous chapters both the level of wages by archetype and the growth in share of archetypes.[61] As noted in chapter 4, since the growing archetypes pay wages that are either well above average (Financiers, Fuelers, Technologists, and Experts) or well below average (as in the case of Deliverers), while the three declining archetypes are close to average, the net effect is wage polarization by archetype.

The consumer surplus pathway has differing effects on household income segments
Corporate capital income and labor income are not the only pathways that tend to flow in different, often uneven, ways to households of different income levels. Consumer surplus is the most important of these due to its size and the direct impact it has on households.

As income accruing to top-income households has grown, those households have accounted for more of the consumer expenditure. For example, in the United States, the top quintile increased its share of consumption expenditure by two percentage points over the past 25 years, from 36 to 38 percent of the total, amounting to a shift of more than $300 billion compared to if it had stayed constant. Relative price changes affect the composition of this expenditure. Our previously published research showed that the cost of essential goods and services, such as healthcare, education, and housing across large economies in the OECD, increased faster than inflation.[62] It also showed that these increases had a disproportionate impact on middle- and lower-income households, eroding some—and, in some countries, all—of these households' income gains between 2000 and 2018.[63]

From a company-archetype view of these trends in prices and costs (discussed in chapter 4), the rise in price indexes for the products and services of Discoverers and Experts resulted in increases of five and six percentage points, respectively, of the top quintile's share of total expenditure in the United States—a share that was lost by low-income households unable to keep up with rising costs for these products and services. Conversely, in that earlier research, we also found that the costs of some other product categories such as furnishings, appliances, electronic goods, and services plummeted relative to inflation.[64] Most of the consumer surplus from these price declines flows disproportionately to the benefit of lower-income households, given those households' overall consumption basket and the relative share of those goods and services within those baskets. Many of these products are provided by Technologists and Makers. As noted in our earlier discussion of consumer surplus in chapter 4, Technologists' prices to consumers dropped by about 50 percent and Makers by 20 percent, each with differing increases in volume. This amounted to huge consumer gains for all purchasing these goods.

[60] Atif Mian, Ludwig Straub, and Amir Sufi, *The saving glut of the rich and the rise in household debt*, NBER working paper number 26941, February 2020.
[61] For a discussion of company-level wage distributions, see Jae Song et al., "Firming up inequality," *The Quarterly Journal of Economics*, February 2019, Volume 134, Issue 1.
[62] *The social contract in the 21st century*, McKinsey Global Institute, February 2020, on McKinsey.com.
[63] Ibid.
[64] Ibid..

The economic value that companies deliver through the consumer surplus, supplier payments, and spillover pathways tend to be wider in their reach and more diffuse in their household impact than the capital and labor income pathways. For consumer surplus, this is especially true in the case of some of the digital goods and services from Technologists with low marginal costs, such as social media services that can reach billions of households and be leveraged by millions of companies that advertise on social media platforms. By contrast, many Experts that sell highly differentiated services or Makers of durable consumer goods like cars can have a big impact on particular consumers who make purchases with high unit costs, and the benefit to consumers could be relatively substantial when considered as a share of their overall household income. As we have noted in our climate risk research, the impacts of negative spillovers such as environmental impacts are often regressive in that they disproportionately affect the poorest communities.[65]

[65] *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, on McKinsey.com.

Spotlight: Netting it out (so far)

What hasn't changed over the past 25 years

1. Companies continue to be the driver of most economic activity, livelihoods, innovation, and growth. Across all the pathways we examined, the business sector is and remains the largest driver of the economy. In the OECD, the business sector accounts for more than 70 percent of economic production and income, the equivalent of about $44 trillion in gross value added in 2018, up from about $25 trillion 25 years ago, and provides livelihoods for two-thirds of households, or one billion people. The large corporations examined in detail here contribute $17 trillion in gross value added (and $40 trillion in revenue). Sustaining these contributions to innovation and growth and livelihoods will continue to be important for overall societal prosperity.

What has changed over the past 25 years

The pathways through which corporations impact the economy and households have shifted in several important ways that have implications for economies and households

2. Growth and concentration of the capital income pathway. Changes in the capital income pathway have concentrated wealth in two ways: the relative growth of the pathway itself and the increased concentration of who owns capital. Both effects are stronger in the United States than other countries. The capital income pathway of large US corporations increased from $0.05 per dollar of revenue to $0.10 over 25 years, a difference of $600 billion in 2018 revenue. At the same time, the share of financial assets tied closely to corporate returns that are owned by the top decile of households increased from 59 percent to 66 percent. While the trends are consistent across different market systems, households—especially middle-income ones—are cushioned in some countries including Germany and Japan because they rely more heavily on public pensions. The overall effect of growth and concentration in capital income has been to increase household income segment divergence.

3. Decline in the share of the labor income pathway. Labor income from the corporations with annual revenue above $1 billion grew from just under $4 trillion to almost $10 trillion over the past 25 years (in 2018 dollars). However, this represents a lower share of the value that these companies add to the economy, as the labor portion of household income attributable to these corporations declined from 67 percent to 59 percent of the total. That difference is the equivalent of $1.2 trillion. This represents a steeper overall decline than domestic economies in the OECD generally. Japan saw the biggest decrease at more than ten percentage points, followed by Germany (five), the United States (four), and France (three). The United Kingdom saw a rise of four percentage points. A declining labor share puts pressure on incomes of lower-income households, who rely predominantly on income from wages for their livelihoods.

4. Narrowing of the supplier payments pathway and share of domestic suppliers. Payments to suppliers by the large corporations in our data set would have been $900 billion higher in 2018 had they remained at the same share of revenue. However, a decline in supplier payments has meant less income for supplier companies, many of them SMEs. Moreover, across the major OECD economies, the share of supplier payments going to foreign suppliers in other OECD countries as well as in non-OECD countries has also increased since 1995, with implications for domestic supplier activities and the corresponding contributions by supplier companies such as employment in each domestic economy.

5. Two diverging trends in the consumer surplus. On one hand, consumers in all household income segments have benefited substantially from the consumer surplus generated by large corporations, especially that from Technologists and Makers. The gains to consumers in OECD countries from these two company archetypes in our data set over the past 25 years amount to about $8 trillion in consumer surplus, compared with a scenario under which their prices of products and services stayed constant. On the other hand, price increases by Experts and Discoverers in our data set, especially for health and education services, correspond to more than $2 trillion in lost consumer surplus. This puts some of these essential services out of the reach of low-income households, at a time when the need for them has risen.

6. Worrisome negative spillovers that are not accounted for, with some worsening. While we did not examine this in detail in this paper, environmental spillovers are significant and have been growing. These are concerning given the imperative to address climate change and sustainability, as we and others have noted.[1] The other externality we looked at—total factor productivity growth—

[1] *Climate risk and response: Physical hazards and socioeconomic impacts*, McKinsey Global Institute, January 2020, on McKinsey.com..

has been lackluster in the past decade or more. Most OECD economies saw growth of between 1.0 and 1.5 percent per year from 1994 to 2005, and less than 0.5 percent per year since then. This, too, is concerning, given the foundational nature of productivity growth to overall economic growth and the central role of corporations in creating it; however, there are some early signs this could turn around.[2]

Company archetypes have each evolved and their mix has shifted across and within countries, with implications for their impact on economies and households

7. Relative decline of Makers (although still the largest archetype) and the corresponding decline of their historically strong and balanced impacts. The 12-percentage-point decline in the revenue of Makers in the OECD since 1995 as a share of the total, coupled with the nine-percentage-point drop in the number companies in this archetype has had repercussions across the pathways. These two factors account for most of the drop of about $3 trillion in Makers' payments to their suppliers in the OECD, compared to if the Makers' revenue share and supplier payments pathway had stayed constant since 1995. Makers are also the most geographically diversified within their home countries and have the largest share of small and midsize (20 to 500 employees) suppliers, spreading out into multiple communities. Makers pay higher wages than average and account for 30 percent of labor income in the OECD, almost double that of any other archetype. Hence their relative decline has important wage, employment, and community implications.

8. Growth of Financiers, Experts, Deliverers, and Technologists and corresponding accentuation of their patterns of impacts. Financiers had the largest increase in share of revenue in our data set of large OECD corporations at 5 percentage points. This expansion of Financiers, and especially the rise of capital income emanating from it, accounted for more than one-third of the increase in the capital income pathway, which itself saw the largest increase of all pathways. Technologists accounted for another one-quarter of the rise in the capital income pathway and the most impact per revenue dollar to consumer surplus. This was associated with their high and rising intensity of intangibles, a trend evident across archetypes. The United States stands out in this respect with 30 percent higher intangibles per dollar of revenue among its large corporations, mainly because the country accounts for 60 percent of Technologists in our data set and 45 percent of Discoverers. Deliverers and Experts also expanded significantly. Along with Financiers and Technologists, they increased their employment share by 19 percentage points. Wages for Deliverers are half the average, while wages are above average in each of the other three archetypes. The net effect of this is one of wage polarization between archetypes.

9. Shifting mix of archetypes within countries, and with it, shifts in the relative sizes of the impact on pathways in each country. The United States accounted for 37 percent of revenue growth among our large corporation data set over the past 25 years, but for 44 percent of the revenue growth of Discoverers, 64 percent of the growth of Technologists, and 73 percent of Experts. These three archetypes play a leading role at the productivity frontier. United States-based Technologists in particular account for about 70 percent of the market capitalization of the top ten companies in the world. Makers in Japan and Germany similarly play an outsize global role, but a large decline in share among Japanese Makers is one of the main reasons that the labor income pathway shrank the most in Japan among our five focus economies. Almost all countries saw large increases in employment among Deliverers.

And from the point of view of households…

10. Household income segments continue to diverge. The above findings have affected households differently depending on their income brackets. A range of factors is driving uneven distribution of real income for households. These factors include the concentration of capital income among high-income households; polarization of wages as employment grows for both low-wage Deliverers and high-wage archetypes such as Experts; the decline in the proportion of Makers, which support many well-paying jobs; and the increasing prices of some essential goods and services. Impacts from climate change that we did not research in detail in this report are regressive and can fall disproportionately on households with fewer resources. The tax pathway and labor income pathway—primarily its social insurance elements—reduce these effects on income polarization, but they have not kept pace with the other pathway shifts.

[2] *Will productivity and growth return after the COVID-19 crisis?* McKinsey Global Institute, March 2021, on McKinsey.com.

6. Questions this research raises

The research and findings outlined in this discussion paper have sought to assess the impact on the economy and households of business activity in general and corporations in particular. We have also tried to understand to what extent the impact has changed over the past 25 years, and in what ways, and to analyze how different types of corporations have different patterns of impact and how those have evolved over time.

This research is incomplete in several key respects, including in its coverage of companies both globally as well as SMEs, and on spillovers and other second-order effects. More investigation is needed. Nonetheless, some highlights have emerged. In the "Netting it out" section directly preceding this chapter, we spotlight ten of the most significant findings so far, selected for their scale and scope of the impact on the economy and households, as well as the significance of the change over the past 25 years, and the likely persistence of these impacts, based on current trends.

The findings of this research so far raise important considerations for business and other leaders, as well as questions for future research.

Questions (so far) for business and other leaders

For leaders, especially those in business and policy, our findings reinforce the need to ensure a vibrant business sector that can continue to contribute to overall growth and innovation. At the same time, the shifts that have occurred have important implications that leaders will have to consider. It is not our aim in this paper to offer prescriptions. Nonetheless, for company leaders, the following may be worthwhile questions to consider:

- How can the company continue to make a significant and positive impact on the sustainable and inclusive growth of the economy? What capabilities and assets can be best harnessed to have further positive impact on the economy and society?
- How can the company better understand, map, and measure its impact—positive and negative—on the economy and households across each of the eight pathways?
- Should the company shift the nature, size, and balance of its impacts via the different pathways to the economy and its various stakeholders? How can it best do so?
- To what extent should the company adjust its approach to impact on the economy and households in its own domestic economy and that of the other countries in which it operates?
- What lessons with respect to impact on the economy and households can the company learn from its archetype peers—including those from other sectors and countries—and from other archetypes?
- How can the company anticipate and shape its potential future impacts on the economy and society as its own business model and footprint of activities evolve?
- How should the answers to these questions affect the company's purpose and strategy, as well as its approach to ESG and sustainability opportunities and challenges?

Each of these questions explores the links between core business assets and capabilities, value creation, and impacts on the economy and society. Understanding such links can help business leaders set priorities in a context in which companies are under pressure to help address societal challenges at the same time that they pursue growth and value creation.

For policy leaders, the findings reinforce the foundational need to continue to enable a vibrant, dynamic, and competitive business sector. The shifts that have occurred over time, particularly from the point of view of each country, have important implications for workers, households, and other participants in the economy, such as SMEs. Relevant questions include the following:

— What are the best ways to sustain and grow the overall contributions of corporations to the economy? What can be learned from the approach of other countries in this regard?

— Beyond corporations (considered in this report), how can the rest of the business sector, especially SMEs, continue to increase its contributions to the economy and society?

— What is the mix of archetypes in the country, and how is that evolving? Are there company archetypes for which it is critical to improve scale and competitiveness?

— What are the national implications of declining labor share of income, the disproportionate impacts on low-income households of investments in human capital such as reskilling, and other worker and household supports?

— What might a continued shift away from employment in Makers toward Deliverers and Experts mean for the future of work, especially in the context of trends in automation?

— How can any challenging impacts on different household income segments in the country be better understood and addressed to foster an inclusive economy?

Questions for ongoing research

Several areas for further research emerge.

First, more research will be needed on various aspects covered in this paper to fill gaps and provide a more comprehensive view and greater explanation of some key tendencies. A major gap is that of broader geographic coverage of large corporations notably in China, India, and other economies not in the OECD that also have many large companies. Another gap in coverage is that we did not look at smaller companies, which constitute the majority of companies in the business sector and account for a majority of employment. Another shortcoming is that we did not do a detailed analysis on the spillover pathways beyond the examples we discussed.

A second area for further research is to analyze archetypes and their dynamics with more granularity. One important area to consider is the different type of human, physical, and especially intangible capital, and their increasingly specialized use by companies in each archetype; this would deepen our understanding of the likely evolution of the archetypes themselves, as well as why each archetype has the household impacts that it does and how that is likely to evolve. Another area is to look at variation within archetypes, including what conditions or which characteristics lead to different levels of performance and outperformance (such as in the case of superstar firms) among the different large and small companies within them. Although archetypes transcend national boundaries, further research is nonetheless needed on how they interact with different market systems and how important different policy and business environment factors are for their development and outcomes.

Third, further work is needed to better understand how much of the shift in household outcomes that we have detailed is driven by superstar effects and other evolving market and competitive dynamics, by the evolution of globalization and its implications for sources of supply and demand and how they impact corporations, as well as by ongoing changes in the business models of companies such as the role of technology and of intangibles.[66] Some researchers suggest that bargaining power or market concentration in supplier and product markets is altering outcomes beyond what could be expected from the changing technology

[66] This issue has become something of a battleground among economists, competition experts, and technology companies, including about issues of "superstar effects" and whether concentration of resources in top companies is productivity enhancing or destroying; another broader dimension concerns the way that such concentrations spill over into politics and regulation. See, for example, "Fixing the flaws in today's capitalism," *The Economist*, May 9, 2018.

and demand.[67] Further empirical research will be needed to understand how such dynamics shape the pathways and the archetypes as well as changes that have occurred and those to come.

A fourth, broad economy-wide question related to corporations prompted by the findings here and by others (including the large corporations themselves) is to what extent, and how, companies of different types (archetypes in this paper) can evolve their approaches to benefit multiple stakeholders. Indeed many of the arguments in favor of "stakeholder capitalism," "long-termism," attention to "material" ESG indicators, and a broader push for performance targets for natural, social, human, and other forms of capital beyond financial capital fall under this category.[68] Some research suggests that companies prosper when they focus on benefiting society more broadly—for example research suggesting that paying higher wages can increase productivity and thereby boost both capital income and labor income pathways at the same time—but debate over which conditions allow for such favorable outcomes is not settled. Progress to generate these benefits for companies and society will likely continue as disclosure requirements needed to measure and analyze the impact of stakeholder commitments on financial performance are improved.

Companies have been and remain a powerful way for society to grow the economy and build prosperity. That much is not in question. What is needed is a better understanding of the evolving landscape of companies, the shifts in the pathways through which they impact the economy and society, as well as how to grapple with the implications of those shifts. This research has tried to shed some light on these changes and their implications. More research is still required, and more is needed on how to address the implications highlighted. In the meantime, we welcome discussion on the findings so far outlined in this paper.

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[67] See, for example, Anna Stansbury and Lawrence H. Summers, *The declining worker power hypothesis: An explanation for the recent evolution of the American economy*, NBER working paper number 27193, November 2020; and Jacob S. Hacker, *The Great Risk Shift: The New Economic Insecurity and the Decline of the American Dream*, second edition, Oxford University Press, 2019.

[68] Many companies and business organizations are discussing what issues relating to multi-stakeholder capitalism. Examples include calls by investment firm BlackRock for companies to make explicit plans for addressing climate change, recent changes to the UK Corporate Governance code requiring companies to articulate their purpose, and a 2019 statement by the Business Roundtable that moved away from shareholder primacy as the core purpose of a corporation. *Larry Fink's 2021 letter to CEOs*, Blackrock.com; *The new shorter and sharper 2018 UK Corporate Governance Code*, Norton Rose Fulbright, July 2018; *Business Roundtable redefines the purpose of a corporation to promote "an economy that serves all Americans,"* Business Roundtable, August 19, 2019. For stakeholder capitalism, see also Klaus Schwab, *Stakeholder Capitalism: A global economy that works for progress, people, and planet*, John Wiley & Sons, 2021; and R. Edward Freeman, *Strategic Management: A Stakeholder Approach*, Pitman Publishing, 1984. For long-termism, see Marc Goedhart, Tim Koller, and David Wessels, "The real business of business," March 1, 2015, on McKinsey.com; and Dominic Barton, "Capitalism for the long term," *Harvard Business Review*, March 2011. For an empirical view on the link between purpose and profit, see George Serafeim and Claudine Gartenburg, "The type of purpose that makes companies more profitable," *Harvard Business Review*, October 21, 2016. For a broader look at what we measure beyond financial capital, see Colin Mayer, *Prosperity: Better business makes the greater good*, Oxford University Press, 2018.

Technical appendix

This technical appendix outlines the methodology we use in our research to understand the impact of corporations on the economy and households. It consists of five sections.

1. Business sector measurement
2. Data on large corporations
3. Pathway measurement
4. Company archetypes
5. Corporate impact by level of household income

1. Business sector measurement

Throughout this paper, we use the following OECD definitions:

Business sector. Includes all enterprises defined as institutional units. In other words, economic agents having independent economic decision-making power whose aim is to produce market goods and services.

Corporate sector. A corporation is a form of enterprise having a legal identity separate from that of its owners. This separation gives the owners the important advantage that, in the event of failure of the business, their responsibility toward those to whom the firm owes money is limited to the amounts they have invested in the business and does not extend to their personal assets (except in the case of an offense such as embezzlement).

Sole proprietorships. Firms small in size that do not have corporate status or complete sets of accounts. They are themselves most often grouped with households, and in many cases transactions of the enterprise cannot be disentangled from the transactions of the relevant household as a consumer. In the case of unincorporated enterprises, there is no legal distinction between the firm and its owners, and the latter are personally responsible for all debts in the event of business failure.

The business sector is thus the corporate sector plus the sole proprietorships reflected in mixed income from the household sector as defined in the OECD economic sector accounts. This definition of the business sector excludes the household sector's rental income and employee compensation, which includes nonprofits. Household employee compensation can also include some employee compensation from more informal businesses. The boundaries of the business sector are not perfect, but this does not introduce large errors into comparisons across countries or time.

In some places, we adjust this definition of the business sector due to data availability.

— In Exhibit 3, we show a long time series of value-added contributions across countries for which we use the Groningen Growth and Development Centre (GGDC) 10-sector database. GGDC uses ISIC rev 3.1 sectors, which do not align perfectly with the definitions we use for the business sector, as above. As a result, the numbers for the business sector are slightly higher, but not significantly so, for our main purpose of understanding long-term trends. Specifically, Agriculture is sectors [A,B], Business is [C–K], Government is [L–N], and Non-profit and household is [O,P].

— In Exhibit 4 we rely on the OECD's use of ISIC codes to define the business sector. This allows us to compare metrics consistently across countries using the OECD STAN database, which provides industry-level metrics for both income and production. We select the business sector excluding real estate and compare to the total economy minus real estate, as defined by the OECD. Real estate is excluded to avoid accounting for imputed rents and residential capital stock, which belongs to the household sector. Due to data availability for US net digital stock we use OECD data on capital formation by activity (Dataset: 8A. capital formation by activity ISIC rev4), which includes ICT equipment and intellectual property. R&D data is also from OECD's gross domestic expenditure on R&D by sector of performance and type of R&D database.

2. Data on large corporations

For this research, we developed a new data set (referred to as the Companies and Economy database). We take the sample of companies and most financial variables from McKinsey's Strategy & Corporate Finance Practice Corporate Performance Analysis Tool (CPAT) data set. That data set provides longitudinal financial data adjusted to focus on operational performance and comparability across sectors and countries. It covers 18 million publicly listed and private companies globally. We also draw data from the OECD, IHS Markit Insights (for price and production volume data), and the Carbon Disclosure Project (for emissions) to develop our estimates for all pathway and sub-pathway variables, for example compensation, production taxes, CO_2 emissions, share of SMEs on the supply chain, price indexes, share of domestic suppliers, and primary resources usage. The MGI Companies and Economy database is thus a corporate finance database optimized for economic and societal research.

We delimit our study to two time periods: from 1994 to 1996, and from 2016 to 2018. We start our database by creating six subsets of firms, one per year of analysis. Each subset is defined as all the firms that generated more than $1 billion in annual revenues in 2018, or the equivalent for other years. "Equivalent" means that we set the threshold as a share of GDP rather than a fixed dollar value, giving a more meaningful cutoff of the importance of these firms to the economy. This approach resulted in the following nominal thresholds: $320 million for 1994, $350 million for 1995, $380 million for 1996, $975 million for 2016, and $987 million for 2017. The CPAT database uses current exchange rates for time-series data to convert figures into nominal dollars.

We filter for parent companies headquartered in the OECD, because financial data in the CPAT database is generally consolidated; we then apply an additional review to remove any examples that likely reflect double counting. Some parent-subsidiary reporting can be opaque, particularly with large international conglomerates, but this process minimizes any double counting or data gaps. We end with a data set of about 2,600 parent companies per year for the first period (1994–96) and about 5,000 for the second (2016–18).

We include both public companies and private companies for which we find reliable data. Reporting for private companies is sometimes not as reliable as for public companies, but including private companies is important, especially in Europe; in Germany, for example, three-fourths of the companies in our sample are private. To test our coverage, we compared the number of companies we would have in our sample if we extrapolated the size distribution down to 250 employees and found that it matched the number of companies with more than 250 employees listed in Eurostat for Germany, within the margin of error of the estimate.

To address missing data for some metrics in our company-level database, in some cases we extrapolate based on values for companies for which we have data. These include filling in some blanks for employees and R&D expenditure; in the former case, extrapolation was high for Japan making the labor income and employment estimates there less precise at the company level. Data on most financial indicators are complete, and other metrics are estimated using the pathway measurement descriptions below. The extrapolations are done by estimating the per-revenue average for each financial indicator by archetype for all countries and then multiplying it by the revenue of each company. We use country-specific averages for our five large economies (France, Germany, Japan, the United Kingdom, and the United States), and OECD averages for the other countries.

3. Pathway measurement

The pathways introduced in chapter 2 are fully defined there, including in the methodology boxes. Here we here explain additional measurement details.

Labor income. Employee compensation data by company are not generally publicly available, so we developed a methodology to estimate it at the country and archetype level. Country-specific estimates are done for the five focus economies—France, Germany, Japan, the United Kingdom, and the United States—plus two other countries we highlight in some sections and exhibits, the Netherlands and South Korea. We use OECD averages for the other countries.

We estimate the labor income pathway as follows: first, we calculate total employment compensation (including the labor share of mixed income) as a share of gross output from OECD national accounts, which is the equivalent of an economy-wide labor income pathway. We then do a granular mapping to our sample of companies from ISIC to the level 4 GICS sectors stored in CPAT, so that every company is assigned a baseline labor income pathway. We then adjust the number of employees per unit of output and compensation per employee components of labor compensation to account for the fact that our large corporation sample differs from the general economy in both of these respects. For the former, we calculate the ratio between the actual number of employees in the company per revenue dollar and the predicted number of employees per revenue dollar from sector-level averages from OECD. We then make a similar adjustment to the compensation per employee component of our baseline labor pathway estimate. Because we do not have company-level wage data, for company- and industry-level estimates we rely on the literature, specifically Bloom et al. (2018) for the United States, Colonnelli et al. (2018) for Germany and the United Kingdom, and a weighted average for other countries.[69]

Given that we are limited to our estimates, we run a series of sensitivity tests limiting or strengthening the impact of the large-company adjustments. The totals for all OECD economies in the first and second time periods were stable over a wide range of limits on the employment intensity adjustment. Our methodology for estimating labor compensation is limited at the individual company level, and we use it only in large aggregate assessments (for example, at the archetype and country level).

Capital income. We measure capital income as the flow of cash that goes to dividends, buybacks, and interest payments. These are all well reported in the CPAT database. For private companies, for which we do not necessarily have data on cash flows to owners, we extrapolate the total capital income per revenue dollar by

[69] Nicholas Bloom et al., "The disappearing large-firm wage premium," *AEA Papers and Proceedings*, May 2018, Volume 108; Emanuele Colonnelli et al., "A cross-country comparison of dynamics in the large firm wage premium," *AEA Papers and Proceedings*, May 2018, Volume 108.

country and archetype from public companies. Wherever we show dividends and buybacks as a share of revenue, it reflects the value for public companies. We also do not include interest payments for Financiers, since revenues are generally net of interest for these companies. Where we report market capitalization as a metric related to the capital income pathway, we use the CPAT measurement of market capitalization as the average for the year of the sample.

Tax. The tax pathway is the sum of corporate income tax payments and production process taxes that are part of the value added of a company and are not otherwise accounted for by the labor income, capital income, and investment pathways. Corporate income tax payments are well reported in the CPAT database. Production process taxes are calculated for granular ISIC sectors by country using the OECD STAN database on a per unit of output basis. We then use the same granular mapping of ISIC to GICS sectors to assign these rates of tax per revenue dollar to each individual company.

Investment. Investment is calculated as a residual of EBITDA (from CPAT) less the capital income and corporate income tax values described above. As explained in chapter 2, it is therefore more like a retained earnings measure that can also be saved by the company (for example, invested in financial assets). For Financiers, we again adjust and use net income rather than EBITDA. This likely understates investment since it does not fully factor in depreciation; however, that value and the corresponding error are small for large companies and unlikely to affect trends and comparisons.

To estimate flows to tangible and intangible assets, we take the ratio of net PP&E times average depreciation of PP&E to intangible assets times average depreciation of intellectual property, where average depreciation in both cases is calculated empirically using data from the US Bureau of Economic Analysis. As a robustness check, we compare our results to depreciation on a company level from CPAT, which is highly correlated. Intangibles includes goodwill, since acquisitions are an important investment cash flow and source of value across all types of intangibles.

Payments to suppliers. Supplier payments are calculated as 1 minus the sum of the other four pathways, which constitute the gross value added of the company as a share of revenue. In other words, by estimating compensation and production process taxes, we have a way of comparing the company-level perspective to the macroeconomic concepts of gross value added and intermediate costs, similar to an input-output table. We use input-output tables to determine where supplier payments go. Specifically, we use the World Input-Output Database to determine the main components of each granular sector's inputs and how much of those are sourced domestically (for each of our focus economies), and then roll up a total for each archetype. This implies that the domestic share of supplier payments is for all domestic production, which is a conservative (high) estimate of domestic share of supplier payments for large corporations. We follow the same process for determining how much of each archetype's supplier payments go to SMEs, but we do so only for the United States due to the challenge of consistent cross-country data.

Consumer surplus. Our two approaches for measuring consumer surplus are explained in the methodology box in chapter 2. In addition, we estimate the net impact of each archetype on the change in consumer surplus between 1994–96 and 2016–18 in Exhibit 27 and in the "Netting it out" section. To do this, we calculate what volume would have been for each overall archetype had prices stayed constant, then calculate the implied difference in consumer surplus between the actual price and volume values and the counterfactual price and volume levels. The main assumption is the price elasticity, which we assume to be 1.0 for most archetypes, but 0.7 for Fuelers and Discoverers and 3.0 for Technologists, based on a variety of sources. The archetype price trends cannot easily be compared to inflation since they are aggregates across companies from different countries; for such comparisons, we rely on our previous research that analyzed price trends relative to inflation by country for key consumer goods and services.

Environmental impact examples. Our emissions data are from the Carbon Disclosure Project and include data for about 1,500 companies in our data set. We estimate emissions per revenue for scopes 1–3 for each archetype and then extrapolate by archetype on a per-revenue basis to calculate total emissions for our data set. For use of natural resources, we again use input-output tables to see what share of revenue goes through the supplier payments pathway to pay for primary resources as defined by agriculture, forestry, mining, and energy. Our assumption is that any externalities associated with depletion of natural capital are likely to correlate with the value we calculate for use of these natural resources.

Total factor productivity growth. As with emissions and use of natural resources, we calculate this spillover through the inputs attributable to companies rather than to the monetary value of the household impact. Specifically, we use a digitization score that is based on digital assets, use, and customer interactions from the December 2015 MGI report *Digital America: A tale of the haves and have-mores.* We also use R&D expenditure as a share of revenue and labor productivity growth, which we assume to be associated with growth of human capital with benefits to the economy more broadly. Since R&D expenditure is a monetary flow like our other pathways, we are sometimes able to include it only where we account for company dispersion, for example in Exhibit 8.

4. Company archetypes

Our clustering analysis for the company archetypes uses the Global Industry Classification Standard (GICS) level 4 subsectors, 150 in all for the companies in our database, as the unit of analysis. We run a least squares cluster analysis on these subsectors using different combinations of 16 standardized indicators under the categories described in chapter 3 (factor inputs, cost and R&D metrics, and pathway metrics); this algorithm minimizes differences among companies in a cluster and maximizes their distance across clusters. Using different selections of variables and numbers of clusters and avoiding clusters of only one or two companies, we arrive at five main categories. We make judgments based on subsector similarity and data patterns to break the largest cluster into three (Experts, Deliverers, and Makers), and we split technology companies and pharmaceutical- or biology-based companies into Technologists and Discoverers, using factors including type of activity and price differences. This results in the eight clusters we use in this paper.

To refine the clusters, we perform an iterative sorting by comparing each individual subsector to each of the archetype averages on different variables to see if each is indeed optimally placed (maximized correlation), and we move the subsectors when they are not. We focus on well-measured, individual company-level data (plus total compensation) and uncorrelated variables.

Further research in this science of archetypes will depend on continued data improvement, further experimentation in the metric selection and weighting, and potentially extending our iterative checks on optimal placement to the individual company level.

5. Corporate impact by level of household income

Our methodology for chapter 5 is explained in the methodology box there. Here we give more detail about our data sources and assumptions.

In Exhibit 28, the corporate sector values on the left side are from OECD national accounts data. We complement OECD data for Japan with data from the Cabinet Office of Japan. For the value for the top 10, middle 40, and bottom 50 percent of households on the right-hand side of Exhibit 28 and for Exhibit 29, we primarily rely on household surveys published by national statistics offices. In the United States, for compensation data we use the Social Security Administration's household survey data, which also allows us to split out private sector from government salaries by decile. For capital income, we use the Federal Reserve's Survey of Consumer Finances, which shows the distribution of financial assets by percentile of income. For all countries, the distribution of taxes follows an even distribution among all households since taxes are converted into public goods, which we assume are evenly accessible by households.

For Germany's income distribution allocation, we rely mostly on household survey data on income by type and decile from the German statistical office, though we are limited in consistent data to the period from 2013 to 2018. We use the Federal Public Service Report from the Federal Ministry of Interior to net out government wages. We use interest, dividends, and private pensions to account for capital distribution, wages for labor income, and public pensions for social insurance. We note that since this uses income flows from pensions (as we also do for Japan), it is not perfectly comparable to the asset view we have for the United States.

For Japan's income distribution, we use the Ministry of Health, Labour, and Welfare's Comprehensive Survey of Living Conditions and the 2017 Employment Status Survey for netting out government wages. As with Germany, we use the categories of wages, capital (including private pensions), and public pensions to assign the distribution of these three elements of corporate flows to households of different income levels.

To understand the changes over time in labor and capital income distribution for these three countries, we leverage the closest information available to 1995 and focus on economy-wide trends for wages due to data availability. First, we account for the magnitude of the decline on the labor share throughout our time period from the literature. Germany and United States are from AMECO data as shown in the 2019 McKinsey Global Institute discussion paper, *A new look at the declining labor share of income in the United States*. The labor share decline for Japan is drawn from the Asian Development Bank.[70] Then, we apply the labor and capital income distribution for the top 10 percent and the bottom 90 percent from the local sources for each country mentioned above and the World Inequality Database in the case of Germany.

Finally, we recognize that survey data are imperfect, in particular for sampling at the higher end of the income distribution, and seek only to make the general point about trends toward more or less concentrated incomes. Estimates of general income distributions by country that account for this sampling problem by triangulating with national accounts and tax returns can be found in the World Inequality Database.

[70] For more detail see Pablo Agnese and Hector Sala, *Falling labor share in Japan: Its causes during the lost decade and beyond*, IESE Business School and Universitat Autonoma de Barcelona and IZA, July 2010, and Toshiaki Tachibanaki, "Inequality and poverty in Japan," *The Japanese Economic Review*, March 2006, Volume 57, Issue 1.

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