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The power of one: How standout firms grow national productivity

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At a glance

— **When firms become more productive, so do economies.** Increasing the value each worker creates also promotes rising wages for workers and profits for firms. These facts are well known to economists. Our other findings are not.

— **A small number of firms contribute the lion's share of productivity growth.** Fewer than 100 productivity "Standouts" account for two-thirds of growth in our sample of 8,300 large firms in Germany, the United Kingdom, and the United States. Many others also play a role: the majority of firms contribute positively.

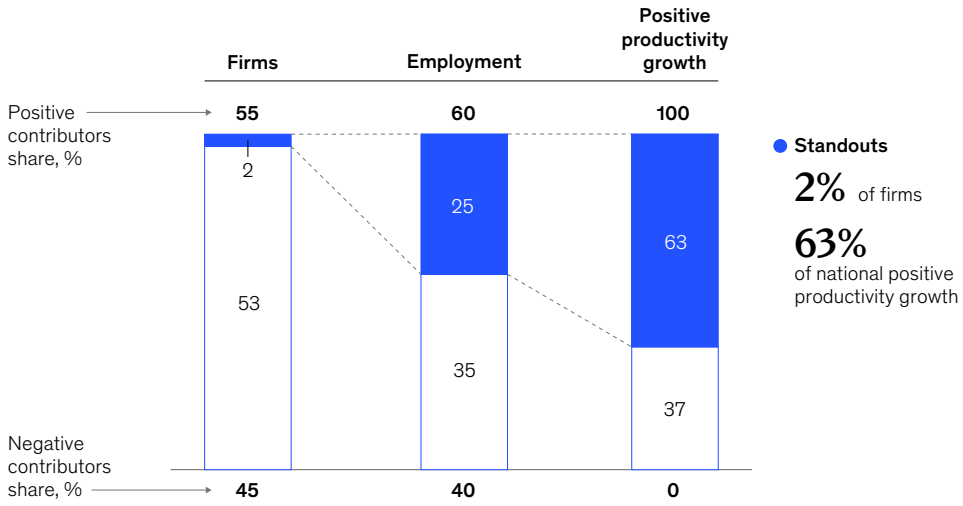
— **Productivity grows in powerful bursts as firms find new ways to create and scale new value.** Think Apple expanding into services, easyJet shaping the discount airline trend, and Zalando pioneering apparel e-commerce. This is not the efficiency transformation nor the gradual diffusion described by conventional wisdom.

— **In the United States, the most productive firms expanded and unproductive firms restructured or exited.** This contributed half of US sample productivity growth while sticky underperformers dragged down growth in Germany and the United Kingdom.

— **This fresh view of productivity growth calls for a new playbook.** It suggests focus on the power of the few more than the broad swath, on value creation more than efficiency, and on reallocation of resources to leading businesses.

A few "Standout" firms shape the majority of productivity growth.

Share of national sample's productivity growth, %



Note: Simple average figures of the 3 countries studied (US, Germany and the UK).
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Executive summary

The world needs robust productivity growth more than ever to address pressing global issues: inflated balance sheets, financing the transition to net zero, bridging empowerment gaps, and funding a demographic transition with more retirees and fewer workers.[1] And a fundamental unit of productivity growth is firms. If firms do not increase their productivity, economies don't, either.

Firms themselves benefit from productivity growth, or growth in value added per worker. In view of long-term demographic shifts and the tight labor markets of today, labor productivity is a strategic imperative.[2] And productivity growth is the only way for businesses to serve all their stakeholders, delivering rising wages for their workers, increased customer surplus, and profit. Customers and employees are typically the biggest and most immediate beneficiaries of productivity growth. Productivity growth is a win-win for all.

This research finds that a relatively small number of firms making bold strategic moves generated the majority of productivity growth in the period we studied, in powerful bursts rather than in a smooth trickle of gradual change, and through strategic moves, top-line growth, and portfolio shifts more than efficiency gains. This was a more concentrated, dynamic, and sporadic pattern than existing literature tends to highlight, with progress on productivity being defined by a few firms moving a mile rather than many firms moving an inch. Single firms can move the productivity needle for entire economies—the "power of one."

This latest offering in decades of McKinsey Global Institute (MGI) research on productivity carves out new ground from typical treatments of the topic. Those have focused on broad economic factors, such as labor-market dynamics, technological advances, capital investments, and fiscal and monetary policy, rather than firm-level features. Or they have focused on productivity dispersion and diffusion patterns across millions of often-anonymous firms. This research zooms in on those firms that are most relevant for driving growth and enriches quantitative analysis with sector- and firm-specific case studies in line with MGI's tradition of analyzing the "micro-to-macro" roots of productivity. In the 1990s, for instance, MGI coined the term "the Walmart effect" to show the disproportionate impact of the US retailer's growth not only on its own sector but on the entire US economy.[3] This work also builds on MGI's long-standing tradition of understanding how companies and their contributions advance global economic and social progress.[4]

We apply the economic definition of labor productivity as real gross value added (GVA) per worker, which is very different from profitability or efficiency and includes the impact of employees moving across firms. Our methodology comes with strengths and weaknesses (see sidebar "A new firm-by-firm lens on productivity growth"). First, we look at 8,300 large firms covering two-thirds of GVA in four sectors—retail, automotive and aerospace, travel and logistics, and computers and electronics—in three countries: Germany, the United Kingdom, and the United States.[5] These are not complete samples of each country's economy and also include multinationals. Second, we look at 2011–19, a period that may miss more recent market trends but that helps us identify productivity patterns that may hold over time. We have, if you like, constructed a "lab economy" for this research in a bid to discern what drives productivity and economic growth. Our findings prove robust under a gamut of tests.

SIDEBAR

A new firm-by-firm lens on productivity growth

It is important to appreciate the decisions made regarding scope and approach for this report when viewing the results. They include the following:

Analyzing productivity as firm-level real GVA per worker rather than profitability or efficiency. In line with economic convention, this research divides GVA by the number of employees to compute productivity and adjusts for changes in input and output quality and prices at the sector level. GVA is revenue minus external cost, or labor compensation plus earnings before interest, taxes, depreciation, and amortization (EBITDA).[1] We apply so-called double-sided deflators to adjust for changes in output and input prices at the sector level to compute real value added.[2] This definition of productivity is different from the one commonly used by business executives as shorthand for efficiency or profitability. In fact, growing real value per employee more often comes from improving customer value than from efficiency, and it can also reflect changes in business portfolio, value chains, or capital intensity. Moreover, since total wages are often twice as large as profits, they weigh more heavily in this formulation, too.

Including employment reallocation to more productive firms. This research includes employment weighting of productivity advances from individual firms as well as employment reallocation effects as the most productive firms gain employment share while less productive ones shrink or exit.[3]

Looking at four sectors in three countries. We look at large firms in Germany, the United Kingdom, and the United States operating in four sectors—retail, automotive and aerospace, travel and logistics, and computers and electronics—and, within them, 12 subsectors.

Looking through a window of 8,300 large firms into the economy. We look at a sample of about 8,300 large firms (all with more than 50 employees, and most with more than 500) that cover the two-thirds of value added generated by large firms in our focus sectors. We do not include micro-, small, and medium-size enterprises (MSMEs) or startups, which account for less than 30 percent of the productivity growth in the four sectors in the three countries in our scope.[4] We include the international operations of these firms with the aim of providing an accurate analysis of this lab economy rather than twisting ourselves into knots reconciling data with national statistics. Nonetheless, productivity growth in our sample is reasonably in sync with those.

Looking at 2011–19 to find patterns that may hold over time. This is a reasonably stable period—albeit one with low productivity growth—between the global financial crisis and the COVID-19 pandemic. The patterns observed in this period may hold outside of it, although the cast of characters will change. However, given limited data availability and quality, we do not focus in any detailed way on understanding firms outside this period.[5]

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1 For firm-level value added, we use the Orbis database from 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors, making adjustments where necessary. For US firms whose disclosure requirements are lower, we estimate employee costs by taking sector-level average wages. We make manual adjustments using firm financial statements for the most relevant firms. Gross value added (GVA) is adjusted to constant 2019 values in local currency with EU KLEMS two-sided deflators that adjust for changes in input and output prices at the country and sector levels but not at the firm level.

2 GVA is adjusted to constant 2019 values in local currency with EU KLEMS two-sided deflators that adjust for changes in input and output prices at the country and sector levels but not at the firm level. Double-sided deflators account for both quality-adjusted price changes that firms in a particular subsector make vis-à-vis their customers and those they experience from their suppliers.

3 For more on productivity growth through reallocation, see, for instance, Rasmus Lentz and Dale T. Mortensen, "Productivity growth and worker reallocation," *International Economic Review*, volume 46, number 3, 2005. Also see J. David Brown and John S. Earle, *Understanding the contributions of reallocation to productivity growth: Lessons from a comparative firm-level analysis*, IZA Institute of Labor Economics discussion paper number 3683, September 2008; and Lucia Foster, Cheryl Grim, and John Haltiwanger, "Reallocation in the Great Recession: Cleansing or not?" *Journal of Labor Economics*, volume 34, number S1, part 2, January 2016.

4 National statistics authorities define MSMEs as firms with fewer than 500 employees in the United States and fewer than 250 employees in Germany and the United Kingdom.

5 In 2011, there were challenges to certain subsectors, but our tests show that inclusion of this time frame does not skew our core findings. However, the aggregate productivity growth rate during this period was lower than in other significant historical eras, suggesting further research on periods of rapid growth could yield additional insights on productivity drivers. Potential limitations introduced by this period include insufficient time for transformative technological change and for entering firms to achieve mature productivity levels; the significant growth of Big Tech firms in these years; a starting year that posed challenges to certain subsectors; and the fact that the period chosen began shortly after the global financial crisis. Firms that performed well on productivity during this period may have experienced different outcomes later, and vice versa.

A few firms shape the lion's share of an economy's productivity growth

The prevailing view is that productivity growth emerges gradually through the incremental improvements of many firms, trickling down as best practices diffuse from leaders to the rest.[6] In our lab economy, a very limited number of firms drove the lion's share of productivity growth in powerful bursts.

Approaching this topic from a distinct analytical angle led us to develop a specific terminology for certain firms in our sample. To help readers navigate what follows, we begin with a brief overview of these definitions (see sidebar "Glossary of firm descriptions").

Productivity advances one firm at a time

Fewer than 100 firms in our sample of 8,300—a group that we have dubbed Standouts—accounted for about two-thirds of the positive productivity gains in each of the three country samples we analyzed. Standouts are defined as firms that added at least one basis point to their national sample's productivity growth.

To give a sense of how important a single firm can be, just another dozen or so of the largest Standouts could have doubled productivity growth in their entire country.

The number of firms that were responsible for the largest drags (negative contributions of at least one basis point) on productivity growth—we call them Stragglers—was even smaller. Only 55 Stragglers accounted for 50 to 65 percent of the firm-level productivity drag in the three country samples (Exhibit 1).

In our lab economy, a very limited number of firms drove the lion's share of productivity growth in powerful bursts.

BOX 2

Glossary of firm descriptions

Standouts. Productivity Standouts are firms that added at least one basis point to their national sample's productivity growth in 2011–19. Standouts fall into four categories, depending on *how* they have impact:

- *Improvers.* Large firms—in the top 10 percent by the number of employeeas—that contributed mostly by increasing their productivity levels.
- *Disruptors.* Smaller firms, typically with less than 1 percent of the employment share in their sector, that contributed mainly by increasing productivity rapidly.
- *Scalers.* Firms contributing mostly by increasing employment share throughout the period from a position of above-average productivity, often in the top quintile of employment-weighted productivity levels.

Restructurers. Firms contributing by lowering their employee share throughout the period (or exiting) while having below-average productivity.

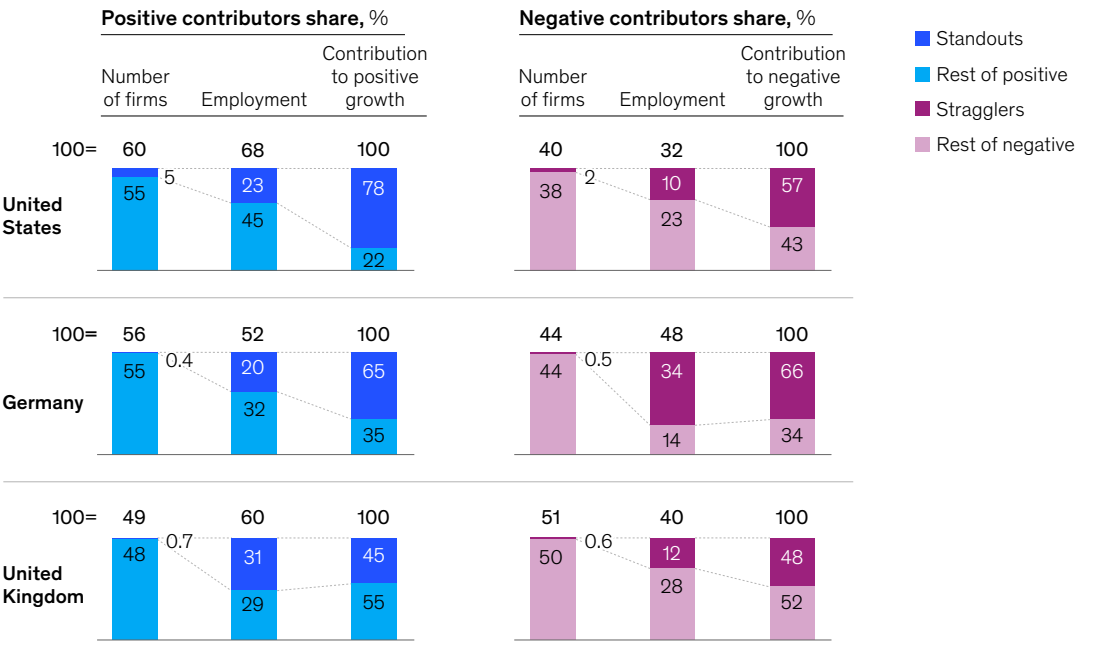
Stragglers. Productivity Stragglers are firms that made negative contributions of at least one basis point to the productivity growth of their respective national samples in 2011–19.

Frontier firms. The most productive companies in each sector, specifically those in the top 20 percent (top quintile) by productivity, weighted by employment, in both 2011 and 2019. Note that a Standout firm is not necessarily a frontier firm. In fact, two-thirds of Standouts in our sample were not in this top quintile.

Exhibit 1

A handful of firms—the Standouts and Stragglers—accounted for two-thirds of our sample's productivity growth and degrowth.

Firm count, employment share, and growth contribution, % of total



Note: Figures may not sum to 100%, because of rounding. From a sample of ~8,300 firms (~900 US firms, ~3,000 German firms, and ~4,400 UK firms).
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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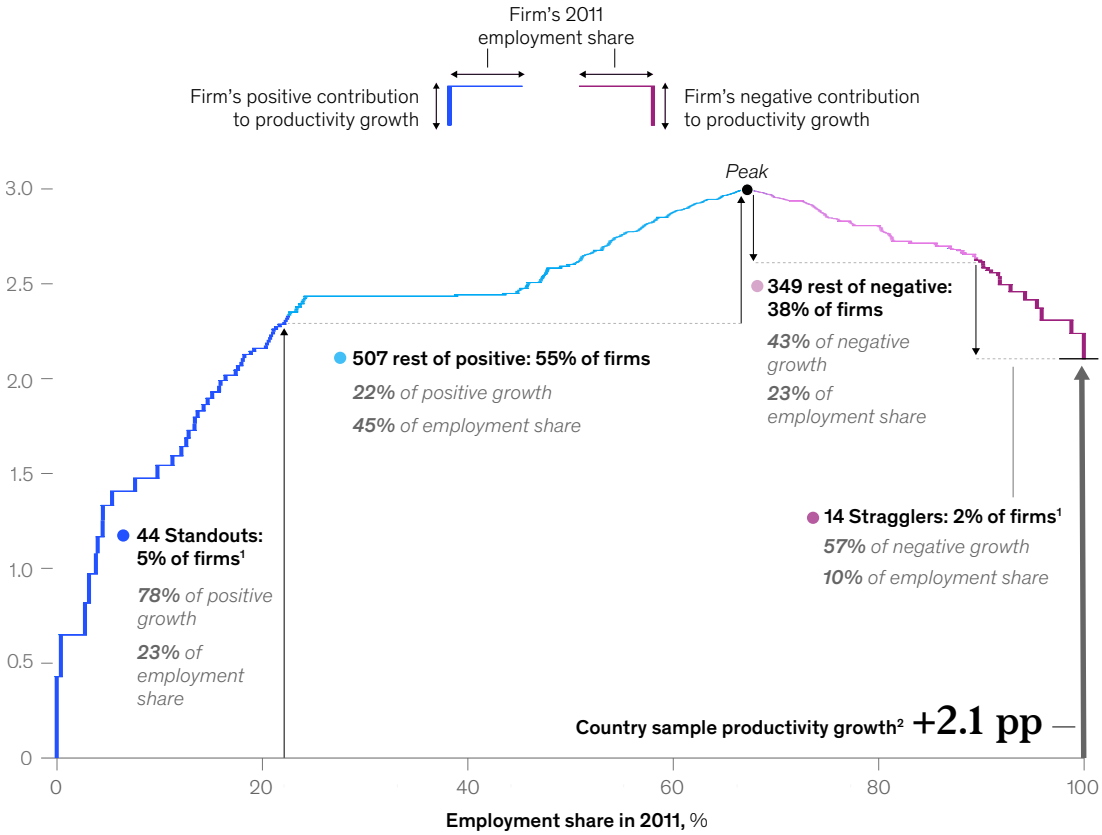
In the United States, for instance, 44 Standouts—5 percent of sample firms, accounting for 23 percent of employment share—generated 78 percent of positive productivity growth. And 14 Stragglers—2 percent of sample firms, accounting for 10 percent of employment—were responsible for 57 percent of negative growth (Exhibit 2). US Standouts included household names like Apple, Amazon, The Home Depot, and United Airlines.

Exhibit 2

In the United States, 44 firms (5 percent) accounted for nearly 80 percent of the sample's positive productivity growth.

Firm contribution to US sample productivity growth, 2011–19, pp



Note: US country sample of ~900 firms 2011–19 (productivity growth snapshot not representative of years before and after).
[1]Positive and negative contributors are firms that add +/- basis points to country sample productivity growth.
[2]Sum of firms' contributions to country sample productivity growth, in a sector.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Standouts shape sector dynamics, and vice versa

The same patterns appear when we look at subsectors. The ratio of Standouts (and their contribution) to Stragglers (and their drag) was the clearest factor in driving fast productivity growth. In almost all subsectors experiencing rapid productivity growth (defined as 2 percent per year or more), Standouts drove the bulk of that growth, and there was less drag from Stragglers (Exhibit 3).

The relationship between Standouts and sector growth is, of course, a symbiotic one. Standouts drive the growth of sectors, but some sectors also have the market dynamics, technology, regulation, and competitive setting that provide fertile ground for Standouts. There were more Standouts in sectors where firms could create new customer value and scale new business models than in sectors that were mostly about efficiency. For instance, the US computer and electronics sector came with many scalers and disruptors. Often when demand is faltering, other sectors are relative deserts, tending to produce more Stragglers or firms that restructure.[7]

Exhibit 3

High-growth sectors have more Standouts making bigger contributions—low-growth ones have more Stragglers dragging harder.

Subsector productivity growth and contribution by Standouts and Stragglers, 2011–19

Country	Subsector	Productivity growth, % (High / Low / Negative)	Contribution to subsector of: Standouts, pp	Number of firms	Stragglers, pp	Number of firms	Standout–Straggler ratio
US	Computers	8	8.1	5	–0.1	1	5.0
US	Semiconductors	5	4.0	10	–0.3	1	10.0
US	Electronic equipment	5	3.8	14	0	0	n/a
Germany	Aerospace	4	4.4	2	–0.5	1	2.0
Germany	Computers	3	0	0	0	0	n/a
UK	Semiconductors	3	2.6	3	–0.9	2	1.5
US	Travel	2	1.8	4	0	0	n/a
UK	Computers	2	0	0	0	0	n/a
UK	Electronic equipment	2	1.7	4	0	0	n/a
US	Grocers and nonspec[1]	2	1.5	4	0	0	n/a
US	Other retail	1	1.6	2	–0.5	2	1.0
Germany	Grocers and nonspec	1	1.3	2	–0.2	1	2.0
Germany	Electronic equipment	1	1.1	2	–0.5	1	2.0
Germany	Semiconductors	1	1.5	2	–0.7	2	1.0
UK	Travel	1	1.5	9	–0.5	2	4.5
UK	Grocers and nonspec	1	0.8	7	0	1	7.0
Germany	Automotive	1	1.1	2	–0.5	4	0.5
Germany	Apparel	0	1.0	1	–0.6	1	1.0
US	Apparel	0	0	0	0	0	n/a
Germany	Logistics	0	0.6	1	–0.3	2	0.5
UK	Apparel	0	0.1	1	–0.5	3	0.3
US	Automotive	0	0.9	4	–0.7	4	1.0
UK	Other retail	0	0.4	2	–0.8	2	1.0
Germany	Postal	0	0	0	–0.6	1	0.0
US	Logistics	–1	0	0	–1.0	1	0.0
US	Other transportation mfg	–1	0	0	0	0	n/a
UK	Postal	–1	0.2	1	0	0	n/a
US	Aerospace	–1	0.6	1	–2.3	3	0.3
UK	Logistics	–2	–0.1	1	–1.1	5	0.2
US	Postal	–2	0	0	–1.1	2	0.0
Germany	Other transportation mfg	–2	0	0	0	0	n/a
UK	Aerospace	–2	0.5	1	–2.7	3	0.3
UK	Automotive	–2	0.2	1	–2.2	5	0.2
Germany	Other retail	–2	0	0	–1.7	1	0.0
Germany	Travel	–3		1	–2.3	2	0.5
UK	Other trans mfg	–5	0	0	–4.2	2	0.0

Note: UK logistics is an edge case of Standout that contributes positively to sector but negatively to subsector, which is possible since Standouts are identified by sector-based contribution calculations. In this case, the firm gains employment share relative to sector sample but loses share relative to subsector sample, which turns its employment effect negative. See technical appendix for more detail on cases like this.
[1]Grocers and nonspecialized retailers.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; McKinsey Global Institute analysis

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The thousands of firms that are neither Standouts nor Stragglers also matter collectively
About 10 percent of firms accounted for 90 percent of productivity growth in the period studied. Looking at all firms, about 50 percent increased productivity faster than the sector average. Indeed, 20 percent of all firms increased productivity 1.5 times faster than the sector average while also increasing their employment share.

The millions of MSMEs outside our sample collectively contributed up to 30 percent of productivity growth in the four sectors in the national statistics.[8] Indeed, a handful of them may emerge as the Standouts of tomorrow.[9]

Standouts are sufficiently large, and make meaningful enough advances in productivity or scale, to shape national growth
Standouts tend to have sufficient size and either rapid productivity gains or sizable increases in employment share from an above-average position, which makes them able to drive economy-wide growth. However, it is notable that, in general, Standouts are neither the most productive firms nor the firms that are growing productivity the fastest.[10] In both cases, firms tend to be smaller and more niche and do not contribute an oversize amount to sector-level growth. These firms are also hard to replicate. In retail, for instance, firms with the top productivity levels are online game distribution platforms and distributors of manufacturers' captive brands.[11]

Let us now look at the four types of Standouts, which we describe here ranked by size of contribution. *Improvers*—large firms that mainly contribute by advancing their productivity levels—made the largest contribution to productivity growth. *Disruptors*, or small firms that grew productivity and share very rapidly, actually made the smallest contribution. *Scalers*, which were already far above the sector's average productivity and grew their share of employment, and therefore drove productivity growth mostly via employment reallocation, made the second-largest contribution.[12] *Restructurers* are less productive firms that made a positive contribution by losing market share and employment to more productive firms or exited altogether.

Being large helps, but size alone is not sufficient to be a Standout. Large firms did not make an outsize contribution for their employment share. For example, in the United States, the top 10 percent of firms by size that made positive contributions had 54 percent of the employment share but accounted for only 68 percent of positive productivity growth. Meanwhile, US Standouts had a 23 percent share of employment but accounted for 78 percent of positive growth. In fact, large firms are as likely to be Stragglers as Standouts, which explains this pattern.

Including MSMEs would not have changed the disproportionate impact or identity of Standouts in our sample, partly because each individual MSME is too small. In the national statistics for the sectors in our scope, MSMEs collectively accounted for less than one-third of productivity growth. In short, in our sample, a handful of Standouts out of a million firms would account for more than half of productivity growth. This is a much more extreme concentration than commonly appreciated.

Some Standouts remain Standouts over long periods, but many change over time. With a limited sample, we find that about two-thirds of Standouts in 2011–19 remained Standouts in 2019–23.[13] The other one-third fell back, while new firms emerged as Standouts—including former Stragglers turning around.[14] So, at any point in time, a few firms disproportionately matter, but these firms evolve. The story of productivity is highly dynamic.

Standouts trigger productivity bursts with top-line growth and business shifts more than efficiency

Standouts share few common characteristics. They come from all sectors and all parts of the productivity curve, have vastly different starting points on common business metrics and past performance, and contribute to productivity growth in different ways. What they have in common is "doing things differently" more than "doing things more efficiently."[15]

We conducted detailed case studies of all the Standouts in our sample sectors (retail, automotive and aerospace, travel and logistics, and computers and electronics). What emerges from these case studies is that Standouts used a combination of five types of moves, often in combination. Four of these relate to scaling productive businesses or finding new ways to create value. Only one is primarily about efficiency and cost.[16] To help illustrate these strategies and how they are used, we offer the following examples:

1. *Scaling more productive business models or technologies.* Examples include Apple shaping the mobile internet wave, Amazon shaping e-commerce, Zalando successfully scaling e-commerce in apparel, and easyJet helping to set the low-cost carrier trend.
2. *Shifting regional and product portfolios toward the most productive businesses or adjacencies.* Examples include doubling down on product lines that have higher customer value relative to the hours needed, such as Nissan expanding electric vehicle (EV) offerings in automotive, and other players doing likewise for SUVs; Apple and Broadcom shifting their product portfolios to higher-margin services; General Motors exiting unprofitable geographies; and Amazon venturing into cloud computing through Amazon Web Services (AWS).
3. *Reshaping customer value propositions to grow revenue and value added.* This strategy can be effective in both high-end niche segments and mass markets, and it often comes in response to trends or competitive attack. Examples in mass markets include US retailer The Home Depot improving customer experience both in-store, with a wider assortment and denser network, and online, integrating buying online and picking up in-store; and UK supermarket chain Tesco responding to pressure from hard discounters in addition to cost reduction, portfolio adjustments, and price reductions by improving the premium assortment offering and fully leveraging its convenient locations. US airlines including Delta and American Airlines provided distinct value propositions and value-added services to loyalty customers. In niche segments, examples include Nvidia building a winning value proposition for graphics processing units (GPUs) and scaling it up; Zeiss providing cutting-edge tech in extreme ultraviolet (EUV) lithography; and Danaher in high-tech life sciences.
4. *Building scale and network effects.* Examples of firms offering more for less include Amazon scaling its fulfillment capabilities to make them available to more shoppers and partner retailers; logistics conglomerate Hapag-Lloyd driving growth through acquisitions and geographic expansion; and US airlines improving route networks and aircraft capacity utilization, including through mergers.
5. *Transforming operations to raise labor efficiency and reduce external cost at scale.* Examples include Tesco's multibillion-pound cost-reduction program (in addition to competing on price and quality with discounters) and easyJet's fleet modernization to reduce operating cost (alongside shaping a winning customer value proposition). While this is the lever most commonly associated with productivity growth—at least among businesses—it was very rarely the most important one in our case studies.

These moves often trigger chain reactions that lead to bursts of productivity over specific periods and sectors in a pattern of "action and response" more than through the diffusion of practices. For instance, the entrance of digital players and discounters in the UK retail sector not only directly boosted productivity in that economy but also prompted responses from other firms, one instance being Tesco enhancing its own offering with a stronger online channel and deeper customer relationships through loyalty and personalized offers.

Firms in different parts of the productivity curve made bold strategic moves, which help to explain their movements along that curve. Take the retail sector as an illustration (Exhibit 4). In US retail, firms such as Amazon, Costco, and The Home Depot were Standouts in the productivity frontier. In German retail, Standouts carried out bold strategic moves and transitioned to the frontier. Examples include Zalando, which scaled up its e-commerce business from negative productivity levels and traveled all the way to the frontier, and REWE, which launched and scaled digital offerings even while expanding its brick-and-mortar business. In UK retail, contributions also came from Standouts outside the frontier, one instance being Tesco.

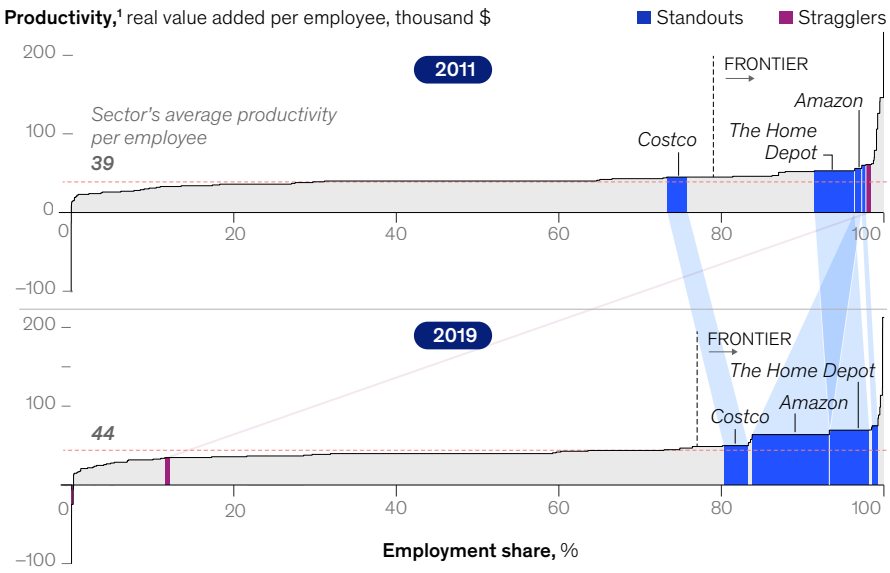
Bold strategic moves often trigger chain reactions that lead to bursts of productivity over specific periods and sectors in a pattern of "action and response" more than through the diffusion of practices.

Exhibit 4

United States

US retail was led by a vibrant frontier of e-commerce and traditional retailers.

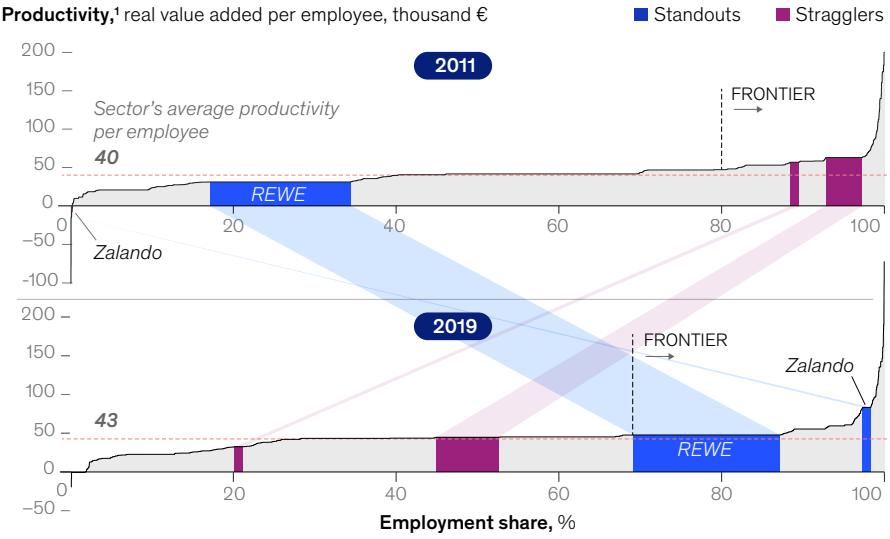
US sector sample of ~200 firms, 2011–19



Germany

German retail benefited from a notable increase in productivity levels among traditional grocers and e-commerce leaders.

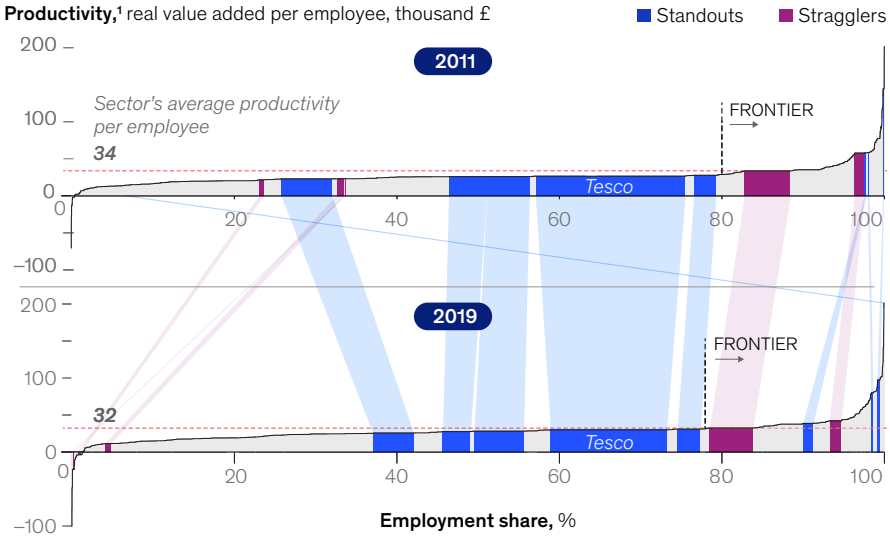
German sector sample of ~800 firms, 2011–19



United Kingdom

UK retail experienced traditional grocers and retailers contributing from outside the frontier.

UK sector sample of ~1,700 firms, 2011–19



Note: Productivity snapshot not representative of years before and after.
[1]Productivity measured as real value added, in local currency, per number of employees. For more detail on calculation methods, see chapter 1 and technical appendix.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; Capital IQ; McKinsey Global Institute analysis

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Leading firms and the dynamic reallocation of employees toward them matter for growth

Beyond the presence of Standouts and absence of Stragglers, the following patterns characterized subsectors and countries that posted rapid productivity growth:

— *Frontier firms contributed disproportionately.* In the highest-growth subsectors, the primary pathway to productivity growth was firms contributing from the frontier, followed by firms transitioning to it.[17]

— *Leaders pulling ahead drove rapid subsector growth as often as laggards catching up.* A common view is that productivity growth is particularly strong when the broad swath of middling or lagging firms catches up or converges with innovative leaders as best practices and technologies cascade down. Such convergence appeared in four out of nine subsectors with fast growth. In the other five, rapid growth came from frontier firms pulling further ahead—divergence.[18]

— *Employment reallocation from lagging to leading firms mattered nearly as much as productivity advances within firms and more than new entries or exits.* In almost all subsectors, both productivity advances and employment reallocation played a role. In eight of 21 subsectors with positive productivity growth, reallocation of employees from less to more productive firms dominated. In the others, productivity increases by individual firms mattered more.[19] Firms leaving or entering the market—traditional creative destruction—mattered less. It is notable that, in virtually all positive-growth subsectors, exits added to growth, sometimes substantially, while in almost half of these subsectors, entries detracted from growth. New entrants proved too small or unproductive to leave a mark during the 2011–19 snapshot period.[20] Over a longer period, every Standout will have been a new entrant at some point, but the youngest firm in our eight-year sample was 11 years old, and the average was 58.

US sample firms led on productivity growth with more Standouts, fewer Stragglers, and more reallocation

US productivity growth from 2011 to 2019 was faster than that of the other countries in our sample at 2.1 percent, compared with 0.2 percent in Germany and close to zero in the United Kingdom. Two patterns help explain this difference, as follows:

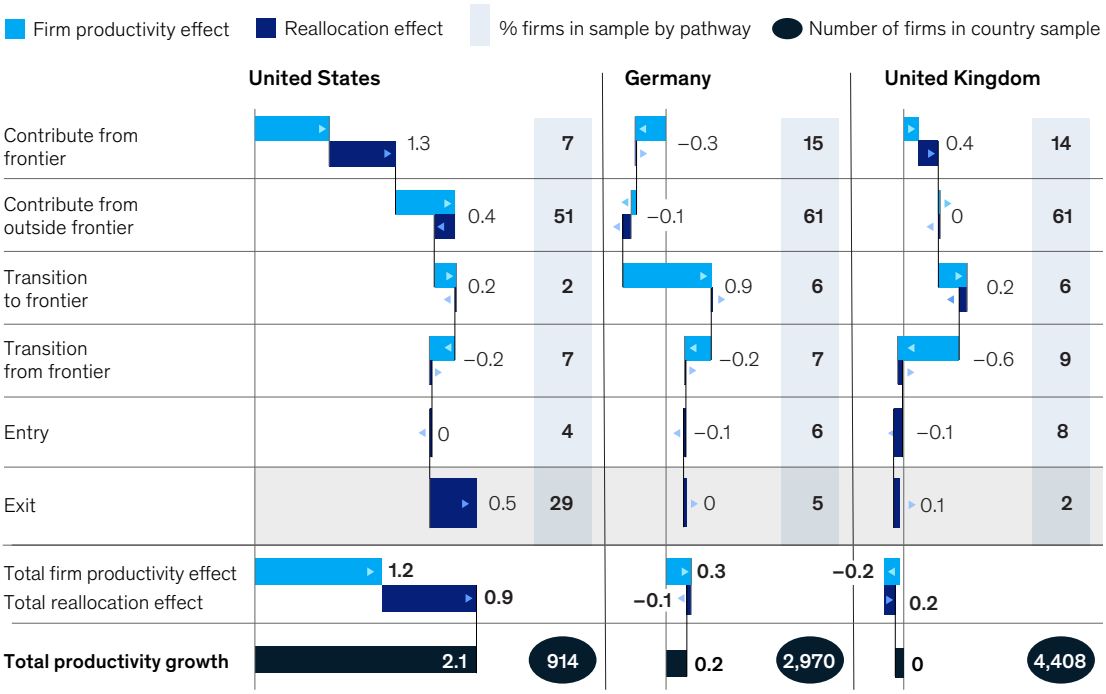
— *The US sample had three times more Standouts than Stragglers, while the German and UK samples had almost even numbers.* This was largely due to the strong US computer and electronics sector, which accounted for about half the Standouts in the United States and most of the difference in the total number compared with Germany and the United Kingdom. This could reflect the more vibrant US innovation ecosystem—the market is less fragmented, regulation is more innovation- and investment-friendly, and the risk-capital system is well developed. But even beyond this special sector, the same pattern is present.[21]

— *Firms in the US sample had more reallocation of employees from less productive to more productive firms.* Leaders grew faster, and underperforming firms more swiftly restructured or exited. In the United States, Standouts include scalers (firms far above average sector productivity that contribute by gaining employees) and restructurers (firms with below-average sector productivity that contribute by losing employees). In Germany and the United Kingdom, this was not the case. Rather, these countries preserved underperforming firms as Stragglers. Frontier firms scaling and gaining share added 0.6 percentage point to productivity growth in the United States, and unproductive firms exiting contributed an additional 0.5 percentage point. Overall, dynamic reallocation, including reallocation across subsector boundaries, added 0.9 of 2.1 percentage points—slightly less than half—to productivity growth in the US sample.[22] In contrast, the contribution of reallocation was negligible in Germany and the United Kingdom (Exhibit 5). This may be explained by the fact that the United States has highly dynamic factor markets, allowing for quick entry and exit as well as fast scale-up and restructuring.

Exhibit 5

Reallocation from exiting firms to the frontier played a big role in the US.

Contribution to national sample productivity growth, 2011–19, pp



Note: Figures may not sum to 100%, due to rounding.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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A new productivity growth playbook emerges

Business leaders and policymakers should focus on productivity growth because it is a win-win for all, and achieving it requires a micro-to-macro, firm-level approach. This research both builds on and diverges from the large body of work on productivity in important ways.

Firms boosting productivity deliver a win-win for employees, customers, shareholders, and economies

Firms rightfully focus on revenue, economic profit, and shareholder value, but they should also care about productivity growth for the following three reasons:

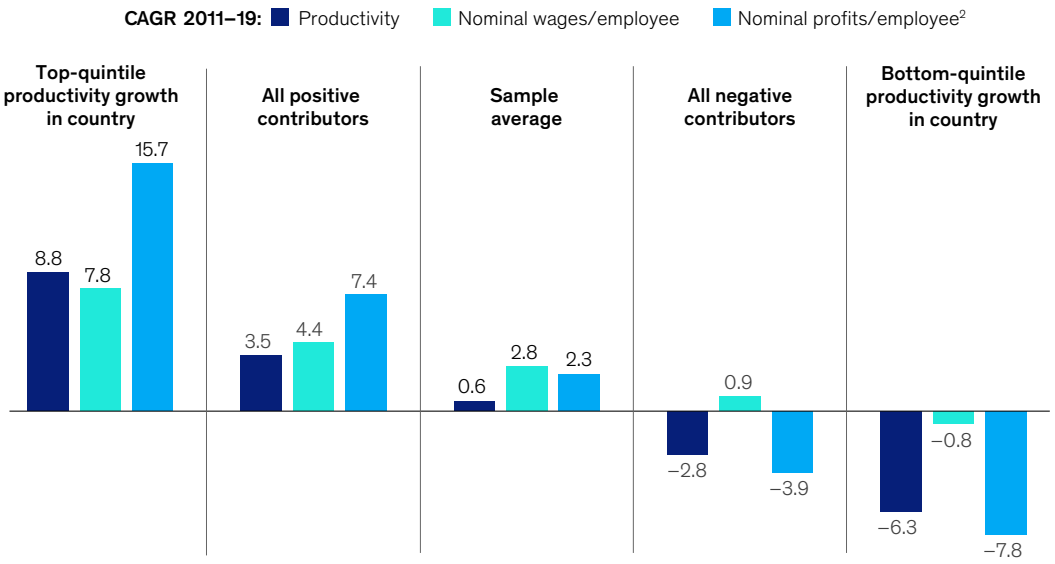
— For long-term success, firms need to serve customers, pay workers, and reward shareholders well, and productivity growth is one of the only ways to achieve that in combination. Indeed, this research shows that firms with the highest productivity growth can not only afford—and award—the fastest wage growth *and* have the largest profits upside (Exhibit 6).[23] Sectors with the fastest productivity growth also generate the highest consumer surplus.

— Economic growth is a key ingredient in business expansion and success, This research shows that just a handful of Standouts can *create* that growth rather than just react to it.

Exhibit 6

Firms with the highest productivity growth also had the strongest wage and profit growth.

Productivity, nominal wages, and profits per employee, 2011–19, by type of firm in Germany and the UK only,[1] %, n = 5,500



[1]US firms not included in this analysis since personnel costs data for US companies is estimated based on sector-level average wages (manually adjusted for most relevant firms) due to lower disclosure requirements. Also excludes extreme cases—exits, entries, firms with higher than 100% CAGR, firms with lower than −100% CAGR, and negative starting points.
[2]Profit is measured as EBITDA per employee growth.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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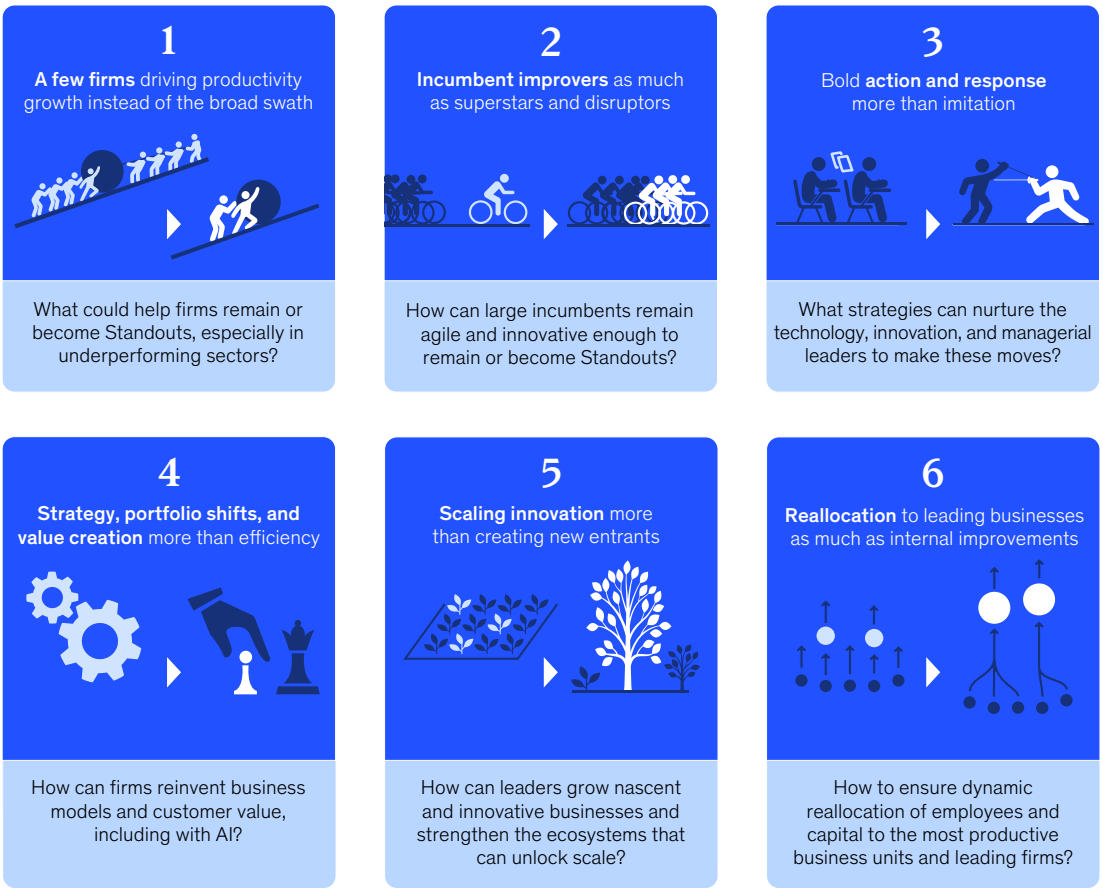
— Given long-term demographic shifts and today's tight labor markets, growing labor productivity is a strategic imperative. Doing so can create more value from a scarce workforce and enable the higher wages needed to attract the best talent, thus underpinning growth and gains in market share.[24]

Our findings prompt new ways of thinking on how to unlock productivity growth

Six shifts in the conventional wisdom on productivity growth emerge from our findings (Exhibit 7). Some of them challenge prevailing views—for example, the shift from seeing productivity generated through improvements within the broad swath of companies through the diffusion of practices to seeing productivity arising from the bursts of just a few firms. Others add renewed emphasis or nuance, such as the importance of dynamic reallocation mostly toward well-established leading firms as well as entries and exits.

Exhibit 7

Six shifts in thinking on productivity growth emerge.



Source: McKinsey Global Institute analysis

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Each of the shifts in thinking raises the following critical questions for business and policy leaders:

1. *A few firms driving productivity growth instead of the broad swath.* Policies designed to boost productivity growth have tended to focus on a mix of foundational enablers, rooted in the view that a wide range of firms gradually enhance productivity. They also tend to include specific policies supporting smaller firms in the adoption of better practices. But the significant role of Standouts may call for an asymmetric approach that matches the asymmetric contributions of firms.[25] In what sectors are there too few Standouts or too many Stragglers, and what can be done? What tailored approaches could help firms remain or become Standouts, and which barriers could be removed?
2. *Incumbent improvers as much as superstars and disruptors.* Our analysis suggests that there is a diversity of ways to become a Standout, and all are needed for national (or sector) productivity growth. The majority of Standouts are large incumbents achieving productivity gains over time (improvers) like Tesco and United Airlines. Only about 20 percent are scalers that lead from the front (these scalers could be most similar to superstars, which are often defined as firms with the greatest share of economic profit) like Amazon and Apple.[26] An

additional 10 percent of Standouts are smaller disruptors (which are still far larger than any MSME) like Zalando. How can large incumbents remain agile and innovative enough to remain or become Standouts?

3. *Bold action and response more than imitation.* Some imitation and diffusion of best practices from leaders to laggards occur, but the real engine of productivity growth is bold, idiosyncratic strategic moves to which competitors then respond. To better shape or respond to newly emerging technologies and business models, what can firms do, and what is the role of policy? What talent strategies and educational policies can nurture technology and innovation capabilities as well as managerial leaders who can make bold strategic moves?
4. *Strategy, portfolio shifts and value creation more than efficiency.* Operational efficiency matters, but firm-level productivity growth largely comes from strategic moves that unlock more productive business models and portfolios, customer value, or innovation at scale. How can firms reinvent business models and customer value as they seek productivity advances from new technology, including artificial intelligence? Where and how can M&A play a role?
5. *Scaling innovation more than creating new entrants.* Innovation by young companies that then grow fills the funnel of future Standouts, but it is Standouts scaling innovations that power productivity growth in the medium term. Businesses need to have the right strategy and deploy at scale. What is the right policy balance between preventing excessive market concentration and encouraging leading firms that can move the needle for their home economies? Could there be more proactive approaches to support innovative MSMEs or startups that could scale and contribute to growth while triggering consolidation of others? How can businesses strengthen the capabilities and ecosystems needed to deploy innovation at scale?
6. *Dynamic reallocation toward leading firms and business units as much as internal improvements.* Firms increasing their productivity level matters for growth, but an equally important channel is the exit of unproductive firms and moves of employees (and capital as well as customers) from less productive to more productive enterprises. Within firms, too, shifting resources to higher-value activities is key. Can business leaders rethink their governance to allow decisive resource reallocation? What policies can support dynamic shifts in jobs to the most productive firms and help less productive ones turn around or restructure?

By looking through a firm-level lens with detailed case studies on the perennial issue of productivity, new insights and fresh ways of thinking about productivity growth have emerged. We hope that this research helps to advance understanding of productivity growth and suggests ways forward—and, certainly, areas for further debate and research.


DEPARTURE INFORMATION

CHAPTER ONE

An 8,300-firm lens on productivity growth

This research measures growth in real value per worker or labor productivity, focusing on the actions and contributions of individual firms. For this firm-centered lens, we have constructed a lab economy. This chapter may be particularly helpful for business readers to understand how this productivity metric varies from profitability and efficiency, and for academic and policy readers to note the ways our sample is different from, but relevant to, national economic statistics.

Measuring labor productivity and firms' contributions to its growth

We define labor productivity at the firm level—as real value added per worker—in a way that is consistent with adding up to economy-wide productivity (and growth). Growing real value added per worker drives prosperity for economies and enables firms to thrive, especially when labor markets are tight. This is very different from the profitability and efficiency metrics on which executives commonly focus.

Firm-level labor productivity is real value added per worker rather than efficiency or profitability

Value added is the value of goods and services provided to customers minus what has been purchased from suppliers. At the firm level, this can be measured as revenue minus external cost or, equivalently—and used in this research—as EBITDA plus labor compensation.[27]

Real value added per worker, and its growth, differ from the way business leaders may think of productivity growth in the following three ways:

— First, it is a per-employee measure rather than representing the total value or profits of a firm.[28]

— Second, value added includes benefits accrued by all stakeholders (shareholders, customers, workers, creditors, and tax authorities). This is a very different metric from profitability or labor efficiency, such as, for instance, the number of vehicles produced by each worker in a factory. Raising production efficiency matters, but typically a much larger share of labor productivity growth stems from top-line growth, including shifts in the business portfolio mix (see the next section for more on the relationship of value added per worker to profitability and wages).

— Third, we measure the growth in value added per worker in real terms, adjusting nominal figures for changes in output and input prices at the sector level by using so-called double-sided deflators. These deflators account for both quality-adjusted price changes that firms in a particular subsector make vis-à-vis their customers and those they experience from their suppliers.[29] We use granular sector-level deflators, acknowledging that there are likely firm-specific price effects and input costs that we are unable to measure (please see more on double-sided deflators in the technical appendix).[30]

Let us illustrate the growth in real value per worker using the example of a very well-known firm: Apple. Apple's nominal EBITDA more than doubled in the 2011–19 snapshot period of our lab economy, while nominal personnel costs nearly tripled. However, after applying the double-sided deflator specific to the computer and electronics sector, real GVA increased by 12.3 percent per year. This outstripped annual growth in the employee headcount of 10.8 percent. Apple therefore achieved a productivity increase of 1.4 percent per year (Exhibit 8).

Exhibit 8

Illustration: Apple's growth in productivity per employee, 2011–19.

[1]EU KLEMS country sector deflator; double-sided deflator.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Growth in value added per worker typically comes with growth in wages and profits

Businesses often look at the return on invested capital (ROIC, or r in the formula below). Raising productivity or real value added per worker does link to growth in ROIC, but there are many other contributing factors. They include capital deepening (or equipping workers with more capital), raising their wages more strongly than prices, and increasing consumer surplus by producing higher-quality or lower-priced goods and services (this is reflected in the sector's double-sided deflator).[31] A simple formula ties them together:

$$P = d[k(r+s)+w]$$

Where P = productivity or value added per worker in real terms, d = deflator for price/quality adjustments, k = invested capital per worker, r = pretax return on invested capital, s = depreciation rate, and w = average wage.

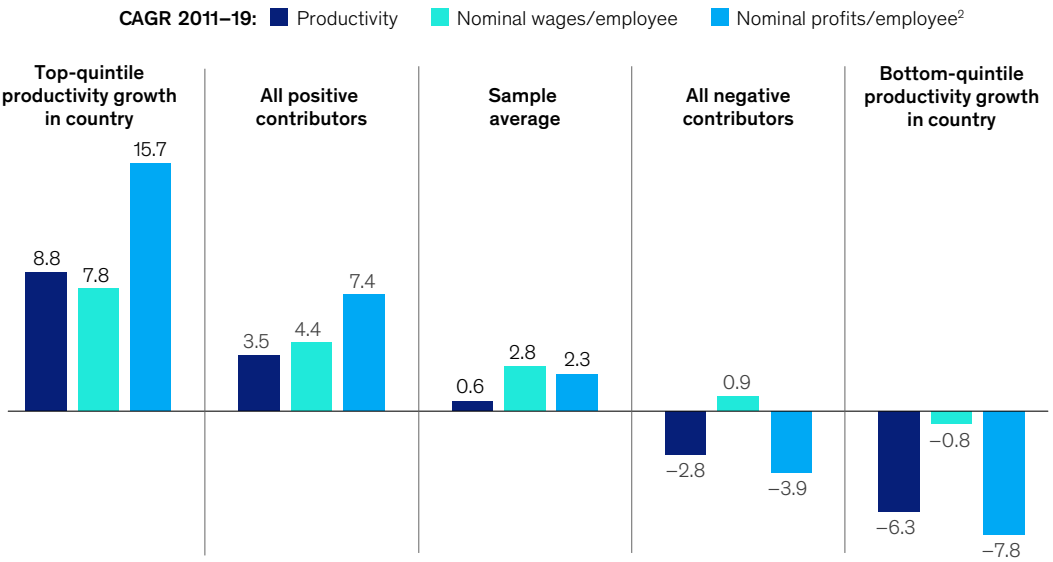
At an aggregate level, it has long been acknowledged that a higher share of productivity growth tends to accrue to workers than to profits.[32] The labor share of income tends to be about two-thirds (with variations over time and among economies).[33] Our sample shows that firms with the

highest productivity growth consistently increased wages more than their peers. In fact, this relationship was stronger than the link between productivity growth and profits per employee, because profits swing more quickly and widely, while wages tend to be sticky (Exhibit 9).[34]

Exhibit 9

Firms with the highest productivity growth also had the strongest wage and profit growth.

Productivity, nominal wages, and profits per employee, 2011–19, by type of firm in Germany and the UK only,[1] %, n = 5,500



[1]US firms not included in this analysis since personnel costs data for US companies are estimated based on sector-level average wages (manually adjusted for most relevant firms) due to lower disclosure requirements. Also excludes extreme cases—exits, entries, firms with higher than 100% CAGR, firms with lower than -100% CAGR, and negative starting points.
[2]Profit is measured as EBITDA per employee growth.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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The reallocation of workers across firms is a key component in productivity growth

Productivity growth can come from firms creating more value per worker (the "firm productivity effect") but also from the most productive firms gaining market and employment share—or the least productive ones losing share or exiting (the "reallocation effect"). The latter occurs through the movement of employees across firms.

The firm productivity effect includes all gains that individual firms make to the value they generate per worker. These result from, for instance, innovating or making operational improvements, but also from major shifts in strategy to capture new markets and increase customer value.

The reallocation effect measures the impact of more productive firms gaining market share and employment relative to less productive ones. Some of the latter even go out of business, releasing workers to be redeployed more productively.

A single firm can contribute through both effects. For detail on how we calculate this effect, see sidebar "Illustrative productivity contribution calculation" and the technical appendix).[35]

SIDEBAR

Illustrative productivity contribution calculation

Let us illustrate a firm's contribution to sector- and economy-level productivity growth using Apple as an example. In Exhibit 10 in the previous section, we illustrated the company's growth in productivity per employee of 1.4 percent per year. Now, let us understand how this 1.4 percent increase (in absolute terms, about $70,000) leads to a contribution of 43 basis points (exhibit).

Apple's total productivity contribution is calculated by summing its firm productivity effect and reallocation effect. For the firm productivity effect, we multiply:

(A) How much the firm improved its own productivity level from 2011 to 2019 (for Apple, by $69,800 per employee in constant 2019 prices) with

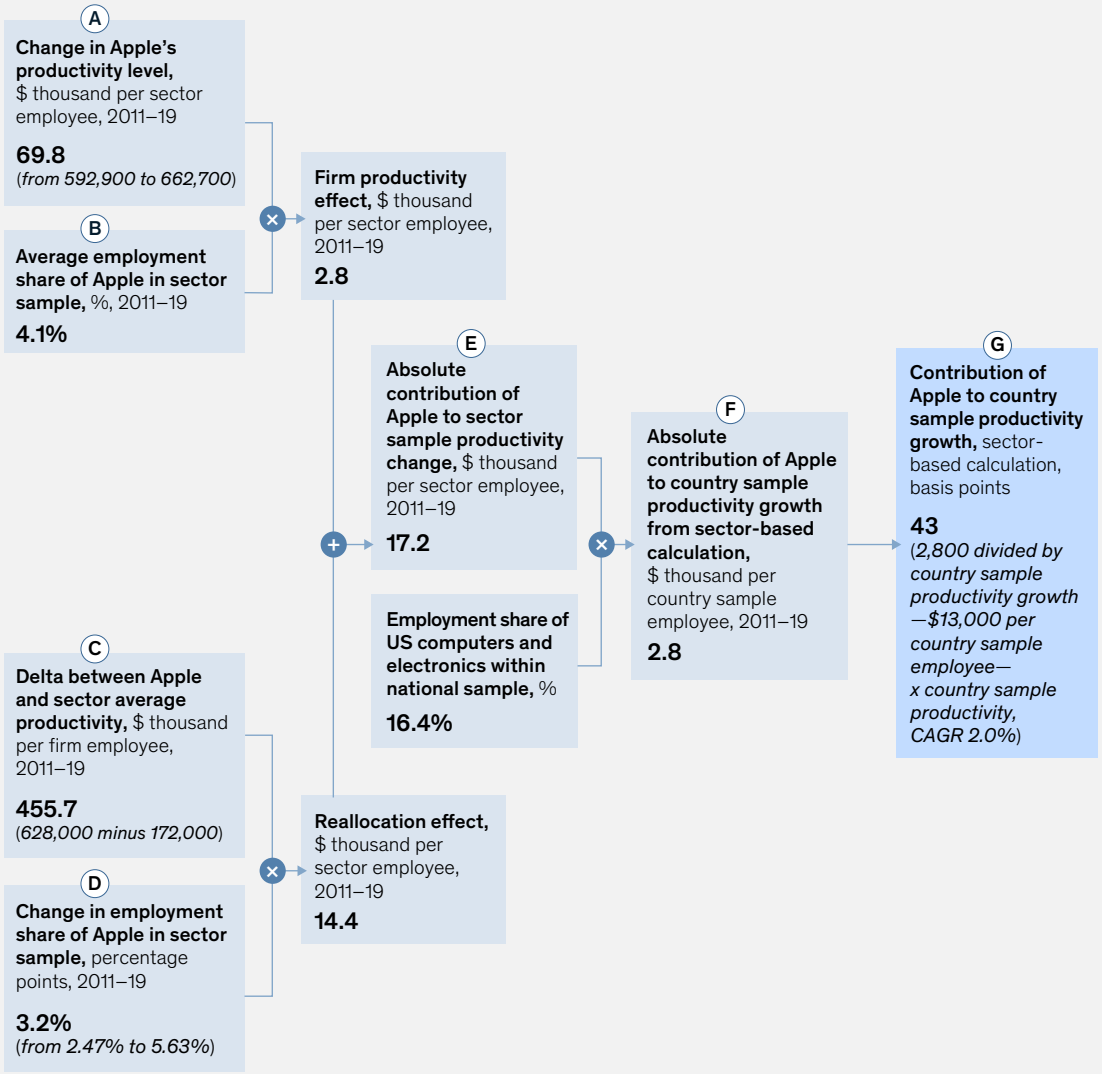
(B) How large the firm is relative to the sector, measured by its average employment share across 2011 and 2019 (for Apple, 4.1 percent of employment).

For the reallocation effect, we multiply:

(C) How much more productive the firm is relative to its sector, on average over the period (for Apple, it was $456,000 per employee more productive on average between 2011 and 2019, in

Exhibit

Illustration: Apple's contribution to country sample productivity growth.



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Illustrative productivity contribution calculation (continued)

constant 2019 prices, than the average firm in the US computer and electronics sector sample) with

(D) How much the firm grew its employment share (for Apple, by 3.2 percentage points).

Several more steps are needed to compute the productivity impact of a firm at the level of the entire sample in a country:

(E) Sector contribution—adding the productivity and reallocation effects gives us the total contribution of Apple to productivity growth in its sector sample, which is $17,200 per employee in computers and electronics.

(F) Country contribution—weighting by the employment share of the sector in the country yields a $2,800 contribution to productivity growth across the country sample; for Apple, the computer and electronics sector made up 16.4 percent of US sample employment share on average between 2011 and 2019.

(G) Annual growth rate contributions—annualizing this contribution into compound annual growth rate terms, Apple contributed 43 basis points of the 2.0 percent annual growth rate of the US sample.

The 2011–19 period is undistorted by the global financial crisis or the pandemic, and displays patterns that may hold over time

This research does not provide an up-to-date benchmarking of the performance of countries, sectors, or firms, but it attempts to find patterns that may stand the test of time. We chose a discrete snapshot in time from 2011 to 2019, a reasonably stable period between the 2008 financial crisis and the COVID-19 pandemic.[36] The choice of period matters. In this period, aggregate productivity growth in Europe and the United States was exceptionally slow due to a collapse in investment following the global financial crisis, together with the end of an offshoring wave and a normalization in productivity growth of the computer and electronics sector following exceptionally rapid previous advances that were linked to Moore's law.[37]

When we tested our 2011–19 findings for a smaller sample in a more recent period, from 2019 to 2023, we found that the cast of characters changes but the plot lines are remarkably similar. The broad patterns identified in this report appear to continue to hold true.[38]

Building a sample of 8,300 large firms as a representative 'lab economy'

Our sample comprises about 8,300 large domestic and multinational firms headquartered in Germany, the United Kingdom, and the United States operating in four sectors and their 12 subsectors. These sectors are a good mix of different types and dynamics, and cover 10 to 15 percent of total private GVA in the three countries:

— *Retail* including apparel, grocers and nonspecialized retailers, and other retail

— *Automotive and aerospace* including automotive manufacturing, aerospace manufacturing, and other transportation manufacturing

— *Travel and logistics* including travel, logistics, and postal

— *Computers and electronics* including computer, semiconductor, and electronic equipment manufacturing

Our sample covers the bulk of the productivity growth generated in these sectors and is relevant for national economies. We chose to look at our sample firms; we opted not to segment domestic operations or add the long tail of MSMEs.

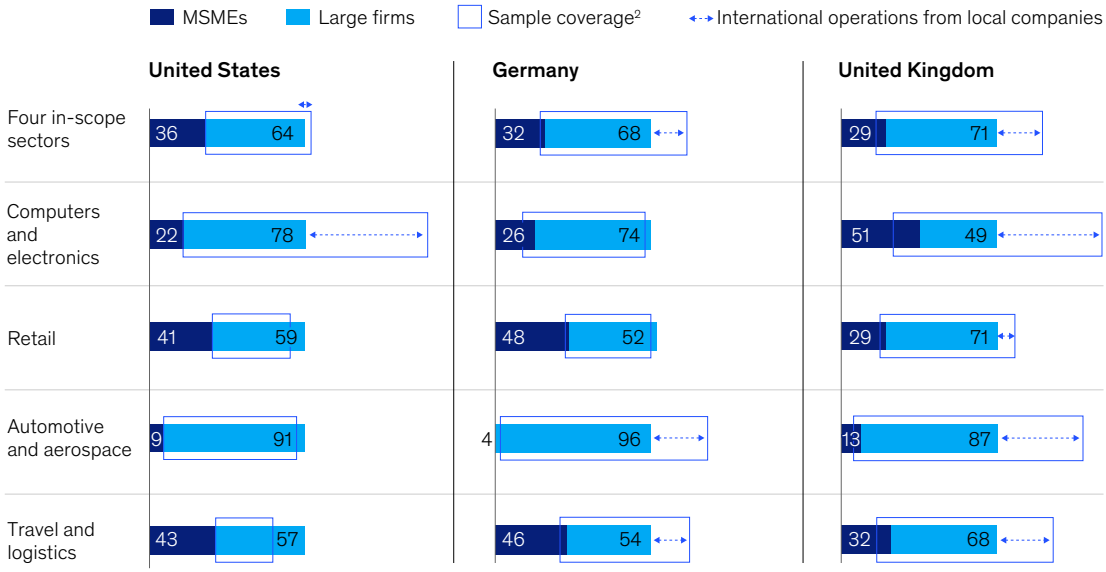
The sample covers the two-thirds of value generated by large firms that are the source of the bulk of productivity growth

Our sample firms are representative of more than their fair share of productivity growth of the sectors in their respective countries. In the national statistics for the sectors in our scope, large firms accounted for two-thirds of total GVA. Our sample covers the bulk of that value plus additional international exposure, but not that of MSMEs and startups (Exhibit 10). Large firms accounted for at least 70 percent of productivity growth. At the country level, they generated 70 percent of US and UK productivity growth (positive in the United States, negative in the United Kingdom), and nearly 100 percent in Germany. In most sectors, MSMEs usually accounted for higher shares of the productivity drag—with exceptions.[39]

Exhibit 10

Sample firms account for more than two-thirds of the value added in national statistics; their international exposure adds more.

GVA shares by firm size,[1] %, 2019



[1]GVA shares by firm size calculated using revenue as proxy for the US and nominal GVA as proxy for Germany and the UK due to data split by sector and firm size constraints. When using revenue for Germany to test for consistency, shares by firm size were held similar. For the US, the cutoff for large companies is 500 or more employees; for Germany and the UK, it is 250 or more employees.
[2]Might amount to more than 100% since our sample considers international operations of local companies.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; Capital IQ; US Census Bureau, OECD, EU KLEMS, McKinsey Global Institute analysis

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MSMEs have a crucial role in productivity growth. A few of them, together with startups, will become the large firms of the future and fill the funnel of future Standouts. Previous research has found that these enterprises have a more dramatic "up or out" dynamic than large firms; although exits are more likely, surviving firms can often grow faster than mature ones.[40] Research in the United States, for example, shows that most startups either exit or fail to achieve growth, but those that survive become high-growth firms. They contribute disproportionately to job creation, productivity, and experimentation that then becomes productivity-enhancing innovation by large, well-established firms.[41]

However, national statistics show that MSMEs' average contribution to aggregate productivity growth is not as significant as that of large firms. This holds true for productivity levels. In the sectors we cover in the United States, the productivity level of large firms was 40 percent higher than that of their MSME counterparts. Previous MGI research found that large firms also often act as anchors for broader ecosystems in which MSMEs thrive, helping them to close productivity gaps.[42]

The sample includes firms' global footprints

Large, multinational corporations are increasingly important to local and global economies, and we chose to look at their entire operations rather than segmenting domestic operations.[43] For this reason, the coverage of some sectors' GVA can exceed 100 percent. In the US computer and electronics sector, for example, large companies account for about 80 percent of GVA, but our sample includes the global footprints of those large companies, which almost doubles domestic sector GVA.

Our sample includes many multinational firms. Indeed, we estimate that, in aggregate, 10 to 30 percent of sample revenue is likely to be international.[44] Shares of international value added are likely to be significantly lower than these foreign revenue shares, because many of the highest-value activities tend to happen near firm headquarters.

Standouts and Stragglers had a greater share of international revenue than other firms in the sample but still retained much of the value added in terms of both high-value employment and profits domestically. For example, about 50 percent of Apple's revenue came from foreign activities in 2019, but almost 70 percent of its direct employees were based in the United States. In our snapshot period, Apple doubled the number of US employees, contributing to US domestic productivity growth.[45]

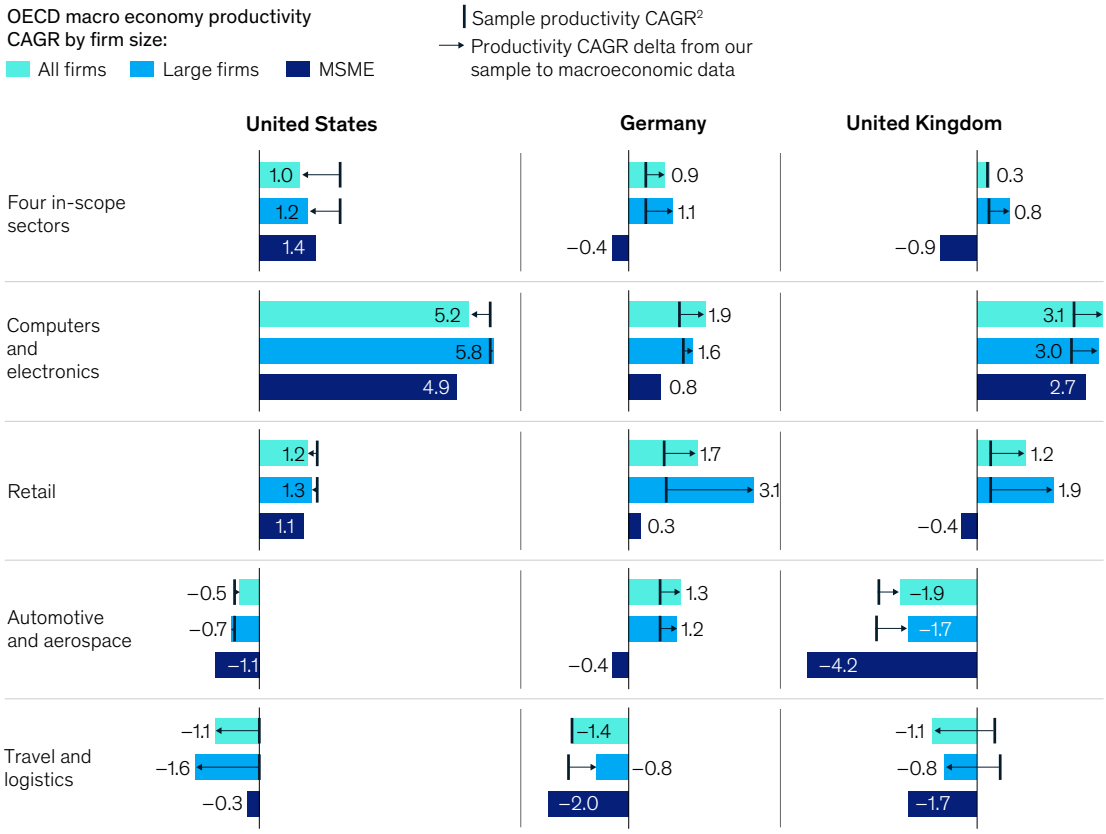
Sample productivity growth maps relatively well to that of national economies

The productivity growth of our sample matches that of national economies relatively closely despite different parameters (Exhibit 11).[46] Exceptions include the German and UK retail sectors, where MSMEs have relatively higher shares of value added and there are missing global effects.[47]

Exhibit 11

Productivity growth in our sample was in line with macroeconomic data of large and total firms for some sectors in our scope.

Productivity growth,[1] CAGR, %, 2011–19



[1]GVA shares by firm size calculated using revenue as proxy for the US and nominal GVA as proxy for Germany and the UK due to data split by sector and firm size constraints. When using revenue for Germany to test for consistency, shares by firm size were held similar. For the US, the cutoff for large companies is set at having 500 or more employees; for Germany and the UK, it is set as having 250 or more employees. Note that productivity growth rates calculated for the four in-scope sectors in this analysis may differ from the ones calculated using a bottom-up firm by firm approach. This is because our bottom-up approach accounts for contribution to productivity growth does not account for reallocation impact of the movement of workers across sectors.
[2]Does not include delta to MSME macro economy productivity CAGR due to low MSME representativeness in sample.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; Capital IQ; US Census Bureau; OECD; EU KLEMS; McKinsey Global Institute analysis

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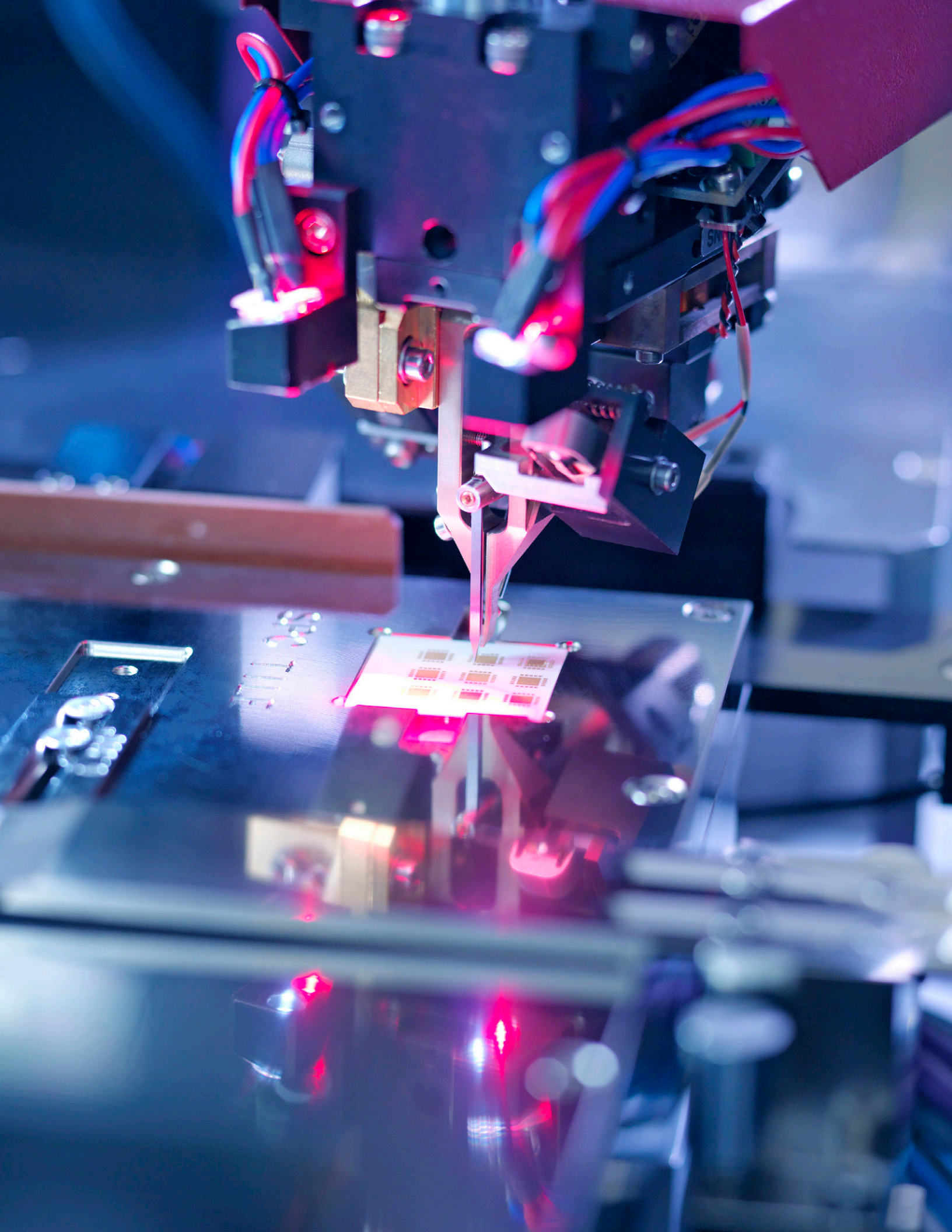
In order to understand how productivity growth is generated, our analysis focuses on firms, the vital creators and conduits of productivity performance. In the next chapter, we look at our main findings, which we believe are relevant for broader economies in whatever period is considered.



CHAPTER TWO

Advancing productivity one firm at a time

Just a handful of firms in our sample accounted for the lion's share of productivity growth both by enhancing productivity within their organizations and by reallocating employees from the less to the more productive. These Standouts can have a substantial impact on the productivity growth of entire sectors and economies.

A few firms shape the majority of productivity growth

Productivity contributions—both positive and negative—are highly skewed.[48] A small number of firms in our sample were responsible for the productivity growth (and drag on that growth) of entire countries. About 1 percent of our sample, or 87 productivity Standouts, added more than one basis point each to productivity growth in their country's sample.[49] These Standouts together employed 25 to 30 percent of the workforce but accounted for 45 to 80 percent of positive productivity growth, depending on the country (Exhibit 12).

— In the United States, 44 firms or 5 percent of the sample accounted for almost 80 percent of positive sample productivity growth and about 25 percent of sample employment (Exhibit 13).

— In Germany, 13 firms, or less than 1 percent of the sample, accounted for 65 percent of positive productivity growth and for only 20 percent of sample employment (Exhibit 14).

— In the United Kingdom, 30 firms—again less than 1 percent of sample firms—accounted for 45 percent of positive productivity growth and for about 30 percent of sample employment (Exhibit 15).

At the opposite end of the spectrum, a handful of Stragglers (making negative contributions of at least one basis point to the productivity growth of their national samples in 2011–19) accounted for the majority of negative productivity growth.

— In the United States, 14 firms or about 2 percent of the sample accounted for nearly 60 percent of productivity drag and only 10 percent of national sample employment.

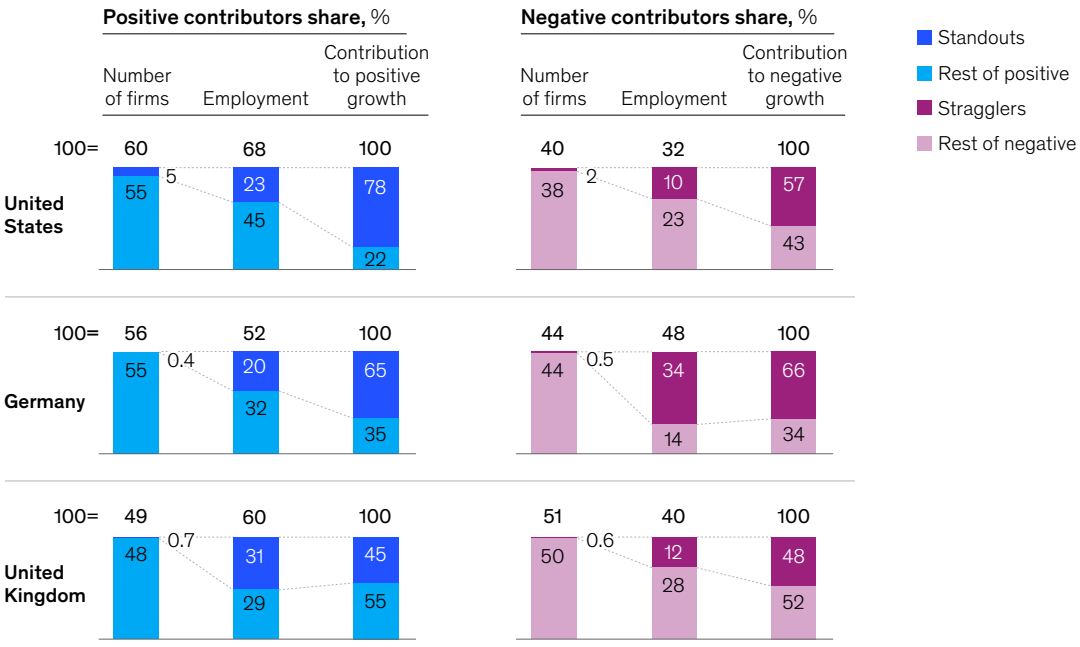
— In Germany, 16 firms or less than 1 percent of the sample accounted for more than 65 percent of productivity reduction in the sample and nearly 35 percent of national sample employment.

— In the United Kingdom, 25 firms—again, less than 1 percent of the sample—accounted for almost 50 percent of the productivity reduction and just over 10 percent of national sample employment.

Exhibit 12

A handful of firms—the Standouts and Stragglers—accounted for two-thirds of our sample's productivity growth and degrowth.

Firm count, employment share, and growth contribution, % of total



Note: Figures may not sum to 100%, because of rounding. From a sample of ~8,300 firms (~900 US firms, ~3,000 German firms, and ~4,400 UK firms).
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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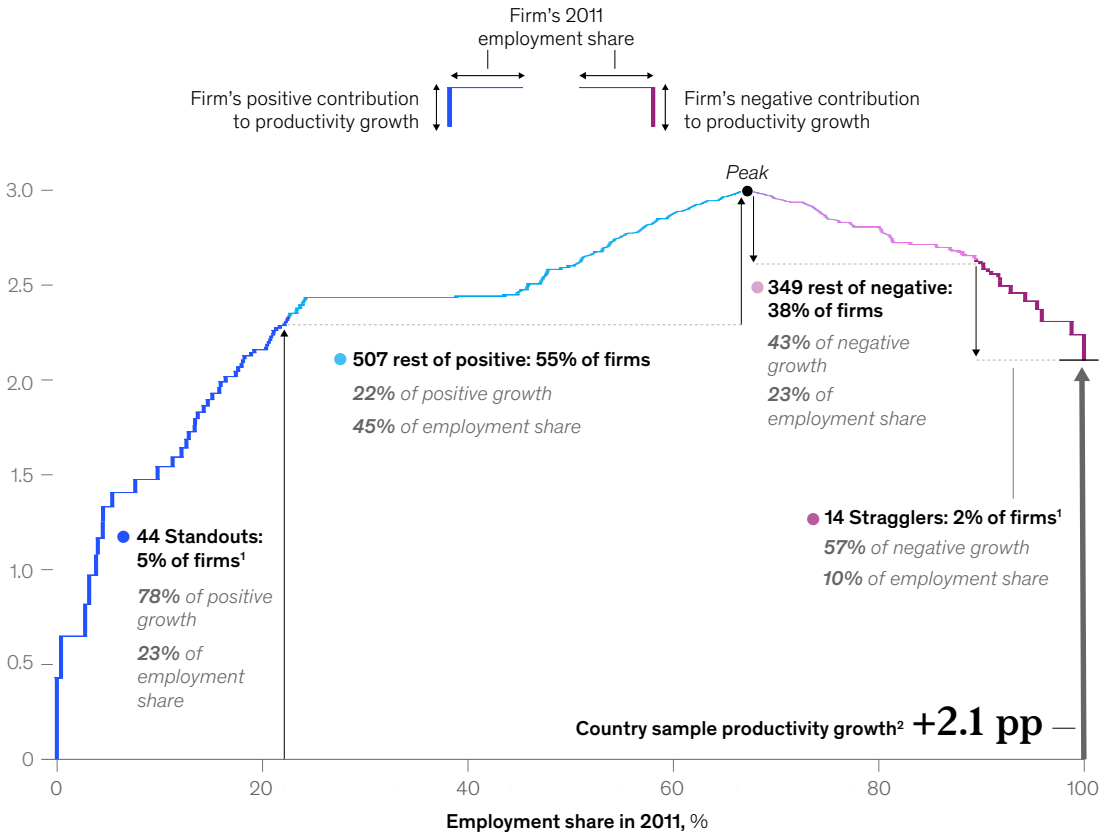
Exhibit 13

In the United States, 44 firms (5 percent) accounted for nearly 80 percent of the sample's positive productivity growth.

Firm contribution to US sample productivity growth, 2011–19, pp



Note: US country sample of ~900 firms 2011–19 (productivity growth snapshot not representative of years before and after).
[1]Positive and negative contributors are firms that add +/- bps to country sample productivity growth.
[2]Sum of firms' contributions to country sample productivity growth, in a sector.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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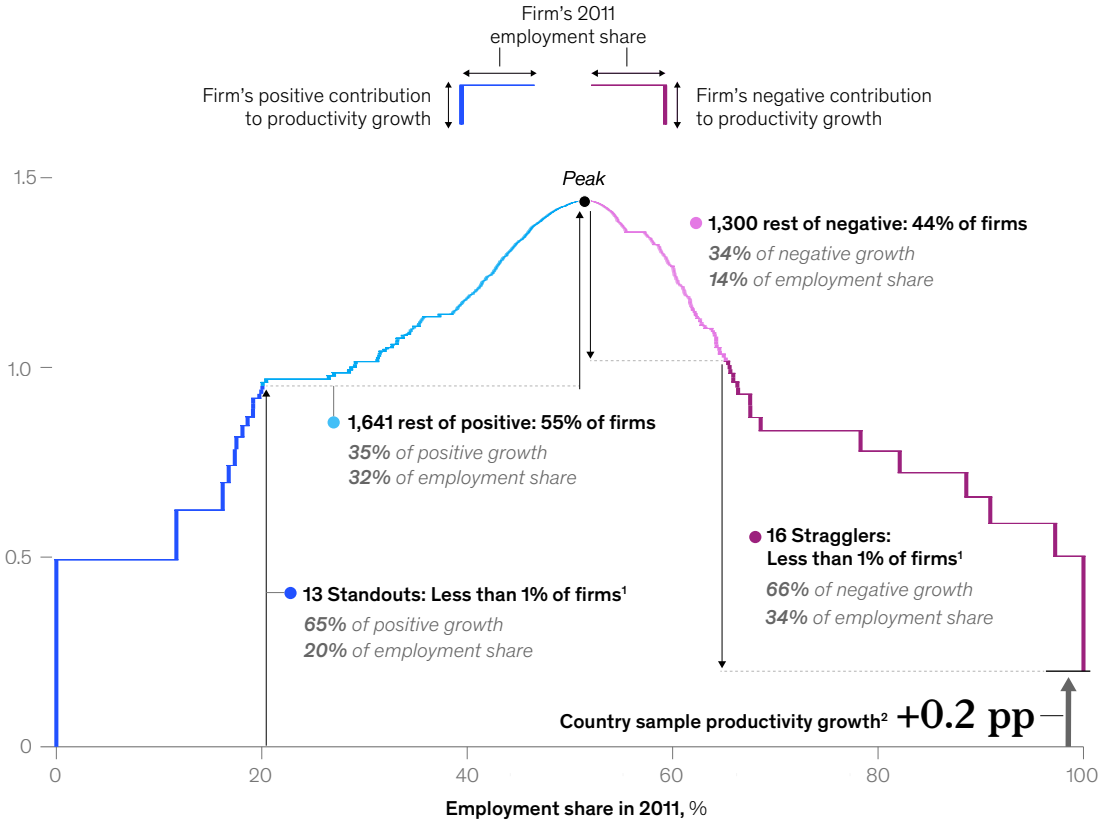
Exhibit 14

In Germany, 13 firms (<1 percent) accounted for 65 percent of the sample's positive productivity growth.

Firm contribution to German sample productivity growth, 2011–19, pp



Note: Germany country sample of ~3,000 firms 2011–19 (productivity growth snapshot not representative of years before and after).
[1]Positive and negative contributors are firms that add +/- basis points to country sample productivity growth.
[2]Sum of firms' contributions to country sample productivity growth, in a sector.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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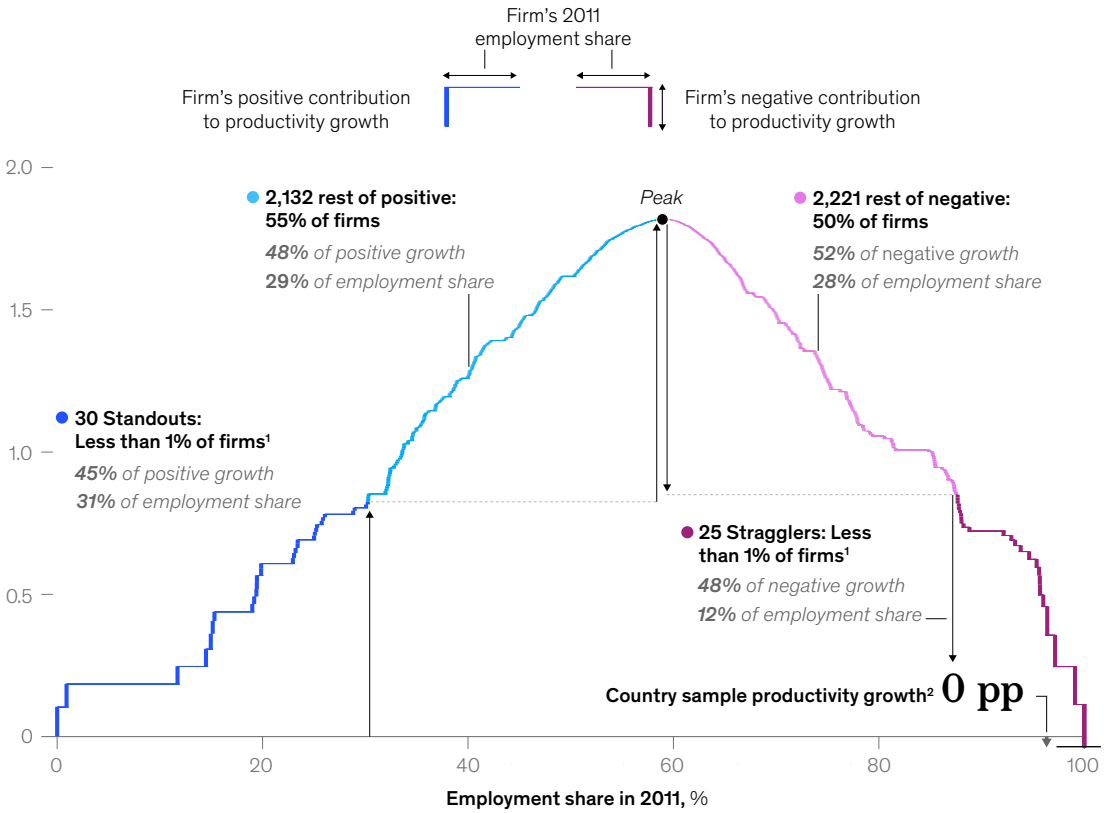
Exhibit 15

In the United Kingdom, 30 firms (<1 percent) accounted for 45 percent of the sample's positive productivity growth.

Firm contribution to UK sample productivity growth, 2011–19, pp



Note: UK country sample of ~4,400 firms 2011–19 (productivity growth snapshot not representative of years before and after).
[1]Positive and negative contributors are firms that add +/- basis points to country sample productivity growth.
[2]Sum of firms' contributions to country sample productivity growth, in a sector.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Fast productivity growth comes from more powerful Standouts and less influence from Stragglers

High productivity growth comes with more powerful Standouts and limited influence of Stragglers across countries, sectors, and subsectors.

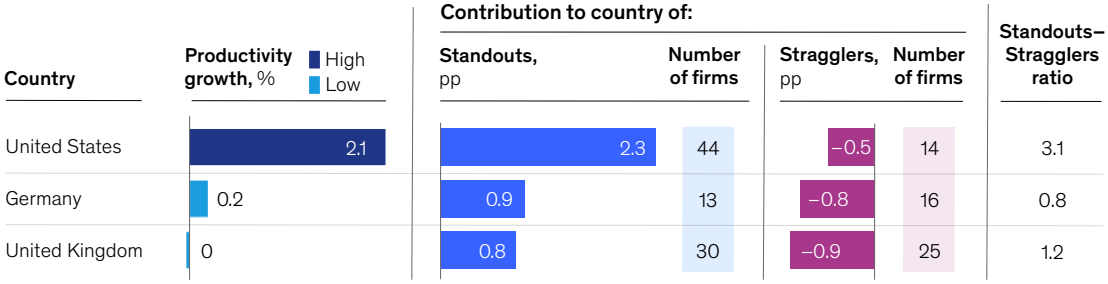
The United States sample led on productivity, with more Standouts and fewer Stragglers

From 2011 to 2019, the United States achieved annual productivity growth of 2.1 percent, which significantly outpaced Germany's 0.2 percent and the United Kingdom's near-zero growth. A key differentiator was the Standout-to-Straggler ratio. In the United States, Standouts outnumbered Stragglers by a factor of three, 44 to 14. By contrast, Germany had 13 to 16 and the United Kingdom 30 to 25—a near-even balance. Only in Germany did Stragglers outnumber Standouts (Exhibit 16).

Exhibit 16

The United States generated more Standouts and fewer Stragglers than Germany and the United Kingdom.

Country productivity growth and contribution by Standouts and Stragglers



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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However, it was not only the relative numbers that mattered, but also their collective contribution. The contributions of UK Standouts were markedly weak, averaging just 2.8 basis points to productivity growth, compared with 5.3 basis points in the United States and 7.2 basis points in Germany. Meanwhile, German Stragglers imposed a particularly heavy drag, reducing growth by 5.1 basis points. This was far greater than the reduction of 3.7 basis points in the United States and 3.6 basis points in the United Kingdom.

Much of the US productivity growth advantage came from the computer and electronics sector. Of the 44 Standouts identified in the United States, 29 were in this sector. Between 2011 and 2019, computers and electronics accounted for just over 15 percent of sample employment but more than 70 percent of sample productivity growth. By comparison, the German sample had only four Standouts in computers and electronics out of a total of 13, and the United Kingdom just seven out of 30.

Fast sector and subsector growth also hinges on more Standouts and fewer Stragglers

Sector and subsector productivity growth shows a similar dynamic. We classify sectors as high growth if they achieved an annual productivity growth rate of 2 percent or more.[50] At the most granular subsector level, this relationship remains evident—high-growth sectors have more Standouts, and these Standouts make larger contributions (Exhibit 17). This feature is the one common element in fast-growing sectors and subsectors; in our exploration of what drives rapid productivity growth, we otherwise found a high degree of heterogeneity, as we discuss in chapter 4.

Exhibit 17

High-growth sectors have more Standouts making bigger contributions—low-growth ones have more Stragglers dragging harder.

Subsector productivity growth and contribution by Standouts and Stragglers, 2011–19

Country	Subsector	Productivity growth, % (High / Low / Negative)	Contribution to subsector of: Standouts, pp	Number of firms	Stragglers, pp	Number of firms	Standout–Straggler ratio
US	Computers	8	8.1	5	–0.1	1	5.0
US	Semiconductors	5	4.0	10	–0.3	1	10.0
US	Electronic equipment	5	3.8	14	0	0	n/a
Germany	Aerospace	4	4.4	2	–0.5	1	2.0
Germany	Computers	3	0	0	0	0	n/a
UK	Semiconductors	3	2.6	3	–0.9	2	1.5
US	Travel	2	1.8	4	0	0	n/a
UK	Computers	2	0	0	0	0	n/a
UK	Electronic equipment	2	1.7	4	0	0	n/a
US	Grocers and nonspec[1]	2	1.5	4	0	0	n/a
US	Other retail	1	1.6	2	–0.5	2	1.0
Germany	Grocers and nonspec	1	1.3	2	–0.2	1	2.0
Germany	Electronic equipment	1	1.1	2	–0.5	1	2.0
Germany	Semiconductors	1	1.5	2	–0.7	2	1.0
UK	Travel	1	1.5	9	–0.5	2	4.5
UK	Grocers and nonspec	1	0.8	7	0	1	7.0
Germany	Automotive	1	1.1	2	–0.5	4	0.5
Germany	Apparel	0	1.0	1	–0.6	1	1.0
US	Apparel	0	0	0	0	0	n/a
Germany	Logistics	0	0.6	1	–0.3	2	0.5
UK	Apparel	0	0.1	1	–0.5	3	0.3
US	Automotive	0	0.9	4	–0.7	4	1.0
UK	Other retail	0	0.4	2	–0.8	2	1.0
Germany	Postal	0	0	0	–0.6	1	0.0
US	Logistics	–1	0	0	–1.0	1	0.0
US	Other transportation mfg	–1	0	0	0	0	n/a
UK	Postal	–1	0.2	1	0	0	n/a
US	Aerospace	–1	0.6	1	–2.3	3	0.3
UK	Logistics	–2	–0.1	1	–1.1	5	0.2
US	Postal	–2	0	0	–1.1	2	0.0
Germany	Other transportation mfg	–2	0	0	0	0	n/a
UK	Aerospace	–2	0.5	1	–2.7	3	0.3
UK	Automotive	–2	0.2	1	–2.2	5	0.2
Germany	Other retail	–2	0	0	–1.7	1	0.0
Germany	Travel	–3		1	–2.3	2	0.5
UK	Other trans mfg	–5	0	0	–4.2	2	0.0

Note: UK logistics is an edge case of Standout that contributes positively to sector but negatively to subsector, which is possible since Standouts are identified by sector-based contribution calculations. In this case, the firm gains employment share relative to sector sample but loses share relative to subsector sample, which turns its employment effect negative. See technical appendix for more detail on cases like this.
[1]Grocers and nonspecialized retailers.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; McKinsey Global Institute analysis

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Standouts shape sectors, and sector dynamics can provide fertile ground for Standouts to emerge

Do thriving sectors give rise to Standouts, or do Standouts forge the conditions for their success? While our research does not settle this debate, one thing is clear: firms—Standouts, Stragglers, and others—do not operate in a vacuum. They are shaped by both sector dynamics and the broader economic environment.

Academic research outlines the importance of external drivers for differences in aggregate sector productivity, including pressures from threatened or actual competitors, trade competition, and effective regulation.[51] In our sample, some subsectors had the market dynamics, technology, regulation, and competitive setting that provided fertile ground for Standouts to emerge and to drive value creation. Others were relative deserts, which did not encourage Standouts to grow and tended to produce more Stragglers.[52]

— *Fertile ground: Dynamic sectors with rapid innovation and improved customer value.* Sectors such as computers and electronics have tended to be conducive to Standouts. Firms in this sector achieved quick productivity growth by creating or significantly augmenting customer value, as was the case with Nvidia, or were able to grow share in a rapidly growing market, Apple being an example. Some of these Standouts also acted as anchors that lifted the performance of partners and suppliers in a vibrant corporate ecosystem.[53] Sectors characterized by these high levels of innovation and dynamism tended to have few Stragglers. Widespread innovation and market growth lift many boats.

— *Relative deserts: Static sectors with less innovation.* In some sectors, the balance between Standouts and Stragglers tended to be more equal, and strategies focusing on operational efficiency, consolidation, or portfolio reallocation were more common than new value creation. In the automotive sector, for instance, some players increased productivity by restructuring, General Motors being an example. Others, like Ford Germany, focused on raising efficiency. In postal services, several Standouts mostly improved efficiency or were restructurers. In addition, many Stragglers added volume in parcel delivery but not productivity. But these relative deserts did not determine the destiny of firms. In travel, for instance, which had below-average productivity growth in our snapshot period, many Standouts emerged. Examples include airlines that created scale economies through consolidation, and low-cost carriers that opened up new high-growth pockets. Deserts can become fertile ground, and vice versa.

Thousands of firms that are neither Standouts nor Stragglers matter collectively, too

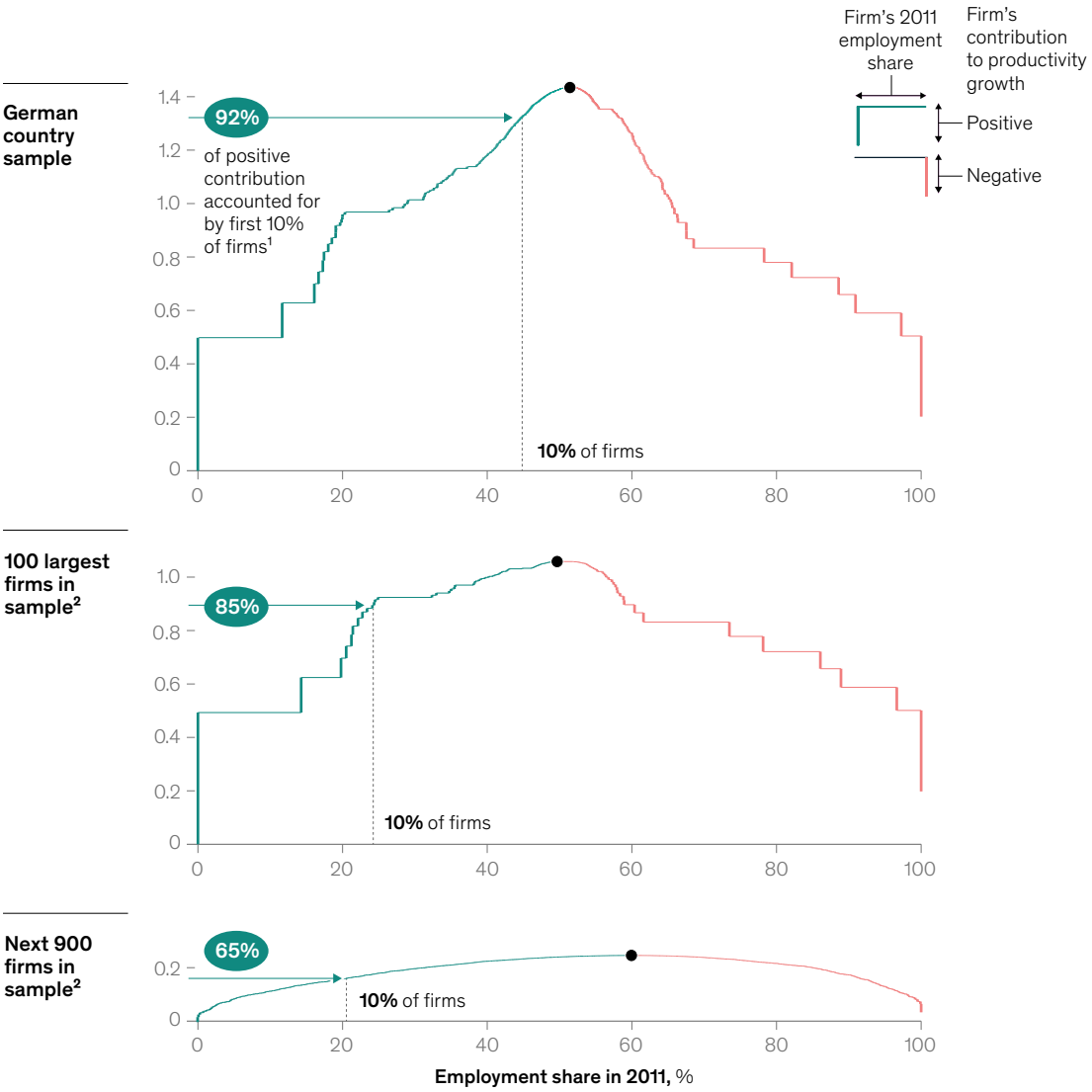
Although a small number of firms in our sample in the period analyzed made an outsize contribution to productivity growth (positive and negative), the majority of firms played an important role in their economies. Non-Standout positive contributors together can account for more than one-third of positive productivity growth.[54] More than 70 percent of other positive contributors increased productivity faster than the sector average. In fact, 20 percent of them increased productivity 1.5 times faster than the sector average while also increasing employment share.

But even when we looked at non-Standout positive contributors, there was a high skew. In each of the three economies, about 10 percent of firms accounted for 90 percent of sample productivity growth. This holds for firms and subsamples of different sizes. For instance, we split the country samples into cohorts by number of employees—the 100 largest firms by size and the next 900. Even then, 10 percent of firms accounted for 65 to 85 percent of the positive productivity contribution in each cohort (although the second cohort contributed less in aggregate) (Exhibit 18). Therefore, adding a long tail of smaller firms to our sample would not have changed aggregate growth or this pattern much. Even looking at the millions of firms in an economy, only hundreds would account for the majority of productivity growth.

Exhibit 18

Asymmetrical contributions are a scale-free phenomenon.

Firm contribution to German sample productivity growth, 2011–19, pp



Note: Productivity growth snapshot not representative of years before and after 2011–19.
[1]Shares calculated based on sample subset's total contribution and total sample size. In the German sample, the subset of 100 largest firms accounted for 72% of country sample's positive productivity growth, whereas the 900-firm subset accounted for only 17%.
[2]Sample subset considers only the 100 biggest firms in country sample based on 2011 employment shares in country sample. The subset with 900 firms includes the next 900 biggest firms based on the same metric.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Of the four types of Standouts, advancing large incumbents were the most common

There are four ways to become a Standout: grow productivity a little while being large (becoming an "improver") or a lot while being small ("disruptor"), change scale by growing employment share as a productivity leader ("scaler"), and cede employment share as a laggard ("restructurer").

Improvers—large firms with decent but not rapid productivity advances—were the most common (Exhibit 19).

— *More than a half of Standouts were improvers.* Improvers are firms in the top 10 percent by number of employees that contributed largely by raising their productivity levels. On average, these large incumbents increased productivity by 5 percent a year. In the United States, improvers accounted for 35 percent of sample productivity growth. They included computer and electronics companies, such as Danaher, and airlines, such as American, Delta, Southwest Airlines, and United. In Germany, improvers accounted for about 60 percent of sample productivity growth. They included logistics companies, such as Hapag-Lloyd, as well as manufacturers, such as MTU Aero Engines, and retailer REWE. In the United Kingdom, improvers accounted for about 30 percent of sample productivity growth. They included retailers, such as Tesco, and automotive and aerospace firms, such as Airbus and Nissan.

— *Ten percent of Standouts were disruptors.* Disruptors are small by number of employees, typically representing less than 1 percent of the employment share in their sector. Similar to improvers, they contributed mainly by increasing their productivity levels, but at such a rapid rate—15 percent per year on average—that they were able to become Standouts. In the United States, disruptors accounted for just over 5 percent of sample productivity growth. They included semiconductor companies such as Nvidia, which increased its EBITDA tenfold from 2011 to 2019. In the United Kingdom and Germany, disruptors accounted for 2 percent or less of sample productivity growth. They included, for example, the German retailer Zalando, which shaped the online apparel retail wave.

— *Just over 10 percent of Standouts were scalers.* Scalers contributed mostly by increasing employment share from a position of above-average productivity and were often in the top quintile of employment-weighted productivity. As employees moved into these highly productive firms, overall sector productivity grew. In the United States, scalers accounted for about 25 percent of sample productivity growth. They included Apple, which was already more productive in 2011 than other firms in the sector and doubled its employee headcount by 2019, as well as Amazon, Broadcom, and Qualcomm. In the United Kingdom, scalers accounted for about 5 percent of sample productivity growth. There were no scalers in Germany.

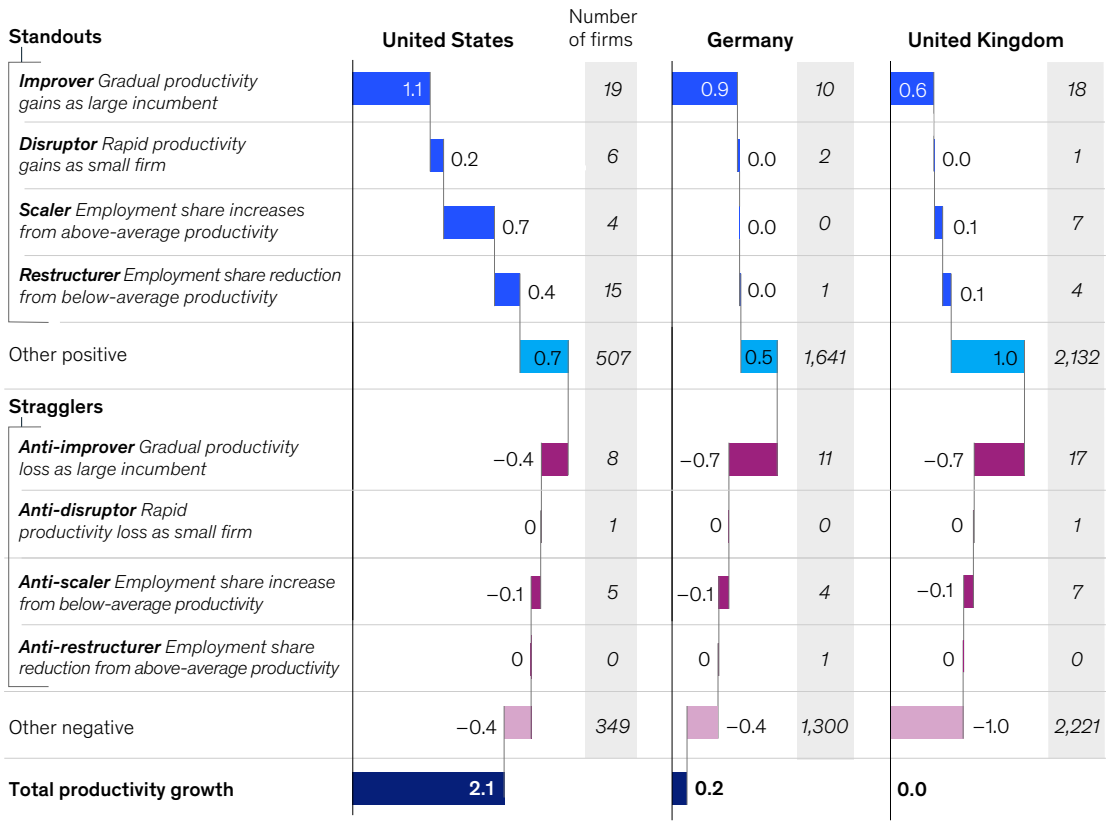
— *Just over 20 percent of Standouts were restructurers.* Restructurers also contributed by reallocating employees, but by lowering their employee headcount while having below-average productivity. In the US sample, restructurers accounted for just over 10 percent of sample productivity growth. One US restructurer was the retailer Sears, which exited the market. Some restructurers left the highly dynamic computer and electronics sector, and two companies reduced their employment share by decreasing their employee headcount. In the German and UK samples, restructurers accounted for about 5 percent or less of sample productivity growth, and that was largely by exiting the market.

Stragglers constitute the flip side of these types of Standouts. Two-thirds of them were large firms that decreased productivity per employee, or "anti-improvers." "Anti-scalers"—large firms increasing their employment share despite below-average productivity—accounted for 30 percent of Stragglers. Less than 5 percent of Stragglers were "anti-disruptors," which were small by number of employees but still reduced productivity per employee substantially. One Straggler was an "anti-restructurer," decreasing its employment share despite above-average productivity levels.

Exhibit 19

Incumbents improving productivity were the most common type of Standout.

Contribution to national sample productivity growth, 2011–19, pp



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Standouts are diverse—in some ways confirming expectations, but in others defying them

The four types of Standouts highlight the diversity of ways in which a firm may make a significant contribution to productivity growth. In some ways, the anatomy of Standouts confirms what readers might expect about what it takes to be a Standout, but in others, it may be surprising. Standouts (and Stragglers) were mostly large, but not the largest, and outperformed for their size.[55] In addition, Standouts generally had strong productivity levels and growth rates, but they were not in the top 5 percent on either. In fact, Standouts sometimes contributed from below-average positions as restructurers.

Standouts were mostly large, but most large firms were not Standouts

Standouts were predominantly large. In 2011, the average Standout had about 65,000 employees and the smallest just under 500. But most large firms are not Standouts, and some are even Stragglers.[56] By definition, size is a driver of a firm's contribution to an economy's productivity growth. Those in the top decile for employment in 2011 were eight times more likely than all firms to be Standouts (typically they were improvers), but they were also eight times more

likely to be Stragglers. Almost 20 percent of Standouts had less than 0.1 percent of employment share each in their national sample in 2011, but they achieved very rapid productivity growth.

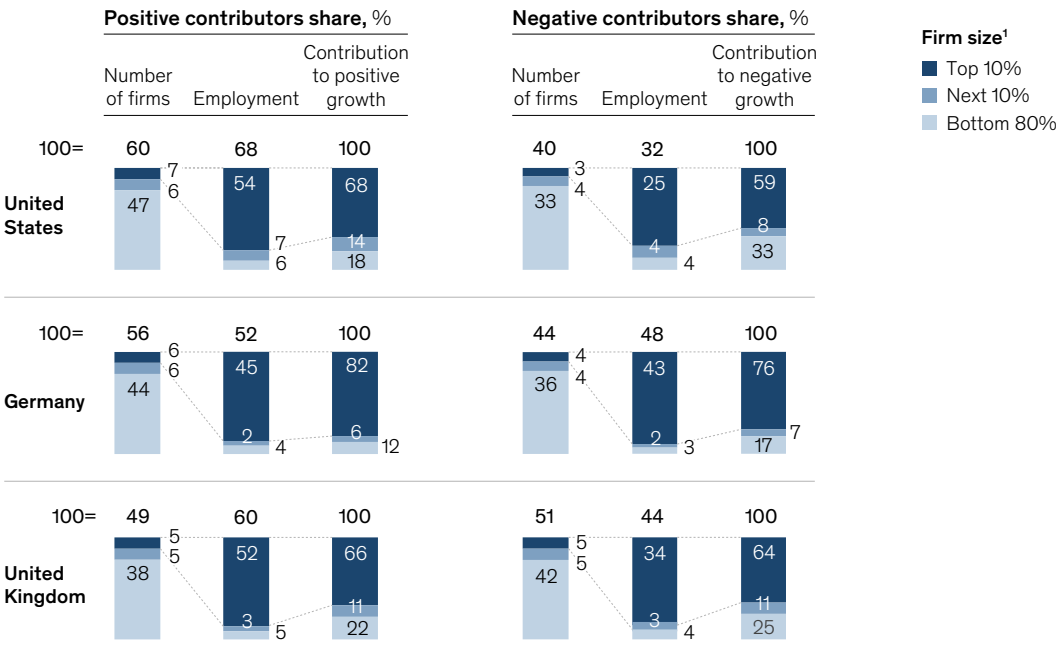
Standouts contributed disproportionately to productivity, while large firms did not. For comparison, in the United States, the top 10 percent of firms by size that made positive contributions had 54 percent of the employment share but accounted for only 68 percent of positive productivity growth, while the Standouts had 23 percent share of employment but accounted for 78 percent of positive growth (Exhibit 20).

In the United Kingdom, employment and productivity contributions from the largest firms were more similar, but, on average, Standouts still increased productivity levels by more than 6 percent per year in comparison with 4 percent per year for the rest of positive contributors. This apparent discrepancy reflects the fact that firms can both contribute to and drag productivity through employment reallocation.

Exhibit 20

The largest firms did not contribute disproportionately in relation to their employment share.

Firm count, employment share, and growth contribution, % of total



Note: Figures may not sum to 100%, because of rounding.
[1]Firm size percentile calculated using firms' 2011 employment share in country sample.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Standouts came from all parts of the productivity curve and were rarely in the top 5 percent
Although Standouts appear disproportionately in the top quintile of the productivity curve (the frontier), many of them were outside it. More than one-third of Standouts, many of them scalers, were frontier firms in 2011, but the same holds true for Stragglers—about 40 percent were frontier firms in 2011.[57]

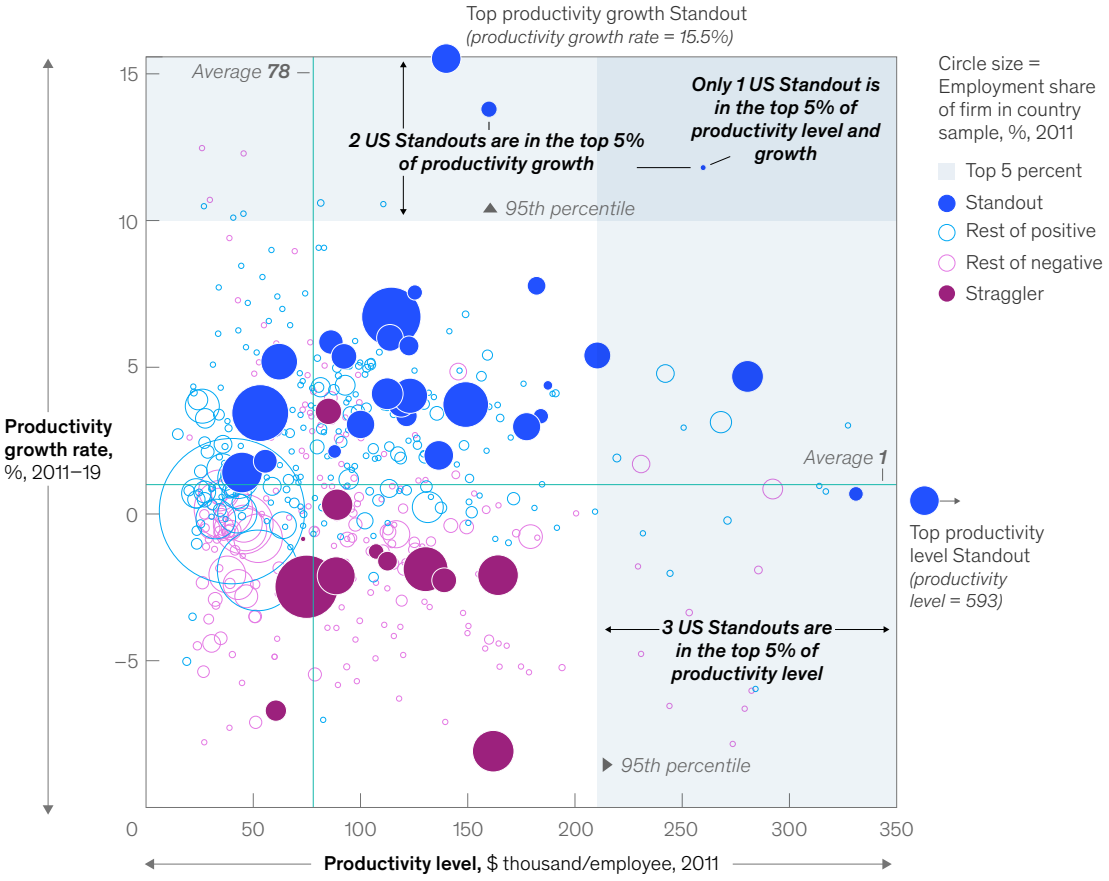
However, Standouts were rarely the most productive firms commonly studied in the dispersion literature.[58] Let's take the top 5 percent. In our US sample, for example, only three firms were in the top 5 percent in their sector in 2011 and were also Standouts. In the United Kingdom, only five firms in the top 5 percent were Standouts. Some firms in the top 5 percent were actually Stragglers (Exhibit 21).

The dispersion literature often attributes the dispersion of productivity levels to market friction that makes it difficult for laggards to catch up or for employment shares to shift to the most productive firms. We did not see this at the top end of the productivity curve in our sample.

Exhibit 21

Standouts were predominantly large and had notable productivity levels and growth—but rarely led on either.

Productivity growth rate and productivity level in US country sample



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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The most productive (the top 5 percent) tended to be relatively small businesses with very specific business models in hard-to-replicate niches. Examples include online game platforms and captive distributors in retail. Moreover, when we look at our Standouts, we see some considerable differences in productivity without obvious signs of market friction. There is no need for an offline food retailer to have the same productivity as an online store or a luxury goods chain, or for an automotive supplier to converge with an original equipment manufacturer, or even for an airline with outsourced ground staff to have the same productivity attributes as one that keeps those activities in-house.

Standouts tended to generate above-average productivity growth but did not match the fastest growers

Standouts across countries increased productivity at an average of 5 percent a year, but this was well short of the 20 percent per year that firms with top 5 percent productivity growth rates averaged. Only six Standouts were also in the top 5 percent in their country sample.[59]

Reasons for this are that the firms with the fastest productivity growth are often too small to move the needle, and that firms can make substantial contributions by reallocating employees rather than increasing productivity levels.

Collectively, firms with the fastest productivity growth can also make notable contributions to aggregate productivity regardless of size and employment reallocation. One study finds that about 10 percent of firms with the fastest growth account for about half of productivity growth output.[60] Yet in a sector like US retail in the early 2010s, this would mean about 250,000 of roughly 2.5 million enterprises.[61]

However, the contribution of Standouts and the skew of their contributions are orders of magnitude greater than this. In our US retail sample, just six Standouts, or about 3 percent of firms in our US retail sample of large firms, accounted for about 70 percent of positive productivity growth. If we added the long tail of MSMEs from the national statistics, the six Standouts would still account for about half of the sector's productivity growth—and a negligible percentage of firms in the sample.

Some Standouts were well-known 'superstars' in tech and other sectors, but many were not

Some Standouts had the characteristics of superstar firms, but many were not. Superstar firms are often defined as firms that have the largest revenue market share and that achieve outsize gains in employment share or productivity, or as giant firms that use their size to drive productivity growth (often observed in firms with digital platforms). In previous MGI research, superstars have been defined as firms that generate the greatest share of economic profit.[62]

We find that only 10 percent of Standouts were "scalers" that are akin to superstars, and that about 30 percent of Standouts overlapped with firms that outperformed on economic profit.[63] The Standouts also come from a diversity of sectors. The computer and electronics—or tech—sector accounted for 29 of 44 US Standouts, but this was not the case in the other economies in our sample. In Germany and the United Kingdom, computer and electronics firms accounted for 30 and 20 percent of Standouts, respectively. In all three economies, Standouts included many firms outside the tech sector, such as auto manufacturers, airlines, and brick-and-mortar retailers.

Why? Superstar firms tend to be the ones with a unique selling proposition or business model that enables them to charge their customers considerably more than what they need for labor and typical capital compensation—and thus generate economic profit.[64] Standouts excel in growing real value added per worker, which includes labor compensation and capital costs, after adjusting for changes in input and output prices and quality over time (at the subsector level).

Standouts change over time, but two-thirds of those in 2011–19 remained Standouts in 2019–23

To test whether the findings in our lab economy period hold over time, we looked at a small sample of Standouts and Stragglers from the 2011–19 snapshot period in a more recent period, from 2019 to 2023 (Exhibit 22).[65]

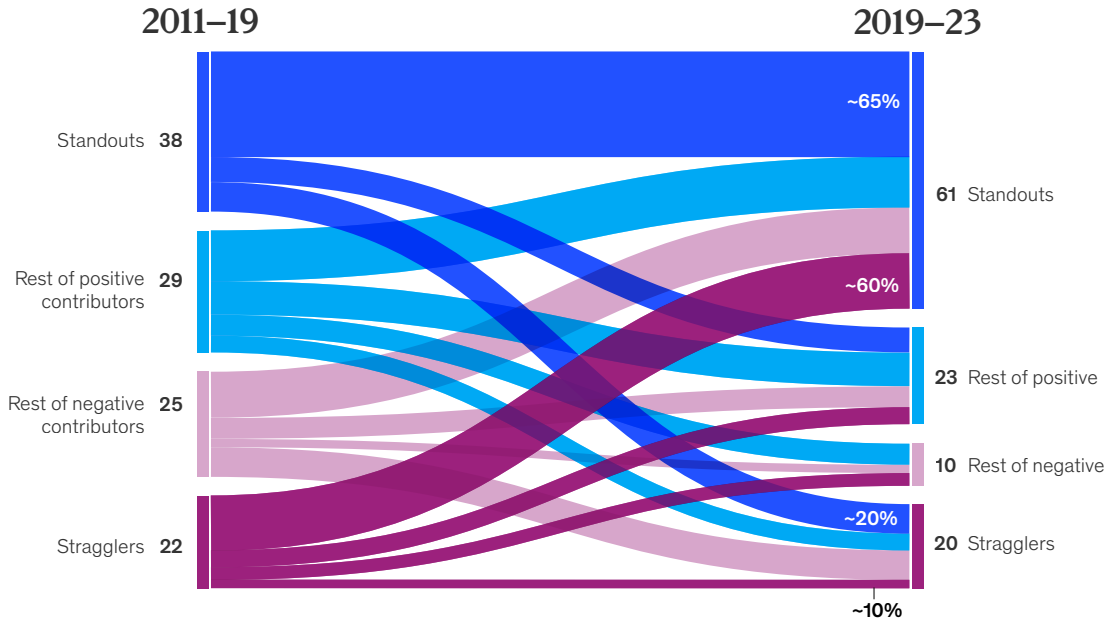
We found that around 65 percent of the Standouts remained Standouts, suggesting that their contributions are more likely than not to be sustained over time by virtue of the leading innovations or superior value propositions they offer. However, about 20 percent of firms that were Standouts in 2011–19 became Stragglers in 2019–23, and 60 percent of Stragglers in 2011–19 became Standouts in 2019–23. The Stragglers of today may be a reservoir of future Standouts, and vice versa. The cast of characters may change, but the plot line remains consistent.

The finding that a small number of firms contribute most to productivity growth or drags is a new take. In the next chapter, we investigate what sets Standouts apart, exploring the key role of bold strategy that results in bursts of productivity growth rather than trickle-down diffusion.

Exhibit 22

In 2019–23, two-thirds of Standouts remained Standouts, but about 20 percent became Stragglers.

Change in firms' status, 2011–19 to 2019–23



[1]Where firm data is available for 2019–23; N = 114.
Source: McKinsey Value Intelligence; IHS Markit; ILO; OECD; 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; Capital IQ; German Federal Statistics Office; US Bureau of Economic Analysis; UK Office for National Statistics; McKinsey Global Institute analysis

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CHAPTER THREE

Standouts trigger productivity bursts through bold strategy

What do the firms that contribute strongly to productivity growth do differently? To attempt to answer this question, we studied Standouts and Stragglers in four sectors—retail, automotive and aerospace, travel and logistics, and computers and electronics—in each of the three countries in our analysis: Germany, the United Kingdom, and the United States. We looked at each Standout and Straggler in considerable detail, examining their annual reports and the dynamics of the sectors in which they operate, with additional insights from McKinsey experts on those sectors.[66]

A firm's starting point on common business metrics (in addition to the size and productivity variables discussed in the previous chapter) is not the decisive arbiter of being or becoming a Standout or Straggler. Indeed, common business metrics offer little predictive value. Rather, our analysis finds that it is bold, idiosyncratic strategic moves made with ambition that set Standouts apart. Moreover, it appears that strategy that propels top-line growth, offers new customer value propositions, and involves portfolio shifts matters more than pursuing task efficiency alone.

Standouts come from different starting points on common business metrics

Looking at common business metrics, including where a firm starts and past growth trajectories, tells us little about future Standouts and Stragglers.[67]

Some firms started in a loss-making position but became Standouts. One example is Germany's Zalando, which shaped the e-commerce trend and significantly scaled both EBITDA and its employee base as it expanded across Europe. It had negative EBITDA in 2011 and was still a Standout. On the flip side, firms that started with some of the highest EBITDA margins in their sector—in UK retail, for example—ended up as Stragglers.

Standouts have emerged from very different past growth trajectories. In our snapshot period, General Motors was a Standout in auto manufacturing, for instance. Its revenue growth was near zero from 2011 to 2015.[68] Another auto Standout, Nissan UK, grew revenue at an annual rate of 5 percent.

Standouts can have very different capital expenditure shares of revenue. Take as an illustration the four largest US airlines—American, Delta, Southwest, and United—which were all Standouts in 2011–19. American Airlines invested between 7 and 15 percent of total revenue in capital expenditures in 2011–15, a simple average of 11 percent over the five-year period. United Airlines invested just 2 to 7 percent of total revenue in capital expenditures, or an average of 5 percent.

Standouts also vary a great deal on R&D spending as a share of revenue, even when they operate in the same sector. From 2011 to 2015 in the computer and electronics sector, Standouts such as Broadcom invested 15 percent of revenue in R&D, while Danaher invested 6 percent.[69] In aerospace manufacturing, MTU Aero Engines reinvested between 2 and 4 percent of revenue in R&D, while Airbus UK allocated 7 to 12 percent.[70]

Productivity bursts are more about top-line growth and business shifts than efficiency

In view of the fact that common business indicators did not predict the Standouts and Stragglers of the future, we developed and compared in detail what each of the firms in our lab economy did in the 2011–19 snapshot period.

We found that Standouts tend to set themselves apart by applying five strategic moves, often in combination, shaping the sectors in which they are operating and resulting in faster growth in customer value relative to labor hours or external cost—which is what is required for productivity growth. Most moves relate more to top-line growth and portfolio strategy than to operational efficiency. This strongly suggests that productivity should not be regarded as a euphemism for efficiency and cost alone.

These moves elicit a response from other Standouts, which shift their own business and operating models and customer value propositions, compounding the productivity burst that results from the original strategic move. These responses cover the full spectrum of, or lead to, firms becoming improvers, disrupters, scalers, or restructurers. For instance, in US retail, Amazon scaled a more productive online business model (moving from disruptor to scaler). The Home Depot shifted into e-commerce while making its in-store experience distinctive, becoming the category leader for DIY (improver). And Sears was forced to exit (restructurer). Bursts of strategic action and response are the master key to growth.

Stragglers have tended either not to act effectively or to move too late to adapt to trends and moves by other firms. Sometimes they faced execution hurdles that prevented them from being able to effectively deploy these approaches.

Using our case studies, we share a few examples of the five different strategies Standouts used—often in combination—to boost productivity growth (Exhibit 23).

To see how firms contribute and apply the five moves in the context of a sector, see the sector vignettes at the end of this chapter.

1. Scaling more productive business models or technologies

In all four sectors that we examine in the 2011–19 window, there are examples of Standouts that adjusted their technological and business models to models that had inherently higher productivity, offered customers higher value, or required fewer workers than previously. Examples include Apple shaping the mobile internet wave, Amazon shaping and Zalando successfully scaling e-commerce, and easyJet succeeding in the low-cost-carrier wave.

Shaping or scaling new market trends

In computing, innovation in smartphones, two-in-one laptops (functioning as both a laptop and a tablet), and wearable technologies has fueled growth.[71] Apple was at the forefront of this wave. Prior to 2011–19, it was a first mover with its iPhone and won a leading position in a fast-growing market—potentially with winner-takes-all dynamics—that was experiencing a sharp technology S-curve. During our snapshot period, Apple grew its core iPhone business and expanded its offering with the iPhone X in 2017 alongside new services, such as Apple Music, The App Store, and iCloud, to 52 additional countries.[72] Average revenue per iPhone increased by nearly 20 percent.[73]

Exhibit 23

Top productivity contributors unlock growth through bold strategy, often with top-line growth and portfolio shifts.

Strategy	Description	Examples
 **Scaling more productive business models** or technologies	▪ **Implementing business models and technologies** that offer customers **higher value** than what came before	▪ **Apple** shaping the mobile internet wave trend ▪ **REWE** quadrupling its German e-commerce grocery market share
 **Shifting regional and product portfolios** toward the most productive businesses or high-productivity adjacencies	▪ **Doubling down on product lines** with higher customer value relative to hours needed ▪ **Refocusing on the most promising and profitable** markets geographically ▪ **Expanding into adjacent businesses** with inherently higher productivity	▪ **Nissan** pioneering the mass market for EVs ▪ **Broadcom** shifting product portfolio from semiconductors to infrastructure software (eg, cybersecurity) for higher margins ▪ **Amazon** developing productive adjacencies like venturing into and scaling AWS
 **Reshaping customer value propositions** to grow revenue and value added	▪ **Developing a unique selling proposition aligned with strong customer needs** is a powerful way to add value and grow market share, thus contributing to productivity	▪ **Nvidia** winning in value proposition for GPUs ▪ **The Home Depot** improving CX both in-store and online ▪ **EasyJet** succeeding in the low-cost-carrier wave ▪ **Airbus** growing in aerospace with the A320 line
 **Building scale and network effects** to achieve more with less	▪ **Securing economies of scale and scope,** adding value faster than workforce expands ▪ **Creating network effects** where customer value rises the more other users and partners are present	▪ **Amazon** and **Zalando** scaling their digital fulfillment platforms ▪ **Hapag-Lloyd** expanding addressable market via acquisitions ▪ **Apple** optimizing supply costs by forecasting demand
 **Raising operational efficiency** and **reducing procurement cost**	▪ **Enhancing performance** through lean operating principles and supply chain transformation ▪ **Redesigning processes and operating models,** with improved automation and tools and staff training	▪ **Tesco** reducing costs while also competing on quality and price ▪ **EasyJet** modernizing its fleet to reduce operational costs ▪ **Danaher** outsourcing and optimizing its workforce structure

Source: Companies' financial reports and press releases; McKinsey Global Institute analysis

McKinsey & Company

Some Standouts in the air travel sector benefited from and helped shape the low-cost-carrier wave. They improved aircraft utilization, expanded capacity with more efficient planes and processes, and leveraged more extensive networks to deliver low costs to their customers. In the United Kingdom, easyJet responded to—and created—rising demand by targeting the discount-seeking segment. It increased passenger numbers from 55 million in 2011 to 96 million in 2019.[74] In this period, the company achieved a 14 percent annual increase in real GVA while boosting its employee headcount by only 8 percent per year.

In retail, traditional German retailer REWE added online businesses while bolstering its brick-and-mortar operations, notably in the discount segment with the expanding Penny Brand. In

2011, it launched its first online grocery store, adding a mobile app in 2017.[75] It began investing in automating warehouses in 2014.[76] From 2015 to 2019, REWE's share of Germany's e-commerce grocery market more than quadrupled; its share of offline grocery increased from 40 percent in 2014 to 47 percent in 2019.[77] The company's real GVA increased by 8 percent a year while its employee count rose by only 2 percent annually.

Riding the technology curve

Technology adoption was a core component of the ability of some Standouts to ride, and shape, the rise of e-commerce. Before and during the 2011–19 snapshot period, Amazon built and accelerated the e-commerce wave. German online apparel company Zalando is another case in point. In 2011, the company accounted for only 1 percent of employment and had negative productivity per employee. By successfully scaling its e-commerce platform, it reached the productivity frontier in 2019 even while expanding its workforce by almost nine times. On the back of its growing e-commerce business, Zalando expanded from its German home market to 17 European markets by 2019.[78]

2. Shifting regional and product portfolios toward the most productive businesses or high-productivity adjacencies

This strategy includes doubling down on product lines that have higher customer value relative to the hours needed, refocusing toward the most promising and profitable markets geographically, and expanding into valuable new or adjacent businesses with inherently higher productivity. Examples include Nissan building its EV product line, Apple and Broadcom shifting their product portfolios to higher-margin products, Zeiss and General Motors exiting unprofitable markets, and Amazon building its new cloud computing business with AWS.

Focusing on product lines with high customer value

Some Standouts in the automotive sector were quick to position themselves for the move toward EVs, which are more efficient to produce, with fewer parts, high automation potential, and less complex assembly work, and therefore lower labor costs.[79] EV sales rose from 0.1 percent of all car sales in 2011 to more than 3.0 percent in 2019 in Europe, for instance.[80] In the United Kingdom, Nissan Motor Manufacturing was quick off the mark, pioneering the mass-market Nissan LEAF, which was the top-selling EV in Europe in this period.[81] In the United Kingdom alone, LEAF registrations rose from just over 600 in 2011 to nearly 25,000 in 2019.[82] Nissan achieved a 9 percent annual increase in real GVA and kept employment growth at a much slower 2 percent per year in the period we looked at.

Shifting to the most promising geographies and exiting unattractive ones

When product and geography combined to create large new markets, Standouts in our sample adjusted swiftly. Others cut back decisively, with some exiting less attractive markets, thereby raising their productivity. General Motors, for instance, emerged from bankruptcy in 2009 and exited markets such as Europe, India, and Southeast Asia, among others.[83] This lowered revenue and employee headcount but increased profitability. German optics and optoelectronics manufacturer Zeiss scaled up in more profitable regions. For instance, it increased revenue growth in Asia–Pacific by 13 percent while revenue declined by 3 percent in its home European market. For Smith & Nephew, a UK manufacturer of joint replacement implants, surgical equipment for tissue repair, and advanced wound management products, emerging markets were its fastest-growing segment in 2019, and the company expanded into China, India, and Latin America. In this period, these emerging markets grew by 12 percent while other established markets were shrinking.[84]

Moving into new and adjacent products and services with higher productivity

Moving into lucrative new and adjacent products and services is a powerful driver of productivity growth.[85] Amazon built its new profitable, scalable businesses with AWS in cloud computing. AWS grew faster than the company as a whole, accounting for more than 60 percent of operating income by 2019.[86] Apple diversified into higher-margin products in adjacent accessories and

services, increasing revenue more than tenfold between 2011 and 2019. By the end of that period, such products accounted for almost 30 percent of total revenue.[87]

US company Broadcom, initially a leading semiconductor manufacturer, diversified into infrastructure software businesses. In 2016, it merged with Avago Technologies to become one of the largest semiconductor companies in the world, with leadership in networking, broadband, and data center markets. In 2018, it acquired CA Technologies, a developer of software for mainframe, distributed, and cloud computing.[88] Its acquisition of Symantec followed in 2019.[89] This enabled Broadcom to enter the cybersecurity market, including endpoint security, network protection, and cloud security solutions.[90] By 2019, 23 percent of revenue came from infrastructure software, compared with just 8 percent a year earlier. Overall, Broadcom increased revenue tenfold between 2011 and 2019.

3. Reshaping customer value propositions to grow revenue and value added, often in response to trends or competitive attack

Developing a unique selling proposition aligned with strong customer needs is a powerful way to add value and grow market share, thus contributing to productivity. This strategy can be effective in both mass markets and high-end niche segments. Examples in mass markets include US retailer The Home Depot improving customer experience both in-store, with a wider assortment and denser network, and online, integrating the option to buy online and pick up in-store. Airlines such as American, Delta, and easyJet provided distinct value propositions to their customers. And UK supermarket chain Tesco responded to attack from hard discounters—in addition to cost reduction, portfolio adjustments, price matching, and initiatives like its Clubcard—by improving the premium assortment offering and fully leveraging its convenient locations. Winning in high-growth markets is also a key path to growth. Examples include Nvidia building the winning value proposition for GPUs, and Airbus doing the same in aerospace with the introduction of the A320 line. In niches, Zeiss provided cutting-edge tech in EUV lithography, and Danaher did likewise in high-tech life sciences.

Differentiating in mass markets

Firms that responded with differentiation to competitive threat were among our Standouts. US retailer The Home Depot sharpened its customer value proposition to take advantage of a booming DIY sector, which expanded by nearly 50 percent between 2011 and 2019.[91] It continued to broaden its extensive product range and store network, established direct fulfillment centers to improve the speed of deliveries, launched the Pro Xtra loyalty program to cater to professional contractors, and focused on enhancing in-store customer service and experience.[92] The Home Depot increased real GVA by an average of 7 percent a year and constrained growth in its employee count to 3 percent per year.

As discounters entered the UK grocery market, Tesco invested in price matching discounters on most product lines and improved its assortment to offer differentiated products—think "Exclusively at Tesco."[93] The company already had the competitive advantage with its loyalty program and locations, which it further enhanced through online customer experience (for instance, personalized promotions) and diversifying formats to include more convenience stores.

In airlines, carriers sought to battle fierce competition through differentiation and customer loyalty. Delta Air Lines, for instance, added revenue streams—10 percent of its 2019 revenue came from frequent fliers and their purchases of adjacent products.[94] For American Airlines in 2019, more than 15 percent of total revenue came from ancillary services, and 80 percent of this revenue was generated by members of the airline's loyalty program.[95] In Europe, easyJet differentiated itself from other growing low-cost carriers by offering valuable add-on services like allocated seating and bag drops as well as attractive routes.[96]

Winning in specialized niches

Having a winning product to meet niche customer needs also helps to unlock productivity. In 2011–19, Zeiss spent about 10 percent of its revenue on R&D and doubled down on its most

productive semiconductor-technology segment with its winning EUV technology. By 2019, major semiconductor manufacturers, such as ASML, were using Zeiss's cutting-edge EUV lithography for commercial purposes. Demand for Zeiss's previous generation of lithography systems (deep ultraviolet) remained core but began to decline.[97] The firm increased GVA by 8 percent and increased its headcount by just 3 percent. Similarly, specialized computer and electronics manufacturer Danaher consistently invested more than 6 percent of revenue in R&D to develop new products and services in its three core segments: life sciences tools and equipment, diagnostics and environmental products, and services. This paid dividends. For example, Leica Biosystems, which is part of Danaher's life sciences segment, led the digitization of pathology slides for faster, more accurate diagnoses.

Offering an attractive value proposition in high-growth markets

A number of technology companies were particularly adept here. For instance, from 2011 to 2019, Nvidia invested 20 to 30 percent of revenue in R&D to advance its GPU customer proposition from a gaming niche to mass market. By 2019, its GPUs were powering supercomputers as well as AI and machine learning. Moreover, the 2017 introduction of its Volta GPU architecture boosted Nvidia's revenue from data centers by almost 90 percent annually between 2017 and 2019. By comparison, the company's core gaming business revenue grew at 24 percent a year over the same period.[98] Nvidia increased real GVA by an average of 28 percent while limiting growth in number of employees to 10 percent per year.

In aerospace, Airbus in Germany and Airbus Operations in the United Kingdom built a winning product—the A320 line—when demand was strong and increased real GVA by about 8 percent and 15 percent per year, respectively, with minimal change to their employee headcounts. The A320neo in particular was key, because the new engine offered better fuel efficiency for carriers at a lower cost.[99] This became Airbus's fastest-selling commercial jetliner, and by 2018, more than 75 percent of deliveries were from the A320 family.[100] As a result, from 2013 to 2018, Airbus increased the number of deliveries by 28 percent, and by the end of 2018 it had an industry-record backlog of 7,577 orders.[101]

4. Building scale and network effects to achieve more with less

Firms that secure economies of scale and scope add value faster than they expand their employee account. Those economies of scale could come from fixed or semi-fixed costs, such as network infrastructure; from shifting to the latest equipment and practices when expanding capacity or opening new factories without needing to write off existing ones; or from scaling intellectual property at near-zero marginal cost across offerings and customer bases. Some companies are even able to create network effects in which customer value rises the more other users and partners are present. Examples include Amazon and Zalando scaling their digital and fulfillment platforms; Nvidia launching its CUDA software for developing AI applications on top of its chips; American Airlines and other carriers in the United States "upgauging" (increasing the number of seats per aircraft) and merging to improve route networks and aircraft capacity utilization; logistics conglomerate Hapag-Lloyd driving growth through acquisitions; and Apple optimizing its supplier network through expansion.

Achieving economies of scale

Customer demand for air travel before the COVID-19 pandemic led to a 67 percent increase in passenger kilometers flown between 2011 and 2019.[102] Several Standouts leveraged this demand by achieving economies of scale, sometimes through mergers and acquisitions but also by improving destination networks, capturing route synergies, and upgauging.[103] In the US domestic market, American, Delta, Southwest, and United moved from a combined 48 percent market share in 2011 to 62 percent in 2019.[104] American merged with US Airways in 2013 to create the world's largest airline.[105] Delta strove for organic regional consolidation, doubling its total share of passenger traffic to reach 30 percent in key passenger hubs.[106] Southwest completed its integration of AirTran Airways' operations and launched international operations to North and South America in 2014.[107] Mergers and acquisitions were one strategy among several.

It is worth noting that airlines' more recent performance on productivity growth has been mixed as the pandemic has continued to have a dampening effect.

In the logistics industry, revenue increased by about 3 percent per year in our 2011–19 snapshot period due to rapid e-commerce growth, including in emerging economies such as China and India.[108] Warehouses and logistics services expanded to meet retailers' demand for supply chain support and customers' expectations of quicker delivery times.[109] Container shipping company Hapag-Lloyd captured economies of scale and boosted top-line growth and customer value via strategic M&A, global expansion, and improved customer experience. It achieved a 17 percent increase in real GVA but employment by only 8 percent per year in the period analyzed.[110] In this time, Hapag-Lloyd's acquisitions included Compañía Sud Americana de Vapores in 2014—a deal that boosted its Latin American presence—and the United Arab Shipping Company in 2017, which enhanced its competitiveness in the Asia–Europe trade corridor and expanded its Middle Eastern operations.[111]

Apple also benefited from driving economies of scale and improved productivity through supplier optimization and automation. For example, it switched from Samsung to TSMC for chip manufacturing and invested in predictive demand optimization and supply chain management with automation and AI tools.[112]

Developing network effects

By 2019, Amazon had nearly 30 percent of all US e-commerce sales, from less than 16 percent in 2014.[113] To support increased demand and drive operational efficiency, it invested heavily in its supply chain and fulfilment centers, the latter expanding by nearly 800 percent from 2011 to 2019.[114] As it grew, the company leveraged network effects, for instance opening its logistics and fulfillment platform to third parties. Third-party gross merchandise volumes grew at 30 percent per year from 2015 to 2019, and revenue increased from its members-only platform Amazon Prime, which came with a large, loyal subscriber base.[115] Overall, Amazon more than doubled its market share in all three country samples.[116] It maintained very high—close to 90th percentile—productivity even while increasing its employee count by 40 percent. Zalando pursued similar strategies, building fulfillment centers and supply chain capabilities and opening some brick-and-mortar outlets.[117]

Nvidia also benefited from network effects with the 2007 introduction of its CUDA software, which became the go-to developer tool and the industry standard for advancing AI. In 2012, the AlexNet neural network, which was built using CUDA software, outperformed other models and solidified the leading position of Nvidia's GPUs and software in the AI value chain.[118]

5. Raising operational efficiency and reducing procurement cost, often in response to attack or in turnarounds

Companies can enhance their productivity performance through operational and supply chain transformation or continuous improvement. Approaches that can help companies get the most out of their workforce include lean operating principles, process redesign, organization and operating model redesign, improved automation and tools, and staff training. Firms can also retain value and enhance productivity by managing what is spent on external suppliers by, for instance, outsourcing and offshoring, and by managing supplier and partner networks using stringent category and specification management in procurement.

There are many examples of Standouts that, along with bursts of strategic action, also acted to raise efficiency and cut costs. For instance, while Tesco refocused on its core, it also improved efficiencies and reduced employee count over the period.[119] In Europe, easyJet modernized its fleet, securing significant discounts through large order commitments with its suppliers, helping to lower operational cost and spending on fuel.[120] In parallel to optimizing its product portfolio and a series of acquisitions, Danaher also implemented operational efficiencies. For

example, in 2019 it spun off its dental business, which had contributed 12 percent of sales but underperformed on profit margin.[121] It also implemented its Danaher Business System, a set of tools and processes for continuous improvement alongside efficiency measures, which included workforce reduction programs and increased use of offshore and contingent labor.[122]

Firms in our sample became Standouts in the period from 2011 to 2019 by applying one or more of five strategic moves in response to sector context and dynamics. Doing things differently, often through portfolio shifts, mattered more than doing more with less. Those firms that pursued multiple strategic moves in combination made outsize contributions to productivity growth, thereby reshaping the sectors and countries in which they operated and improving outcomes for employees, businesses, and customers.

Sector vignettes

Retail

Retail accounted for six of 44 Standouts in the United States, three of 13 in Germany, and ten of 30 in the United Kingdom.[123] Of course, retail is a dynamic sector, and much has changed since 2019. Different firms moved to the top of the productivity distribution, and retailers had to find answers to the disruption of the pandemic. But the patterns and common themes, as well as the importance of a few firms and their strategic moves, will likely still be applicable today (Exhibit 24).

In the United States, Amazon, Costco, and The Home Depot led from the frontier. Amazon increased its share of employment while maintaining high productivity levels under its digital business model. Costco moved to the productivity frontier with steady growth in EBITDA that outpaced growth in the number of employees. The Home Depot more than doubled EBITDA as it built its competitive advantage in the booming DIY sector.

In Germany, Zalando and REWE both transitioned to the frontier. Zalando went from e-commerce scale-up with negative productivity levels all the way to the productivity frontier. REWE contributed through revenue growth that outpaced growth in its employee headcount as it launched and scaled its digital offerings and expanded its brick-and-mortar business.

In the United Kingdom, three major retailers were Standouts from outside the frontier. They included Tesco, which responded to attack from hard discounters by optimizing costs and adjusting its portfolio's strategy, enabling a strong core.

In all three sample economies, some retailers failed to respond to shifts in the market. Some exited the market and were able to contribute positively in this way. Other retailers remained in business but contributed negatively to productivity by failing to differentiate themselves from competitors or applying e-commerce models unsuccessfully.

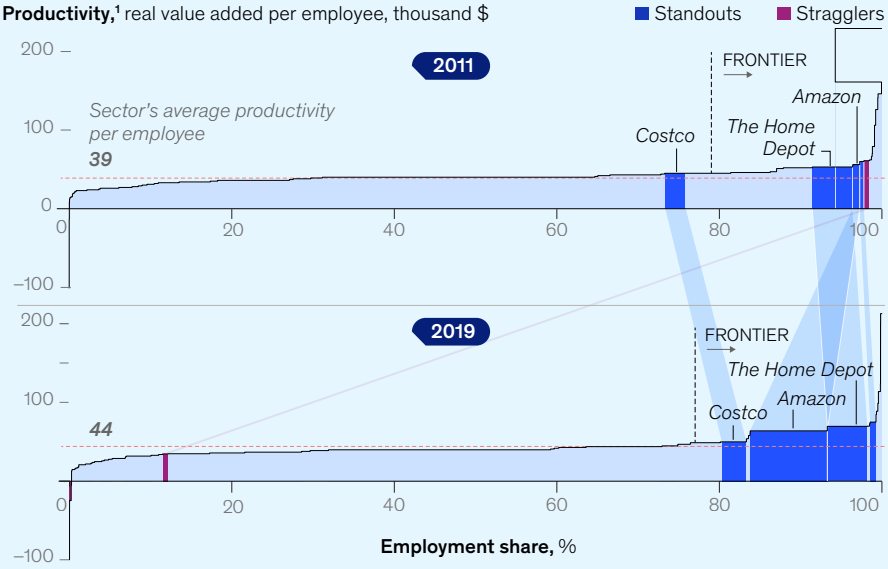
Retail accounted for six of 44 Standouts in the United States, three of 13 in Germany, and ten of 30 in the United Kingdom.

Exhibit 24

United States

US retail was led by a vibrant frontier of e-commerce and traditional retailers.

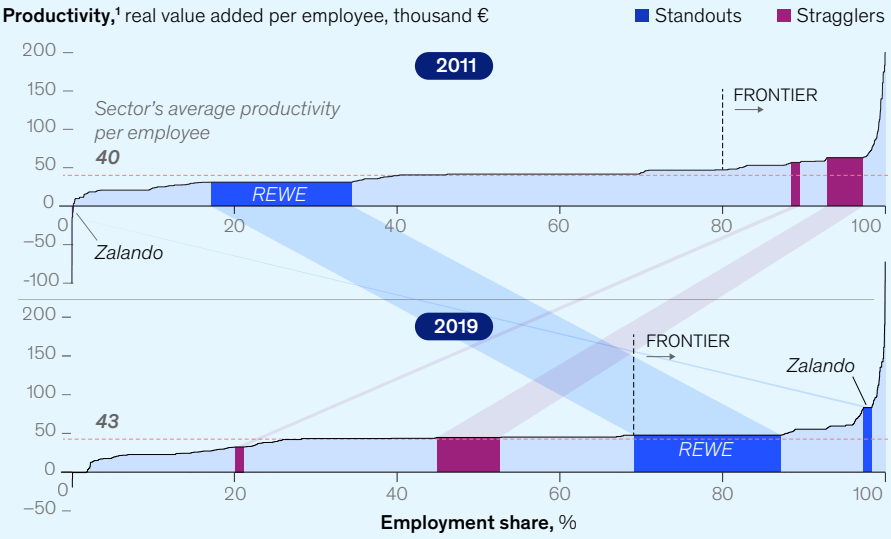
US sector sample of ~200 firms, 2011–19



Germany

German retail benefited from a notable increase in productivity levels among traditional grocers and e-commerce leaders.

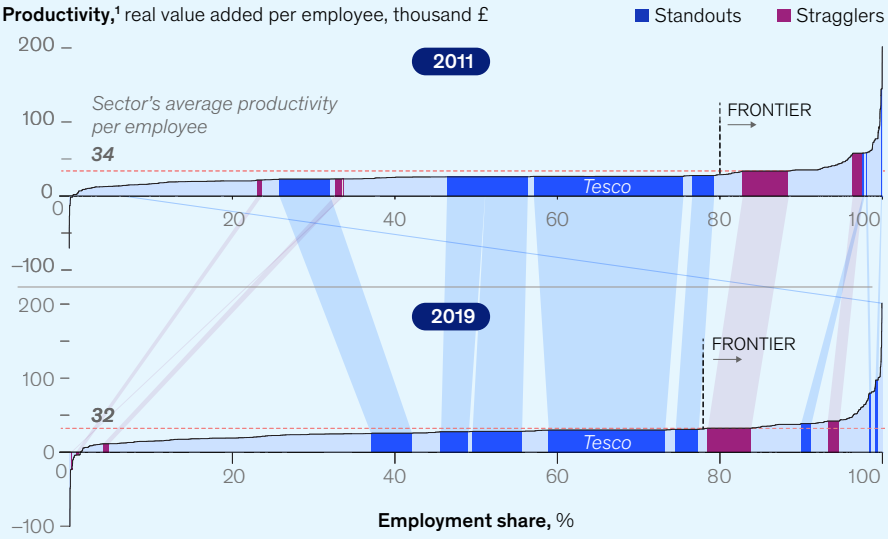
German sector sample of ~800 firms, 2011–19



United Kingdom

UK retail experienced traditional grocers and retailers contributing from outside the frontier.

UK sector sample of ~1,700 firms, 2011–19



Note: Productivity snapshot not representative of years before and after.
[1]Productivity measured as real value added, in local currency, per number of employees. For more detail on calculation methods, see chapter 1 and technical appendix.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; Capital IQ; McKinsey Global Institute analysis

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Automotive and aerospace

Automotive and aerospace manufacturing—a sector comprising automotive, automotive component, aerospace, and other transportation equipment manufacturers—accounted for five of 44 Standouts in our sample in the United States, four of 13 in Germany, and two of 30 in the United Kingdom.[124] Top automotive contributors in the 2011–19 snapshot period took advantage of growing and valuable geographies and product markets.

In the United States, General Motors, following bankruptcy, streamlined its portfolio away from unprofitable markets and reduced its workforce by 3 percent per year, thereby boosting value added per employee by more than 30 percent.

In Germany, Standouts boosted value added per employee through pivoting to SUVs. At the same time, some large automotive companies were Stragglers in 2011–19. During this period, they were hindered by legal and other costs, but they improved their performance in 2019–23.

In the United Kingdom, Nissan, with its Qashqai model, successfully built and penetrated the growing SUV segment. Customers valued the vehicles more highly than traditional cars, but they did not require significantly more hours to produce. Nissan was also an early adopter of EV technology, which is less complex mechanically than traditional internal combustion engines. Its LEAF EV was the key product the company introduced to the market.[125]

Stragglers in auto manufacturing included companies that were late to embrace the strong trend toward SUVs and or did not make necessary geographic shifts, for instance failing to leverage the China opportunity. One auto Standout, for instance, pivoted to SUVs too late and was constrained by declining demand for sedans.

In aerospace, Standouts tended to be firms that reshaped customer value propositions and innovated. Airbus' neoA320 product line became the go-to for airlines, enabling the firm to capture scale benefits and customer value. MTU's refined geared turbofan engine drove revenue by unlocking higher fuel efficiency.[126] Defense manufacturers also contributed by riding the tailwinds of increased defense budgets in international markets.

The sector had productivity Stragglers, too. One US firm suffered from reduced defense expenditure in Europe and struggled with supply chain inefficiencies and cost overruns, reducing its operating margin from 12 percent in 2014 to 5 percent in 2019. Another Straggler was affected by military spending cuts in the UK market, reducing revenue share coming from the market from 33 percent in 2012 to only 19 percent in 2019.[127]

Travel and logistics

Travel and logistics—a sector that comprises travel, logistics, and postal firms—accounted for four of 44 Standouts in the United States, two of 13 in Germany, and 11 of 30 in the United Kingdom.[128]

In the United States, where this sector sample made little (less than 0.01 percentage point) contribution to overall national sample growth, four firms were Standouts, and all were airlines. Delta, Southwest, and United led from the frontier, with American following closely behind, contributing from outside the frontier. These four Standouts together accounted for more than 60 percent of the positive contribution of the sector while representing about 15 percent of the US sector sample's employment share. All four contributed by growing GVA at a faster rate than the workforce. While each of these airlines benefited from increased demand in our snapshot period, they also capitalized by differentiating their value propositions and using mergers and acquisitions to benefit from economies of scale.

In Germany, Hapag-Lloyd, a container shipping company specializing in refrigerated and other special-care cargo, increased EBITDA at approximately 25 percent a year by pursuing international expansion strategies and supply chain advancements that unlocked value.

In the United Kingdom, just over one-third of top productivity contributors were in the sector, accounting for more than half of the positive gains of the sector while representing just a fifth of

the sector sample's employment share. easyJet contributed from the frontier, riding the steep part of an emerging business model S-curve—the low-cost-carrier wave. This, in combination with optimizing its fleet strategy and differentiating itself from other low-lost carriers, enabled it to increase passengers served from 55 million in 2011 to 96 million in 2019.[129] However, it is worth noting that in the years since, the COVID-19 pandemic has proved a challenge for low-cost carriers across all geographies.

In each of the three country samples analyzed, many companies benefited from rising demand in travel and logistics. But the Standouts also created economies of scale and efficient networks via consolidation, and several developed compelling value propositions in service quality, price points, and network expansions. Productivity Stragglers tried to follow suit but failed to realize the full operational efficiency benefits.

Computers and electronics

The computer and electronics sector, comprising computers, semiconductors, electronic components, and specialized electronic equipment, accounted for 29 of 44 Standouts in the United States, four of 13 in Germany, and seven of 30 in the United Kingdom.[130] In 2011–19, this sector experienced robust productivity growth, especially in the United States.[131] Of course, this is a dynamic and fast-moving sector that has seen many developments since 2019. However, the findings from our snapshot period still yield insights on strategies and approaches that appear to be broadly relevant (Exhibit 25).

In the United States, Standouts such as Apple and Broadcom successfully expanded into adjacent higher-productivity revenue streams and created thriving new ecosystems, mainly through software, or seized the opportunity of being in high-growth niches to enhance growth and productivity through investment and innovation. Other Standouts, including Nvidia, successfully captured the growth of specialized markets by innovating. They made early, large, and highly targeted capital expenditures and R&D investments.

In Germany, Zeiss transitioned to the productivity frontier as its EBITDA growth outpaced workforce growth driven by expansion to more profitable geographies, and its continued reinvestment of about 10 percent of annual revenue into R&D allowed it to win in specialized niches serving major semiconductor manufacturers.

In the United Kingdom, a specialized semiconductor manufacturer, Dialog, contributed from the frontier. Primarily supplying components to mobile systems manufacturers, it capitalized on the growth of the mobile internet wave. It also grew through acquisition, focusing on diversification following an initial period of high customer concentration.[132] It increased its productivity contribution by growing EBITDA by more than 25 percent per year while increasing its workforce at a rate of approximately 15 percent over the same period.

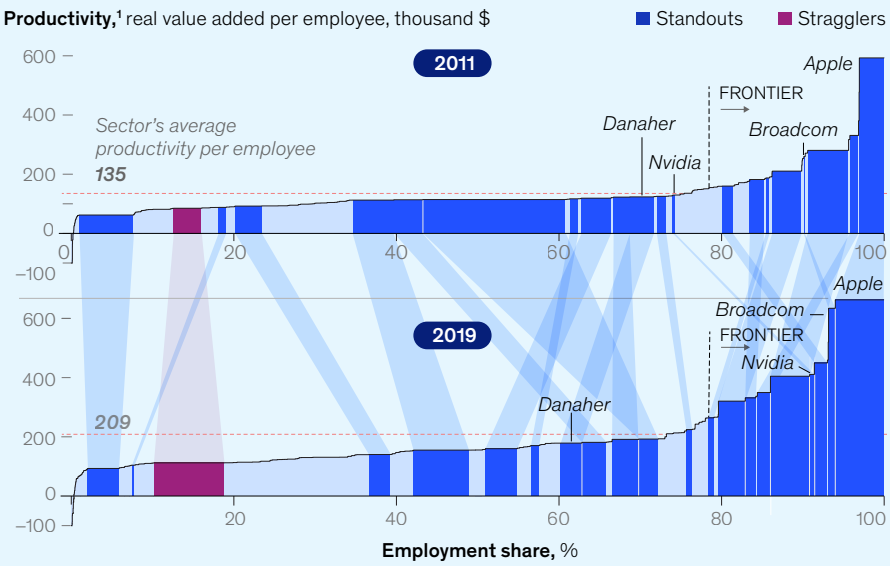
In contrast, productivity Stragglers in all three country samples attempted to diversify their product and services portfolios but were not able to innovate sufficiently to capture the market opportunities or were unable to execute effective mergers and acquisitions.

Exhibit 25

United States

Firms in US computers and electronics contributed to productivity growth from various starting points.

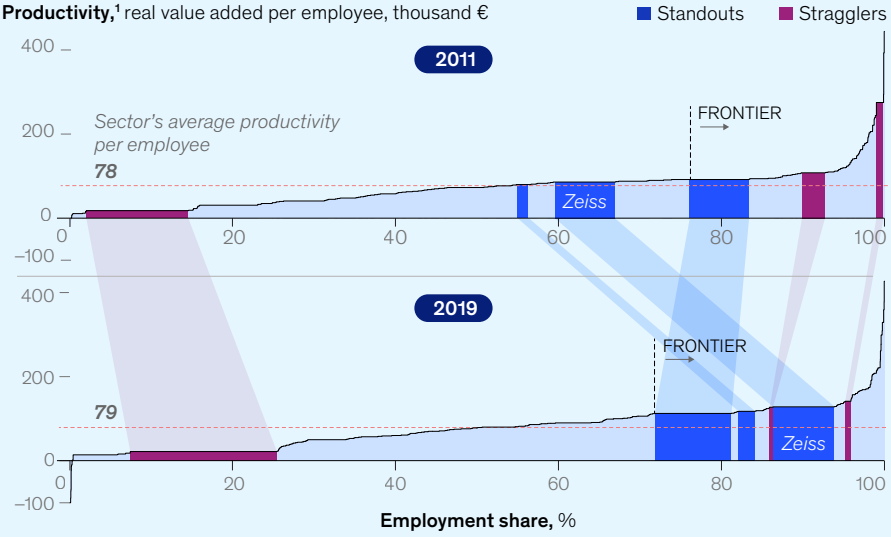
US sector sample of ~500 firms, 2011–19



Germany

Manufacturers of specialized technology led productivity growth in Germany's computer and electronics sector.

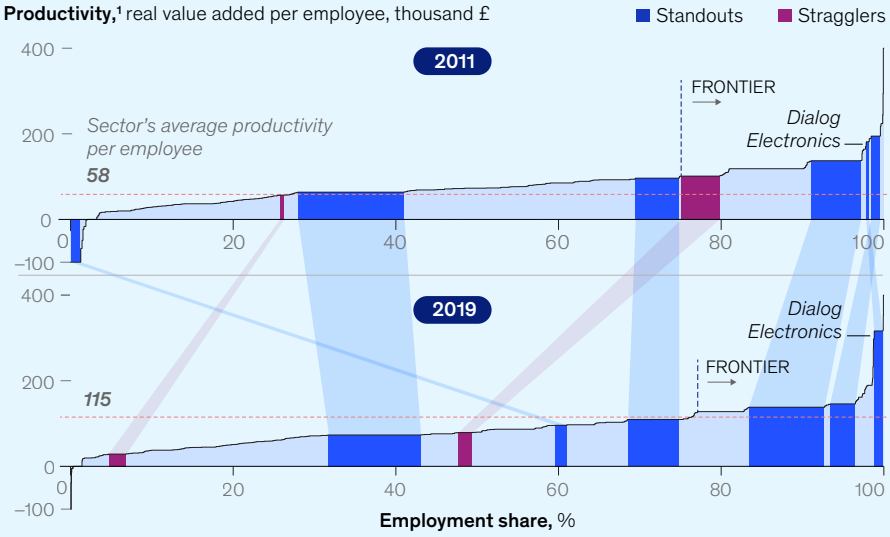
German sector sample of ~600 firms, 2011–19



United Kingdom

Specialized electronic equipment manufacturers drove productivity growth in UK computers and electronics.

UK sector sample of ~400 firms, 2011–19



Note: Productivity snapshot not representative of years before and after.
[1]Productivity measured as real value added, in local currency, per number of employees. For more detail on calculation methods, see chapter 1 and technical appendix.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; Capital IQ; McKinsey Global Institute analysis

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CHAPTER FOUR

The power of leading firms and dynamic reallocation

We now know that Standouts and Stragglers make disproportionate contributions to productivity growth in countries and sectors, but what about the full universe of 8,300 firms in the sample?

Taking them all into account, we find that productivity growth can come from firms at different productivity levels, but that frontier firms contributed disproportionately. Indeed, leaders pulling further ahead drove rapid subsector growth as often as laggards catching up.

The other noticeable pattern in productivity growth is the dynamic reallocation of employees from lagging to leading firms—a form of creative destruction. This effect was as important as productivity advances within firms and, indeed, was more powerful than firms entering and exiting the market, which is a more traditional definition of creative destruction.[133] Exiting firms contributed positively to growth while new entrants did not.

The United States outperformed on productivity on both of these dimensions. It had a stronger frontier and more dynamic reallocation than the other two country samples as well as having more Standouts than Stragglers, as discussed in chapter 2. US productivity growth from 2011 to 2019 was 2.1 percent in our sample, compared with 0.2 percent in Germany and close to zero in the United Kingdom.

In this chapter, we shift focus to the dynamics of our full sample and find that the United States also had a more robust frontier, with more reallocation of employees from less productive to frontier firms and a strong contribution from exiting firms.

Frontier firms contribute disproportionately

Firms contribute to productivity growth through six different pathways along the productivity curve: (1) firms staying in the frontier and growing or advancing productivity; (2) firms staying outside the frontier; (3) firms transitioning to the frontier; (4) firms transitioning away from the frontier; (4) firms exiting; and (6) firms entering.[134]

In the highest-growth countries and subsectors, the primary pathway was firms remaining in the frontier.

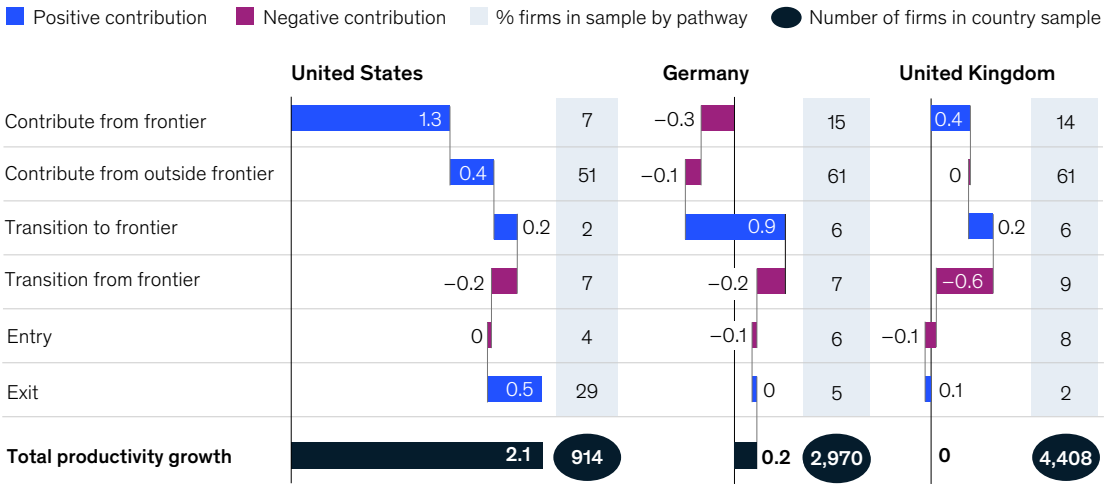
At the country level, firms that remained in the frontier made the largest contributions to productivity growth

Most of the positive contributions in the US and UK samples came from firms that remained in the frontier—1.3 percentage points and 0.4 percentage point, respectively. In Germany, by contrast, frontier firms made the largest negative contribution at minus 0.3 percentage point. Contributions from firms outside the frontier were also more meaningful to productivity growth in the US sample than in the other two (Exhibit 26).

Exhibit 26

Firms that remained in the frontier or those transitioning to it spearheaded growth.

Contribution to national sample productivity growth, 2011–19, pp



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

McKinsey & Company

Although in the German sample, frontier firms were a drag on productivity growth, those transitioning to the frontier made the largest positive contribution at 0.9 percentage point. Fims that transitioned away from the frontier were unsurprisingly a drag in all three economies, but particularly in the United Kingdom.

We note here that exiting underperformers boosted productivity while new entrants did not. We detail our findings in the next section, on dynamic reallocation.

At the sector level, the picture is more mixed, but growth still hinges on frontier firms—often pulling further ahead of the pack

Of the six pathways, typically only one was overwhelmingly significant in propelling subsector growth, and that single pathway varied depending on the subsector.[135] For example, the US computers and US semiconductors subsectors were driven by frontier firms, such as Apple and Broadcom, scaling up employment. Subsectors driven by firms transitioning to the frontier included German aerospace. Airbus, for instance, moved to the frontier by increasing its productivity by more than 5 percent per year. Firms that remained outside the frontier contributed most in three of the nine high-growth subsectors. For instance, in the US travel subsector, productivity growth was driven by nonfrontier airlines improving their productivity.

But in seven of the nine high-growth sectors, firms remaining in the frontier were either the most dominant or the second-most-dominant growth pathway. Even at a granular level, and despite the complexity, the role of frontier firms is clear (Exhibit 27).

Exhibit 27

Typically only one pathway propelled subsector growth.

Subsector productivity growth and productivity growth pathway

Pathway contribution: >2 pp | 1–2 pp | 0–1 pp | <0 pp | Largest absolute contribution in subsector

Country	Subsector	Productivity growth, % (High / Low / Negative)	Productivity growth pathway, pp: Contribute from frontier	Contribute from outside frontier	Transition to frontier	Transition from frontier	Entry	Exit
US	Computers	8	4.8	2.8	0.0	0.1	–0.3	0.5
US	Semiconductors	5	2.1	0.5	1.2	0.1	–0.1	1.1
US	Electronic equipment	5	1.5	2.1	0.6	0.1	0.0	0.7
Germany	Aerospace	4	0.0	0.1	3.9	0.1	0.0	0.0
Germany	Computers	3	1.0	0.2	0.5	0.0	0.6	1.1
UK	Semiconductors	3	1.4	1.6	0.8	–0.6	–0.1	–0.1
US	Travel	2	0.8	1.3	0.0	–0.1	0.0	0.5
UK	Computers	2	0.3	–1.0	3.1	–0.6	–0.1	0.7
UK	Electronic equipment	2	0.6	0.6	0.3	–0.1	0.0	0.7
US	Grocers and nonspec[1]	2	0.9	0.1	0.0	–0.1	0.0	0.6
US	Other retail	1	1.7	–0.5	0.1	–0.4	0.0	0.5
Germany	Grocers and nonspec	1	0.0	0.2	1.2	–0.3	0.0	0.3
Germany	Electronic equipment	1	0.3	0.0	1.3	–0.3	0.0	0.0
Germany	Semiconductors	1	0.5	0.0	0.8	–0.2	–0.1	0.0
UK	Travel	1	0.7	0.1	0.4	–0.3	–0.1	0.2
UK	Grocers and nonspec	1	0.3	0.5	0.0	–0.1	–0.1	0.0
Germany	Automotive	1	–0.2	–0.1	1.1	–0.2	0.0	0.0
Germany	Apparel	0	0.1	–0.9	1.4	–0.2	–0.3	0.3
US	Apparel	0	0.3	0.1	0.2	–0.6	0.0	0.4
Germany	Logistics	0	0.3	0.4	0.1	–0.2	–0.3	0.0
UK	Apparel	0	0.8	–0.3	0.3	–0.7	0.0	0.0
US	Automotive	0	0.1	–0.5	0.6	–0.4	–0.1	0.3
UK	Other retail	0	–0.5	0.2	0.6	–0.3	–0.1	–0.2
Germany	Postal	0	–0.5	0.1	0.1	0.0	0.0	0.0
US	Logistics	–1	0.2	–1.0	0.0	–0.2	0.0	0.3
US	Other transportation mfg	–1	–0.8	–0.4	0.7	–0.6	0.0	0.2
UK	Postal	–1	–0.9	0.0	0.0	–0.2	0.0	0.0
US	Aerospace	–1	0.1	–0.7	0.7	–1.6	0.0	0.0
UK	Logistics	–2	–0.5	–0.8	0.2	–0.3	–0.2	0.0
US	Postal	–2	–1.1	–0.6	0.0	0.0	0.0	0.0
Germany	Other transportation mfg	–2	–0.4	–0.9	0.2	–0.5	–0.5	0.0
UK	Aerospace	–2	0.0	–0.4	–0.2	–1.6	0.0	0.0
UK	Automotive	–2	–1.6	–0.6	0.5	–0.2	–0.2	0.0
Germany	Other retail	–2	0.2	–1.8	0.6	–0.5	0.0	–0.2
Germany	Travel	–3	–2.0	–0.6	0.2	–0.1	0.0	0.0
UK	Other trans mfg	–5	0.4	–1.2	0.2	–4.8	0.1	0.3

[1]Grocers and nonspecialized retailers.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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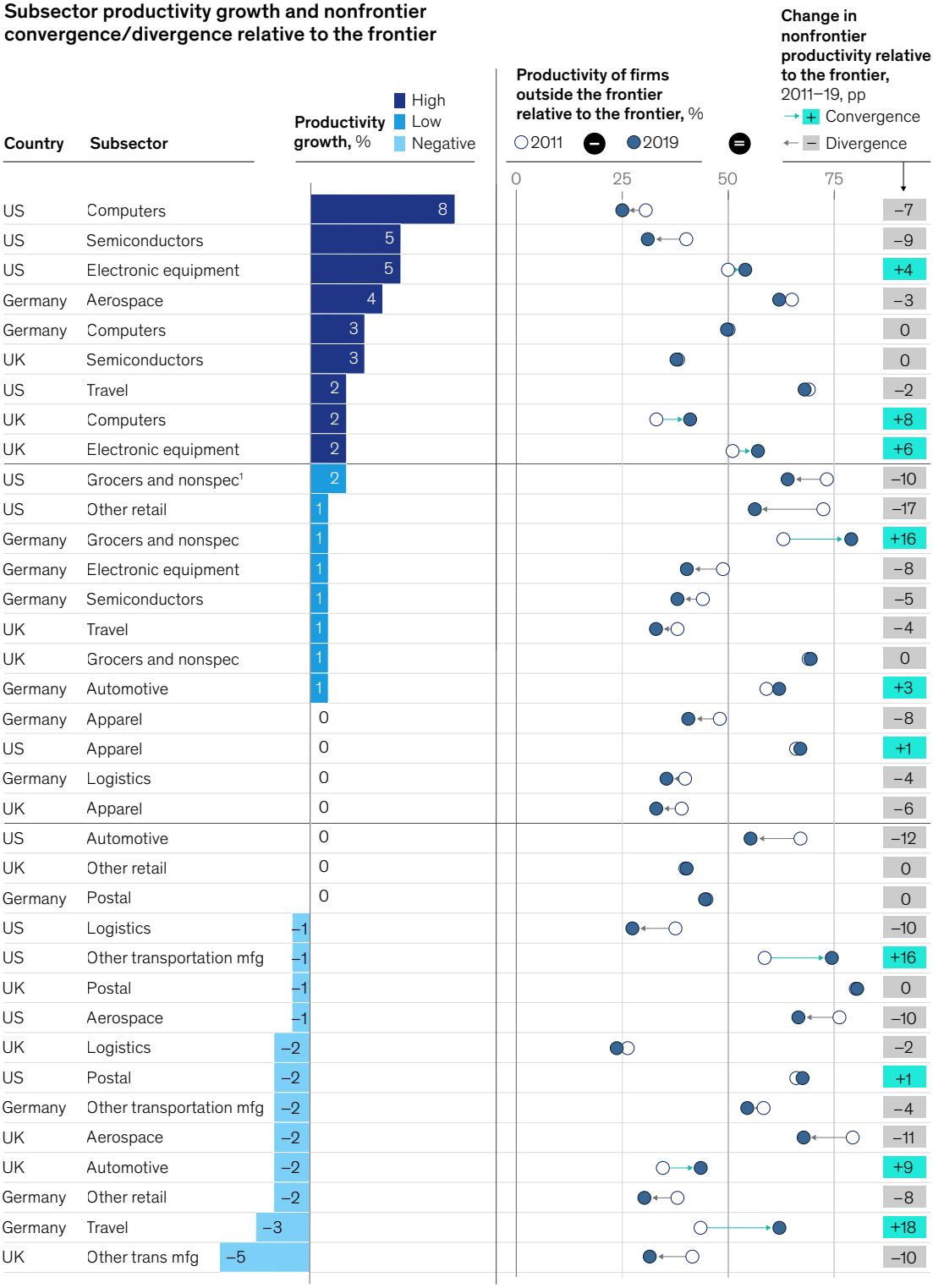
Frontier firms pulled ahead from the pack as often as laggards caught up. This has profound implications for the ongoing debate on "convergence," or the commonly held idea that productivity is generated largely by less productive firms catching up with the more productive ones over time as ideas and best practices diffuse. Such convergence did, indeed, happen in many sectors that were growing rapidly. But so, too, did frontier-led "divergence" as productivity leaders pulled even further ahead. Indeed, divergence was more common than convergence in high-growth subsectors (Exhibit 28).[136]

Exhibit 28

Leaders pulling ahead was a recipe for fast growth as often as laggards catching up.

Subsector productivity growth and nonfrontier convergence/divergence relative to the frontier



[1]Grocers and nonspecialized retailers.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; McKinsey Global Institute analysis

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During the 2011–19 snapshot period, in US computers, for instance, divergence occurred as Apple pushed the frontier by both increasing productivity and gaining employment share. In the US semiconductors and travel subsectors, divergence happened as frontier firms rapidly increased productivity. Nvidia, for instance, moved into the frontier and pushed it further. In airlines, Delta was already in the frontier in 2011 and increased productivity from that position.[137]

Where convergence was present, it was not always a matter of laggards catching up. In US electronic equipment, nonfrontier firms increased their average productivity per employee and narrowed the gap with leaders. But in the UK electronic equipment subsector, convergence was mostly a matter of less productive nonfrontier firms reducing their employment share or exiting.

Only three low-growth subsectors experienced convergence. For instance, in German grocers and nonspecialized retailers, nonfrontier firms narrowed the gap with frontier firms by 16 percentage points. Looking at negative-growth subsectors, in nine of 15 of such sectors, unproductive firms dragged down the nonfrontier average, leading to divergence from the frontier. Leaders pulling ahead were not enough to power overall growth in the subsector. The US automotive sector exhibited the strongest divergence. In 2011, the productivity level of nonfrontier firms was two-thirds that of frontier firms. By 2019, it was about half.

Reallocation of employees among firms was nearly as important as increasing productivity within firms

At both the country and subsector levels, rapid productivity growth came from both firms increasing their own productivity and the reallocation of employees from less to more productive firms. In the United States, dynamic reallocation of employees to more productive firms accounted for nearly half of the sample's productivity growth. Across subsectors, employment reallocation was the dominant effect in 40 percent of positive-growth subsectors. This finding reinforces the prevailing view that very productive firms gaining share can shift the average and boost productivity. It is also relevant to the debate on the balance between enabling the growth of leading firms and ensuring that there is adequate market competition—and, of course, the perennial discussion about the extent to which lagging firms should be supported.[138]

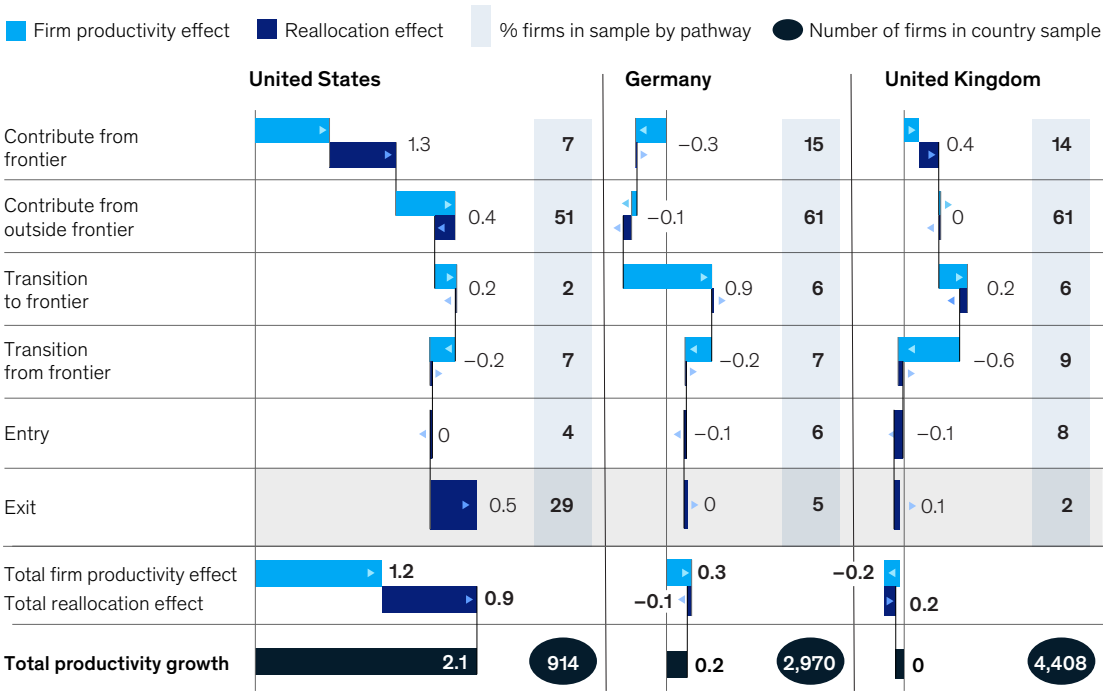
Nearly half of the US sample's productivity growth came from reallocation, far more than in the UK and German samples

The US sample stood out for its dynamic reallocation of employees from underperforming firms to more productive ones, which created a strong frontier and less drag from underperformers (Exhibit 29). The reallocation effect added 0.9 percentage point—nearly half of the contribution—to productivity growth in the US sample.[139] Most of this came from frontier firms scaling further and gaining employment share (0.6 percentage point) while below-average firms exited (0.5 percentage point). The reallocation effect was visible not only among Standouts and Stragglers but across the spectrum of sample firms. For instance, 40 percent of the positive contribution by non-Standouts came from the reallocation effect.

Exhibit 29

Reallocation from exiting firms to the frontier played a big role in the United States.

Contribution to national sample productivity growth, 2011–19, pp



Note: Figures may not sum to 100%, because of rounding.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

McKinsey & Company

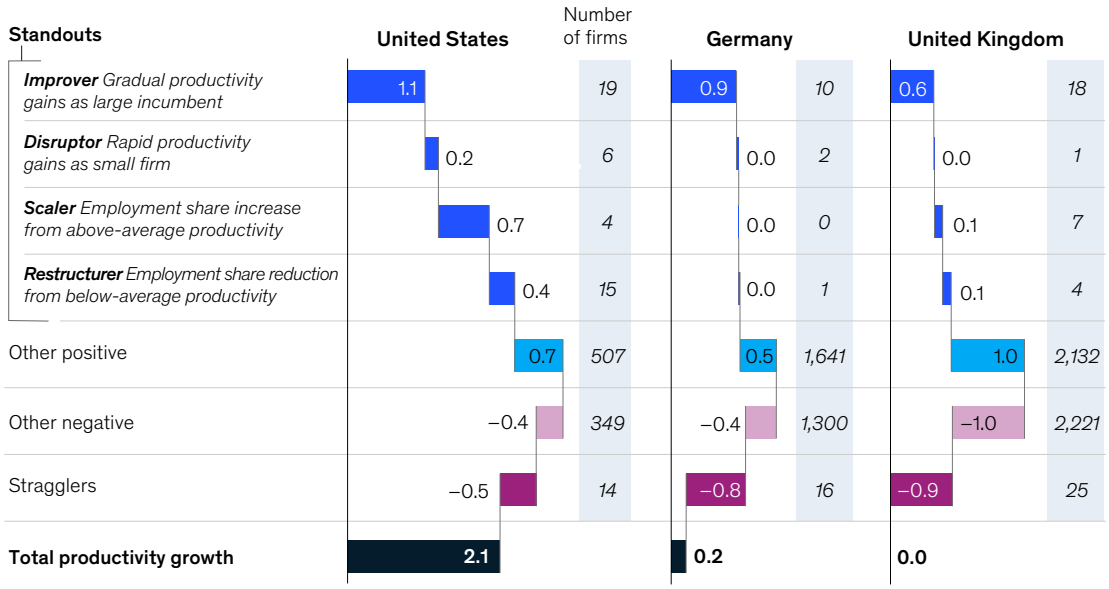
In clear contrast, the contribution from employment reallocation was negligible in the German and UK samples. Germany relied almost entirely on nonfrontier firms transitioning to the frontier by improving their own productivity. German sample firms also experienced a drag from frontier firms decreasing their productivity and from those falling away from the frontier but not shedding employment. In the UK sample, frontier firms gained some share.

Looking at reallocation through the lens of the four different types of Standouts, the United States provided an environment for scalers to gain share and restructurers to leave. Germany and the United Kingdom did not (Exhibit 30). US scalers, which included large and highly productive firms like Apple and Amazon, increased their workforce headcount while maintaining frontier-level productivity; they contributed 0.7 percentage point to productivity growth. Restructurers, such as Supervalu and Sears—both of which exited the market—contributed 0.4 percentage point. In both the German and UK samples, positive contributions largely came from improvers, but they were offset by Stragglers, whose productivity level gradually declined.

Exhibit 30

The United States benefited from scalers and restructurers; Germany and the United Kingdom benefited less.

Contribution to national sample productivity growth, 2011–19, pp



Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; McKinsey Global Institute analysis

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Employment reallocation was the primary driver in nearly half of positive-growth subsectors

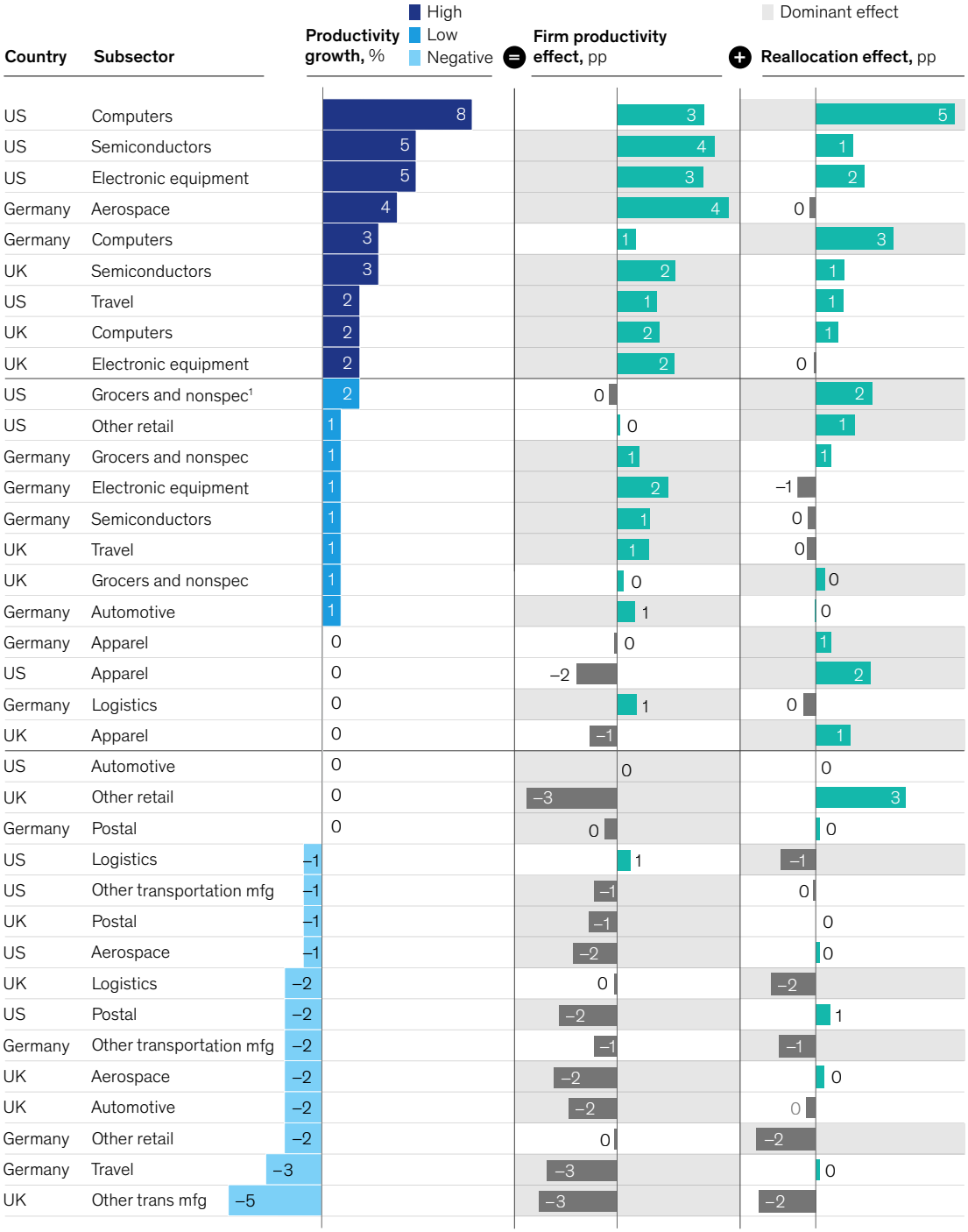
In 40 percent of the subsectors with positive productivity growth, reallocation of jobs from less productive to more productive firms was more important than improvements in productivity within firms. In the rest, the firm productivity effect was more prominent than the reallocation effect. Of course, both in combination power the fastest growth, as seen in seven of nine high-growth sectors where firms made positive contributions through both (Exhibit 31).[140]

Declining productivity within firms was dominant in 11 of 15 negative-growth subsectors. Here, reallocation did not compensate, because firms kept staff despite weakening productivity.

Exhibit 31

In nearly half of positive-growth subsectors, the reallocation effect was the dominant productivity growth driver.

Subsector productivity growth, firm productivity effect, and reallocation effect



[1]Grocers and nonspecialized retailers.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; OECD; McKinsey Global Institute analysis

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Exits added to productivity growth, but new entrants did not

Looking at creative destruction as largely a matter of firms entering the market displacing exiting ones does not capture the whole story. Exiting firms contributed positively to country and sector productivity growth by ceding the way for more productive ones. New entrants did not.[141] This, of course, may reflect the fact that our snapshot period covers only eight years, arguably too short for newcomers to scale and make a measurable contribution to productivity. The youngest firm in our eight-year sample was 11 years old and the average 58 years. Over a longer period, they could potentially make a measurable contribution. More research would be needed to establish whether this is the case.

Overall, employment reallocation to the frontier had a greater impact than the exit and entry of firms.

This effect was particularly prominent in the US sample, where exits contributed 0.5 percentage point to productivity growth (Exhibit 36, above). This appears to reflect an economic and legislative system that enables unproductive firms to leave the market relatively quickly and for jobs to migrate to more productive firms.

Exiting firms made strong contributions in high-growth subsectors outside the United States, too (Exhibit 38, above). In German computers, nine firms exited, and employees moving from these firms to higher-productivity ones contributed one of three percentage points of productivity growth. In the UK electronic equipment subsector, one-third of productivity growth came from the departure of six companies that had below-average productivity in 2011 and accounted for about 20 percent of subsector employment.

New entrants made minimal or even negative contributions in all three countries and in eight of nine high-growth sectors.[142] The highly limited impact of entries highlights the fact that making contributions to productivity growth takes time; becoming both productive and large enough to matter is not a quick process. In the 2011–19 snapshot period, new entrants remained too small, and many of them entered at below-average productivity levels.[143] This does not mean that new entrants are not important for long-run growth. Some—but in reality only very few—of these firms eventually attain the productivity level and size to become Standouts, and some innovative firms merge or partner with Standouts to help improve their customer value proposition or efficiency.

Looking beyond Standouts and Stragglers at all the firms in our sample, two patterns associated with rapid country and sector productivity growth are striking. First, frontier firms matter disproportionately, especially in the United States and the United Kingdom. Second, the reallocation of resources across firms and sectors, from lagging to leading ones, is just as important as firms improving their own productivity. Creative destruction in the narrower sense of new entrants and exits played a lesser role. In the next and final chapter, we look at the implications of our findings.

CHAPTER FIVE

A new productivity growth playbook

Productivity growth is a win-win for all stakeholders, but achieving it is hard. This micro-to-macro, firm-level research offers insights that partly complement and partly challenge established ways of thinking about productivity growth.

Firms boosting productivity deliver a win-win for employees, customers, shareholders, and economies

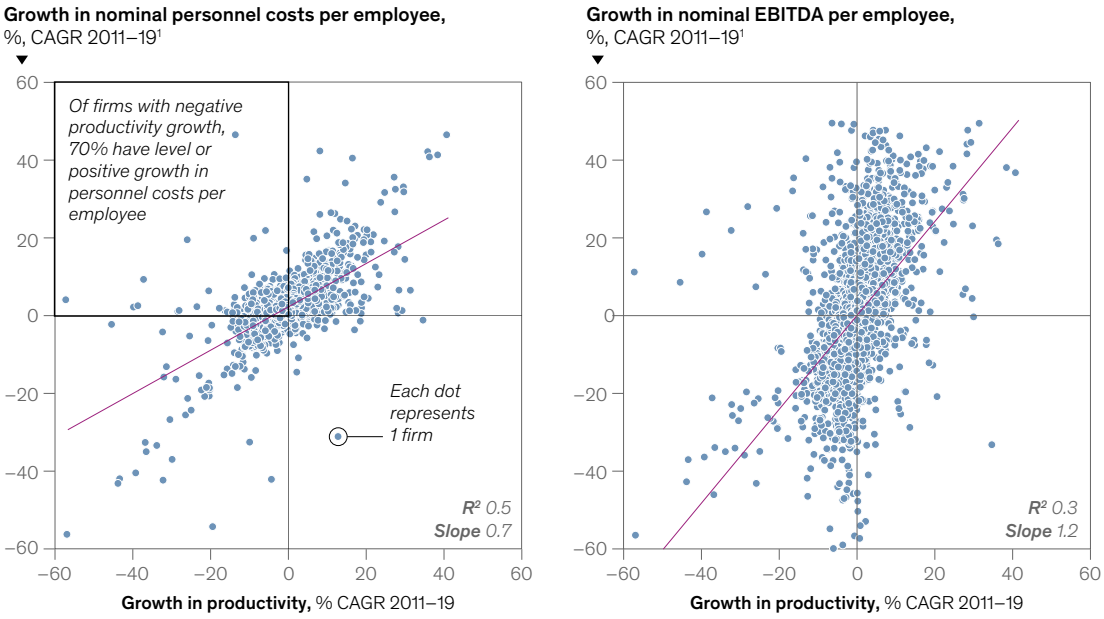
Business leaders justifiably emphasize profitability, growth, and shareholder value in their decision making. But there are three reasons productivity matters for the health of their companies: it is one of the only ways to serve all stakeholders; firms can actively create the economic growth they need to thrive; and it is especially relevant in times of tight labor markets.

First, productivity generated by firms is the only way to drive wages, profits, and consumer surplus at the same time. This is mathematical fact given that productivity growth is defined as growth in compensation per employee (wages) plus EBITDA per employee (profits), adjusted for changes in prices relative to quality (consumer surplus).

There has long been debate about the relationship between growth in productivity and in wages. As discussed in chapter 1, productivity and profitability are different but related. Indeed, our analysis shows that there is a stronger link between productivity and wages than between productivity and profits (Exhibit 32). In our sample of more than 5,000 firms in Germany and the United Kingdom (firms in the United States publish less compensation data), the relationship between average wages and the productivity of individual firms was quite strong.[144] Wages also tend to be sticky—70 percent of firms with declining productivity still paid increasing or steady nominal wages. Highly productive firms tend to be the best places to earn a healthy income.

Exhibit 32

Firms with the strongest productivity growth also have the strongest wage growth, while the link to profit is noisier.



[1]US firms excluded (because they use sector average personnel costs); German and UK firms with greater than absolute 100% CAGR excluded from analysis (extreme cases); for visual purposes, German and UK firms with +/– 25% productivity growth, +/– 25% nominal compensation CAGR, and +/– 50% EBITDA CAGR excluded.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; OECD; McKinsey Global Institute analysis

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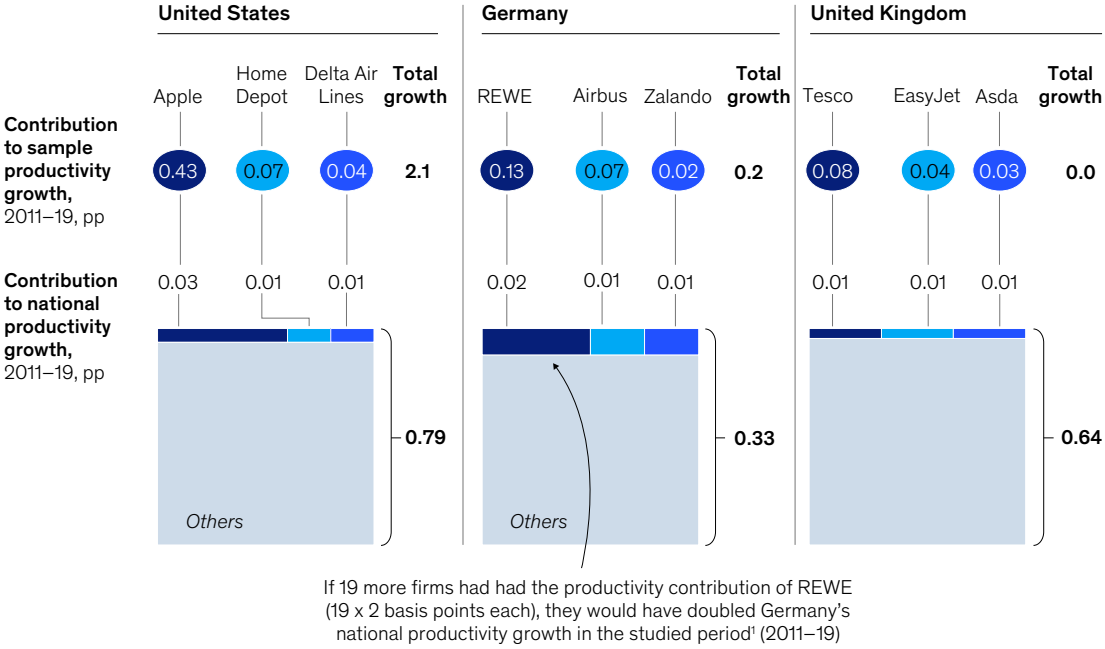
Second, businesses together can create the macroeconomic growth they need rather than being passive players within economies.[145] In the case of Germany, if there had been 19 more companies with the same productivity contribution as REWE our snapshot period, the productivity growth of the German private economy would have more than doubled in that period (Exhibit 33).[146]

Exhibit 33

Individual Standouts are substantial enough to have an impact on national—not just sample—productivity growth.



Note: 2011–19 productivity growth snapshot not representative of years prior or following.
[1]Financial performance outside of 2011–19 does not factor into this statement or analysis.
Source: 2025 Moody's Investors Service, Inc. and/or its affiliates and licensors; EU KLEMS; US Bureau of Labor Statistics; Capital IQ; U.S. Bureau of Economic Analysis; Germany's National Accounts aggregates by industry; UK Office for National Statistics; McKinsey Global Institute analysis

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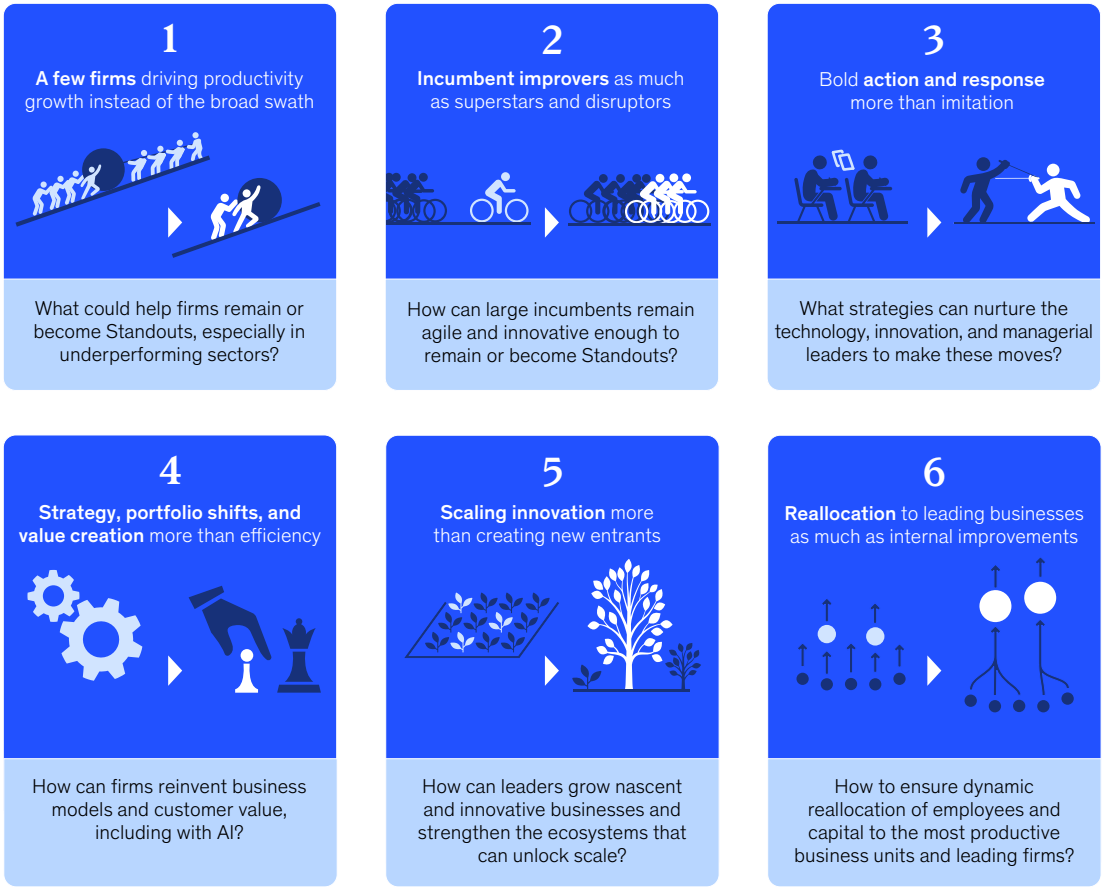
Third, productivity is a strategic imperative given long-term demographic shifts and in today's tight labor markets—which may remain tight for some time.[147] Not only can a healthy rate of productivity growth create more value from a scarce workforce, but it can also make possible the higher wages needed to attract the best talent.

Six shifts in thinking on productivity growth emerge from this research

The findings of this research shift thinking on productivity growth in six ways, each of which raises questions for leaders aiming to unlock it (Exhibit 34). Some of these shifts challenge prevailing views. One example is the finding in this research that a few firms using strategy to produce bursts boost productivity more than the broad swath of firms generating productivity through gradual diffusion. Others add new emphasis or nuance, such as the importance of creative destruction mostly via reallocation toward well-established leading firms rather than through entries and exits.

Exhibit 34

Six shifts in thinking on productivity growth emerge.



Source: McKinsey Global Institute analysis

McKinsey & Company

A few firms driving productivity growth instead of the broad swath

Rooted in the previously prevailing view that macroeconomic growth comes from a wide range of firms gradually enhancing productivity, policies have typically focused on a mix of foundational enablers to foster a business climate conducive to this. These include infrastructure development, access to finance, and workforce training. They also tend to include specific policies supporting smaller firms in adopting better practices. Sometimes these are complemented by industrial policies targeting specific sectors. But the significant role of Standouts may call for a different, or at least complementary, way of thinking about what enablers could be most effective—an asymmetric approach that matches the asymmetric contributions of firms.[148]

— *In which sectors are there too few Standouts or too many Stragglers, and what can be done?* The performance of firms is often tracked using standard metrics of business growth or stock-market performance. But alongside this approach, would it be useful to develop more individualized assessments to track firms and their contributions to productivity growth? What metrics could policymakers use? If we take the computer and electronics sector as an example, the United States has many Standouts while Germany and the United

Kingdom do not. How could they effect change? In other sectors, such as automotive, what could the United States do to nourish as many Standouts as Germany?

— *What tailored approaches could help firms remain or become Standouts, and which barriers could be removed?* Current Standouts and Stragglers, "dormant" large firms, and fast-growth disruptors are, in combination, likely to shape future productivity growth. What action would be most effective to help them to grow and create new value, or indeed restructure and turn around? What policies or approaches, today or in the future, might hinder their growth or their restructuring and turnaround? What is the right balance between a focus on preventing excessive market concentration and catalyzing the continued success of leading firms whose significant contributions to productivity growth can move the needle for their home economies? How can risks of preferential treatment or state capture be managed while taking focused steps to unlock the growth of future Standouts?

Incumbent improvers as much as superstars and disruptors

There has been much emphasis on superstar firms in technology and other sectors.[149] But our analysis suggests that there are multiple ways to become a Standout, and all are needed for sector or national productivity growth. The majority of Standouts are large incumbents achieving productivity gains over time (improvers), like Tesco and United Airlines. Only about 20 percent are scalers that lead from the front (arguably most similar to superstars, which are often defined as firms with the greatest share of economic profit) like Amazon and Apple.[150] An additional 10 percent of Standouts are smaller disruptors (but still far larger than any MSME), such as Zalando. All of these types of Standout contribute, and none warrants overemphasizing.

— *How can large incumbents remain agile and innovative enough to remain or become Standouts?* Large incumbents are Stragglers about as often as they are Standouts, and are often represented among other firms that make positive contributions but are not Standouts. What distinguishes those that successfully reinvent themselves and stay ahead on new opportunities and trends from those that fall back? How can they all leverage their scale while being adaptable and driving productivity? Which ones need to restructure or sell to become Standouts?

Bold action and response more than imitation

Some imitation and diffusion of best practices from leaders to laggards occur, but the real engine of productivity growth is bold, idiosyncratic strategic moves to which competitors then respond. This action-and-response dynamic generates bursts of productivity, which can be observed at all levels or units of economic activity (see sidebar "Productivity happens in bursts").

— *How can firms better shape or respond swiftly to newly emerging technologies and business models, and what is the role of policy?* Tracking new trends and competitive shifts is key, and action and response by firms help boost value creation. How can there be greater exposure to global ideas and competition? What mechanisms need to be in place for continued R&D investment to stay at the forefront? How can there be more experimentation and room to double down on what works?

— *What talent strategies and educational policies could nurture the technology and innovation capability as well as managerial leaders who can make bold strategic moves?* Firms should foster high-quality and bold managerial talent with sufficient foresight to propose, design, and execute ambitious strategy. This may be as important as nurturing the skills of the broader workforce.[151]

Strategy, portfolio shifts, and value creation more than efficiency

Operational efficiency matters, but firm-level productivity growth is mostly generated by strategic moves that unlock more productive business models and portfolios, customer value, or innovation at scale.

SIDEBAR

Productivity happens in bursts

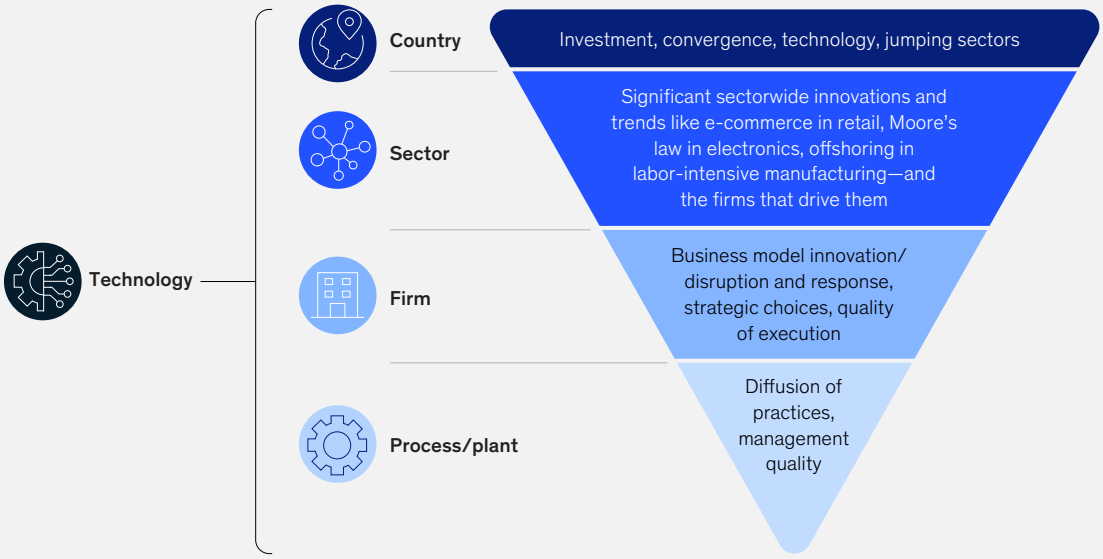
Productivity bursts happen at the country, sector, firm, and even plant level (Exhibit A).

Country bursts. At the national level, history provides multiple examples of rapid global productivity acceleration driven by a few individual countries. During the postwar boom in Western Europe, countries rebuilt their economies and made significant productivity gains, facilitated by investment, technological catch-up, and industrial modernization. They had 1.5 times higher growth than the global average from 1951 to 1970. China's accession to the World Trade Organization in 2001 catalyzed two decades of rapid productivity growth, contributing about 25 percent of the total global productivity growth between 2001 and 2006 as the country integrated into global value chains.[1] Similarly, economies in Central and Eastern Europe experienced strong productivity surges after the fall of the Berlin Wall as they transitioned into being market economies and attracted foreign investment.

Sector bursts. In the United States, a significant burst of productivity growth in the 1990s came from the large retail sector as it transitioned to big-box formats. In the 2000s, there was a burst from a combination of a shift toward offshoring manufacturing and Moore's law in electronics, which holds that the number of transistors in a microchip doubles every two years, signaling more broadly that computers grow more powerful and efficient while becoming less expensive. However, while Moore's law initially translated into lower semiconductor prices and rapid gains for consumers, the effect waned over time. In the 2000s, innovation and adoption of information and communications technology boomed (Exhibit B).

Exhibit A

Productivity happens in bursts, from the country level to that of individual processes or plants.



Source: McKinsey Global Institute analysis

McKinsey & Company

[1] Total economy database, *Key findings*, The Conference Board, May 2024.

Productivity happens in bursts (continued)

Technology bursts. Two of the forces we have just described that propelled large bursts in sector productivity were essentially related to technology and its use at scale. In reality, technological bursts have an impact at all levels.

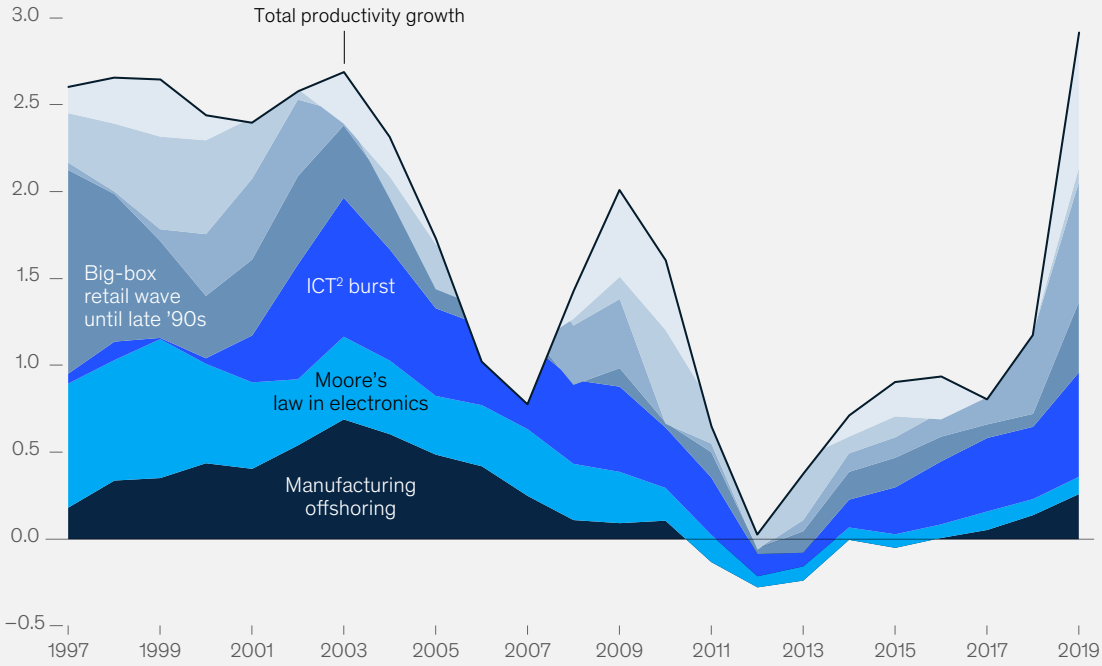
Firm-level bursts. This research shows that an effective way to think about productivity dynamics is what might be called "disruption and response." In many sectors, a few firms disrupt the market and others then respond with their own ways to drive productivity. In retail, for instance, discounters disrupted many markets around the world. In response, other firms sharpened their value propositions and drove productivity. Tesco, for example, responded to attack from hard discounters through cost reduction and portfolio adjustment strategies while also leveraging its convenient locations.

Process or plant-level bursts. Here the literature suggests that more traditional incremental diffusion is relevant, with more productive practices like lean operating being adopted initially for certain processes, products, or plants, and then rolled out within and across firms.[2] But even here, progress on productivity can be associated with large bursts—for example, new plants tend to be equipped with the latest technology and process improvements, and new service offerings developed with the latest process design and software.

Exhibit B

Productivity bursts in sectors.

US sample: labor productivity growth contribution by sector, 3-year rolling average,[1] all industries excluding real estate, 1997–2019, %



[1]The value for each year is averaged with the previous and the following years.
[2]Information and communications technology.
Source: EU KLEMS, 2023 release; McKinsey Global Institute analysis

McKinsey & Company

[2] Shoki Kusaka et al., *The decline of labor share and new technology diffusion: Implications for markups and monopsony power*, Discussion Paper Series number 23-E-047, Research Institute of Economy, Trade and Industry, 2023; and Abu Hamja, Miguel Malek Maalouf, and Peter Hasle, "The effect of lean on occupational health and safety and productivity in the garment industry—a literature review," *Production & Manufacturing Research*, May 2019.

— *How can firms reinvent business models and customer value as they seek productivity advances from new technology, including AI?* If this research is any guide, automating tasks and chasing efficiency—even when execution is smooth—will not be the primary value driver. Particularly with generative AI, today's focus tends largely to be on process efficiency and cost cutting, but what about its potential to drive top-line growth? Where is the play for revenue and new value creation?

— *Where and how can M&A play a role?* Are there bolt-on acquisitions to improve customer value, buy- and sell-side portfolio adjustments, or horizontal M&A for consolidation and scale efficiency options that could be considered?

Scaling innovation more than creating new entrants

Innovation by young companies that then grow fills the funnel of future Standouts, but it is Standouts scaling innovations that power productivity growth in the medium term. Businesses need to have the right strategy and deploy at scale. MSMEs that neither innovate nor scale can fulfill many important societal roles, but they largely do not drive productivity.

— *How can the Standouts of tomorrow be nurtured?* What policies may help startups to scale and raise productivity more quickly? Could there be more proactive policy approaches for supporting innovative MSMEs or startups that could scale while triggering consolidation of others, such as a "fail faster, scale faster" approach? What current policy frameworks may be fueling or stalling the rise of new industry leaders and the consolidation of those that are not likely to be leaders?

— *How can businesses strengthen the capabilities and ecosystems needed to deploy innovation at scale?* Are there opportunities for incumbents, disruptors, and young firms to collaborate? How can ecosystems that give incumbents access to new innovation and give young firms access to large markets and deployment platforms be built? How can venture capital and investment firms double down on scaling the most ambitious young firms and these ecosystems?

Dynamic reallocation toward leading firms and business units as much as internal improvements

The exit of unproductive firms and shifts in employment from less productive to more productive enterprises is one of the most important channels of medium-term productivity growth. While this fact has been long understood in academia, this research puts renewed emphasis on it and highlights the outsize role of restructuring, particularly of large, ailing firms. We acknowledge that such restructuring or exits can be painful for workers and the regions they call home, and should best be paired with the growth of Standouts providing new opportunities. Even within firms, it is fair to say that reallocation of resources to higher-value activities is one of the more important drivers of productivity.

— *Can business leaders rethink their governance to allow decisive resource reallocation?* Do businesses have the operating model in place to conduct regular reviews and to be able to shift resources (employees, capital, and customers) decisively as opportunities arise?[152]

— *What policies could support dynamic shifts in jobs to the most productive firms and help less productive ones turn around or restructure?* Large, unproductive firms can make a considerable contribution to productivity growth if they restructure effectively or leave the market in a nondisruptive way that enables their employees (and customers) to move smoothly to more productive firms. Could policymakers in Germany and the United Kingdom look at the experience of the United States, whose dynamic labor markets have delivered in this way, and reconsider the role of creative destruction in promoting productivity growth? For their part, what further action could US policymakers consider in order to ensure that such labor-market dynamism continues and is accompanied by broad macroeconomic stability, for instance?

Economies rely on productivity growth to sustain prosperity, and firms depend on it to create value for their stakeholders. This report takes a fresh look at productivity growth by focusing on firms. This approach has uncovered new insights that complement conventional wisdom and some that offer a shift in how to think about boosting productivity growth. We hope our findings help reframe the discussion for policy and business leaders and point toward new avenues for fostering it.

Acknowledgments

This is the latest research in MGI's effort to understand the vital topic of productivity. It focuses on the firms that are most relevant for driving productivity growth, building on MGI's long-standing efforts to understand how companies advance global economic and social progress. Quantitative analysis is enriched with sector- and firm-specific case studies in the spirit of MGI's "micro-to-macro" approach.

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Endnotes

EXECUTIVE SUMMARY

1 For challenges related to the global balance sheet, see *The rise and rise of the global balance sheet: How productively are we using our wealth?* McKinsey Global Institute, November 2021; *Global balance sheet 2022: Enter volatility*, McKinsey Global Institute, December 2022; and *The future of wealth and growth hangs in the balance*, McKinsey Global Institute, May 2023. For financing for net zero, see *The net-zero transition: What it would cost, what it could bring*, McKinsey Global Institute, January 2022. For empowerment gaps, see *A better life everyone can afford: Lifting a quarter billion people to economic empowerment*, McKinsey Global Institute, May 2024; and *From poverty to empowerment: Raising the bar for sustainable and inclusive growth*, September 2023. For the demographic transition, see *Dependency and depopulation? Confronting the consequences of a new demographic reality*, McKinsey Global Institute, January 2025.

2 *Dependency and depopulation? Confronting the consequences of a new demographic reality*, McKinsey Global Institute, January 2025.

3 MGI has written extensively about productivity. For more on the Walmart effect, see, for instance, William W. Lewis, Vincent Palmade, Baudouin Regout, and Allen P. Webb, "What's right with the US economy," *McKinsey Quarterly*, February 1, 2002. For recent analyses, see the MGI reports *Rekindling US productivity for a new era*, February 2023; *Accelerating Europe: Competitiveness for a new era*, January 2024; *Investing in productivity growth*, March 2024; and *A microscope on small businesses: Spotting opportunities to boost productivity*, May 2024.

4 See, for instance, the MGI reports *Outperformers: High-growth emerging economies and the companies that propel them*, September 2018; *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, October 2018; *Latin America's missing middle of midsize firms and middle-class spending power*, May 2019; and *A new look at how corporations impact the economy and households*, May 2021.

5 From a sample of about 8,300 firms, 900 are in the US sample, about 3,000 in the German sample, and some 4,400 in the UK sample.

6 Dan Andrews, Chiara Criscuolo, and Dirk Pilat, "The future of productivity: Improving the diffusion of technology and knowledge," Digiworld Economic Journal, number 100, fourth quarter, 2015.

7 For more on external, sector-level factors that can drive within-firm productivity differences, see Chad Syverson, "What determines productivity?" Journal of Economic Literature, volume 49, number 2, June 2011. For detail on how contexts with limited technology diffusion can undermine aggregate productivity growth, see Bernado Mottironi, Labour market power and aggregate productivity, POID Research Seminars, November 2014.

8 MSMEs account for 30 percent of US and UK productivity growth (positive in the United States, negative in the United Kingdom, and near zero in Germany for the four sectors analyzed). Sectors with notable shares of MSME contribution are US retail and UK computers, as well as German and UK travel and logistics, where MSME GVA shares are significantly higher. Contributions were calculated using OECD firm splits by business size for Germany and the United Kingdom, and census data for the United States, applied to OECD productivity growth rates.

9 For more on the importance of young firms and innovation to labor productivity, see, for instance, Ryan A. Decker et al., "Changing business dynamism and productivity: Shocks versus responsiveness," *American Economic Review*, volume 110, number 12, December 2020; John Haltiwanger et al., "High growth young firms: Contribution to job, output, and productivity growth," in John Haltiwanger et al., eds., *Measuring entrepreneurial businesses*, Studies in Income and Wealth, volume 75, National Bureau of Economic Research, September 2017; and Daron Acemoglu et al., "Innovation, reallocation, and growth," *American Economic Review*, volume 108, number 11, November 2018.

10 This finding is in line with existing literature, which holds that firms from different percentiles of the productivity distribution can contribute meaningfully to productivity growth. See, for instance, *Trends in UK business dynamism and productivity: 2024*, Office for National Statistics, December 3, 2024; and Bart van Ark and Mary O'Mahony, *The UK's productivity challenge: People, firms, and places*, The Productivity Institute and Economic and Social Research Council, November 2023.

11 We compared Standouts with the top 5 percent of firms by productivity level and growth, which are often identified in the productivity dispersion and diffusion literature, and found virtually no overlap.

12 To get to firms in the frontier, we first rank all firms by productivity per employee, then select, from most to least productive, the ones that collectively employ 20 percent of employees in our sample. For instance, consider an economy made up of only five firms and 100 workers. Firms are ranked from most to least productive. Firm 1 is the most productive, Firm 2 is second, and so on until Firm 5, the least productive. Once ranked by productivity, firms' employment share according to their productivity rank is 2, 8, 10, 20 and 60 percent. In this case, firms 1 to 3 are the most productive and account for up to 20 percent of the economy's employment share. Therefore, firms 1 to 3 are inside the frontier, Firm 3 defines the frontier's productivity threshold, and all firms less productive than Firm 3 are outside it.

13 Our 2019–23 analysis compiles data from a variety of sources, including McKinsey Value Intelligence, S&P Global Market Intelligence, national statistics databases, IHS Markit, OECD, and the International Labour Organization. The subset of 114 firms was selected based on data availability for the 2019–23 period and consistency of data quality when compared with the 2011–19 database. A manual review of firms was conducted where firms showing variation from the 2019–23 data set to the 2011–19 database were validated and updated where required using published financial statement data. Country- and sector-level productivity growth from 2019 to 2023 was calculated using publicly available data from national statistics for deflators, wage data, and real GVA. We acknowledge that our sample does not analyze the full population of top Standouts and Stragglers. However, we note that by analyzing the subset of firms for which data is consistent across both periods and using the same source of data for 2019 and 2023, we are confident that our findings are sufficiently robust to compare productivity performance over both periods.

14 Note that our 2019–23 analysis was performed on only 114 2011–19 firms for which data was readily available, and not the whole population of firms.

15 Inflation follows a similar pattern of idiosyncratic bursts rather than being driven by macroeconomic shocks. See, for instance, Santiago Alvarez-Blaser et al., *The granular origins of inflation*, BIS working paper number 1240, January 2025.

16 Marcela Eslava and John C. Haltiwanger, *The size and life-cycle growth of plants: The role of productivity, demand and wedges*, National Bureau of Economic Research working paper number 27184, May 2020.

17 A frontier firm is defined as being in the employment-weighted top quintile of the firm's sector. To get to firms in the frontier, we first rank all firms by productivity per employee, then select, from most to least productive, the ones that collectively employ 20 percent of employees in our sample. For instance, consider an economy made up of only five firms and 100 workers. Firms are ranked from most to least productive. Firm 1 is the most productive, Firm 2 is second, and so on until Firm 5, the least productive. Once ranked by productivity, firms' employment share according to their productivity ranks is 2, 8, 10, 20, and 60 percent. In this case, firms 1 to 3 are the most productive and make up to 20 percent of the economy's employment share. Therefore, firms 1 to 3 are inside the frontier, Firm 3 defines the frontier's productivity threshold, and all firms less productive than Firm 3 are outside it.

18 We assessed convergence by looking at how the productivity of nonfrontier firms grew relative to the productivity of frontier firms in 2011–19. Our approach is in line with methodology used by Min Zhu, Longmei Zhang, and Daoju Peng, *China's*

growth potential—A stocktaking and sectoral approach, International Monetary Fund, November 2019. Others calculate country convergence by comparing the gap between countries that at time t were in the frontier and not in the frontier. See Daron Acemoglu, Philippe Aghion, and Fabrizio Zilibottu, "Distance to frontier, selection and economic growth," *Journal of the European Economic Association*, volume 4, number 1, March 2006; and Michael Kremer, Jack Wills and Yang You, *Converging to convergence*, National Bureau of Economic Research working paper number 29484, November 2021. Firms in our sample move in and out of the frontier in 2011 versus 2019, whereas in the latter methodology, country status is fixed across the periods of comparison. If we were to fix firm frontier status as per 2011 and compare the productivity of those firms with firms that were nonfrontier in 2011, we would see a lot more convergence across the subsectors. This is because many firms that were in the frontier in 2011 reduced productivity and were replaced by other firms pulling in from outside the frontier. However, that fails to illustrate the change in the gap of productivity of leaders versus laggards. For that, comparison of frontier versus nonfrontier productivity is required, as we have done.

[19] Note that this split is sensitive to where we draw the line. The reallocation effect becomes bigger when we aggregate subsectors into sectors, because it then captures more of the impact of sector mix. The importance of the reallocation effect is in line with previous research. According to Chad Syverson in "What determines productivity?" *Journal of Economic Literature*, volume 49, number 2, June 2011, aggregate productivity growth in US retail happens mostly through the exit of less efficient single-store firms and reallocation to more efficient chain store affiliates. For detail, see Lucia Foster, John Haltiwanger, and C. J. Krizan, "Market selection, reallocation, and restructuring in the U.S. retail trade sector in the 1990s," *The Review of Economics and Statistics*, volume 88, issue 4, 2006.

[20] In our sample, Standouts were, on average, 58 years old (since incorporation) and the youngest firm (not the result of a merger or spin-off) was 11 years old in 2019.

[21] Excluding the computer and electronics sector, the United States had 1.3 times more Standouts than Stragglers, while both Germany and the United Kingdom had more Stragglers than Standouts.

[22] This analysis differs from examining individual subsectors as we did above, because it also captures the impact of movement across them. We look at our lab economy only and do not know the impact of employees leaving or entering firms outside the sample.

[23] There are good business reasons for productivity and profitability growth to move in different directions in the short term. One is that companies may opt to engage in lower-productivity activities because they enhance profits or strengthen strategic positioning, even if the impact on the productivity of the firm is negative. For instance, a shipping company that acquires a trucking business might boost its market position and resilience but would reduce its average productivity level. Consider, too, that firms that invest heavily in growth initiatives can experience a temporary drag on productivity. Scaling those operations can lower productivity in the short term but sets the company up for higher productivity over the longer run. Outsourcing may also affect productivity levels differently, depending on the productivity of the functions outsourced.

[24] *Help wanted: Charting the challenge of tight labor markets in advanced economies*, McKinsey Global Institute, June 2024; and *Dependency and depopulation: Confronting the consequences of the new demographic reality*, McKinsey Global Institute, January 2025.

[25] We acknowledge the potential risks associated with firms that accumulate potential unfair market and monopsony power and the longer-term concerns around market dominance stifling competition and innovation. Approaches to boosting Standouts need to be balanced against this.

[26] For common descriptions and analyses of superstar firms, see *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018, which defines superstar firms as the ones with the greatest share of economic profit; and David Autor et al., "The fall of the labor share and the rise of superstar firms," *The Quarterly Journal of Economics*, volume 135, issue 2, May 2020. Some definitions of superstar firms are that they (1) have the largest revenue market share or profit pool share; (2) achieve the greatest gains in market share or marginal improvements in productivity; or (3) leverage their size to propel productivity growth, driving down marginal costs of expansion and gaining even more market share in the process.

CHAPTER ONE

[27] For firm-level value added, we use the Orbis database, making adjustments where necessary. For US firms whose disclosure requirements are lower, we estimate employee costs by taking sector-level average wages. We make manual adjustments using firm financial statements for the most relevant firms. GVA is adjusted to constant 2019 values in local currency with two-sided deflators that adjust for changes in input and output prices at the sector but not at the firm level. For more detail on data preparation, see the technical appendix.

[28] This research uses total number of employees rather than number of hours or only full-time employees. We acknowledge that countries, sectors, and firms have varying shares of part-time work; however, this has limited impact on our findings because the overall share of part-time workers remained relatively stable in this period.

[29] Country- and sector-specific deflators used come from EU KLEMS.

[30] Productivity research recognizes that real GVA, calculated by revenue divided by a sector price deflator, may not represent true production quantities. See, for instance, Lucia Foster, John Haltiwanger, and Chad Syverson, "Reallocation, firm turnover, and efficiency: Selection on productivity or profitability?" *American Economic Review*, volume 98, number 1, March 2008. This is because idiosyncratic factors can affect firm-level prices and, in turn, affect value added, without necessarily being related to quality or productive efficiency as captured by a production function. Even though so-called revenue-based productivity might not be the same as "true" productivity calculated using firm-level deflators, both are commonly similar. See Dennis O. Kundisch, Neeraj Mittal, and Barrie R. Nault, "Research commentary: Using income accounting as the theoretical basis for measuring IT productivity," *Information Systems Research*, volume 25, number 3, September 2014.

[31] Real value added per worker can also be seen as a function of pretax ROIC growth, acceleration of asset cycles (in turn, a function of higher depreciation rates), increase in capital depth per worker (a function of invested capital by number of employees), and increase in employee compensation.

[32] See Cindy Cunningham et al., "Dispersion in dispersion: Measuring establishment-level differences in productivity," *Review of Income and Wealth*, volume 69, issue 4, September 2022. The authors write that multiple studies in productivity dispersion literature have found that high-wage establishments are also more productive, and that rising between-establishment dispersion in wages is closely associated with rising between-establishment dispersion in productivity. See, for instance, Timothy Dunne et al., *Wage and productivity dispersion in U.S. manufacturing: The role of computer investment*, National Bureau of Economic Research working paper number 7465, January 2000.

[33] *A new look at the declining labor share of income in the United States*, McKinsey Global Institute, May 2019.

[34] There are good business reasons for productivity and profitability growth to move in different directions in the short term. One is that companies may opt to engage in lower-productivity activities because they enhance profits or strengthen strategic positioning, even if the impact on the productivity of the firm is negative. For instance, a shipping company that acquires a trucking business might boost its market position and resilience but would reduce its average productivity level. Consider, too, that firms that invest heavily

in growth initiatives can experience a temporary drag on productivity. Scaling those operations can lower productivity in the short term but sets the company up for higher productivity over the longer run. Outsourcing may also affect productivity levels differently, depending on the productivity of the functions outsourced.

[35] Contributions result from a sum of two main components: a firm productivity effect and a reallocation effect. The former is the product of the change in a firm's productivity from 2011 to 2019 and its average employment share in the same period. The latter is the product of the change in a firm's employment share from 2011 to 2019, multiplied by the difference between the firm's productivity and average sector productivity in the same period. One of the features of this approach in comparison with other methods is that it allows for shrinking and exiting firms with negative productivity growth to generate positive sector- and country-level contributions. For more detail on the decomposition method adopted, see Lucia Foster, John C. Haltiwanger, and C. J. Krizan, "Aggregate productivity growth: Lessons from microeconomic evidence," in Charles R. Hulten, Edwin R. Dean, and Michael J. Harper, eds., *New developments in productivity analysis*, University of Chicago Press, 2001. This approach is closely related to the one used in Zvi Griliches and Haim Regev, "Firm productivity in Israeli industry 1979–1988," *Journal of Econometrics*, volume 65, issue 1, January 1995. This method is designated the shift-share method in the World Bank's Jobs Diagnostics JobStructure (JoGGs), too. See *Jobs diagnostics: Data, tools and guidance*, World Bank, accessed February 2025. There are several other decomposition methodologies. Two other common approaches to decompose productivity growth into absolute terms were tested as alternatives: a Centre for the Study of Living Standards approach and what is called a "canonical" approach in J. Gaaitzen de Vries, Marcel Timmer, and Klass de Vries, "Structural transformation in Africa," *Journal of Development Studies*, 2015. See the technical appendix for key differences between approaches and why we chose our method.

[36] To minimize the impact of the pandemic on our data, we used 2011 to 2019 calendar year reporting where possible. For some firms, this means referring to financial year 2018 reports that were published in 2019 rather than using financial year 2019 reports that would capture the impact of the pandemic. In 2011, there were challenges to certain subsectors, but our tests showed that inclusion of this time frame does not skew our core findings. However, the aggregate productivity growth rate during this period was lower than in other significant historical eras, suggesting that further research on periods of rapid growth could yield additional insights on productivity drivers. Potential limitations introduced by this period include insufficient time for transformative technological change and for entering firms to achieve mature productivity levels; the significant growth of Big Tech firms in these years; a starting year that posed challenges to certain subsectors; and the fact that the period chosen began shortly after the global financial crisis. Firms that performed well on productivity during this period may have experienced different outcomes later, and vice versa.

[37] *Investing in productivity growth*, McKinsey Global Institute, May 2024.

[38] This research is intended to stand alone. When the availability and quality of data improve, replicating it for a more recent period could be a promising area of future research.

[39] See the technical appendix for more detail on methodology used to calculate productivity contribution by firm size based on national statistics.

[40] For more on the importance of young firms and innovation to labor productivity, see, for instance, Ryan A. Decker et al., "Changing business dynamism and productivity: Shocks versus responsiveness," *American Economic Review*, volume 110, number 12, December 2020; John Haltiwanger et al., "High growth young firms: Contribution to job, output, and productivity growth," in John Haltiwanger et al., eds., *Measuring entrepreneurial businesses*, Studies in Income and Wealth, volume 75, National Bureau of Economic Research, September 2017; and Daron Acemoglu et al., "Innovation, reallocation, and growth," *American Economic Review*, volume 108, number 11, November 2018.

[41] John Haltiwanger, "Job creation, job destruction, and productivity growth: The role of young businesses," *Annual Review of Economics*, volume 7, 2015.

[42] Business-to-business companies that interact closely with other firms, often larger ones, as part of their supply chains have a narrower productivity gap with large firms than business-to-consumer MSMEs that sell primarily to individuals. On average, the gap is 40 percent narrower. See *A microscope on small businesses: Spotting opportunities to boost productivity*, McKinsey Global Institute, May 2024.

[43] Segmenting domestic operations comes with its own challenges, notably transfer pricing and data limitations.

[44] To understand what share of firm revenue is foreign, we used more than 250 firms' annual reports. Data on firms' value added and employment by location is very limited, and we therefore use revenue as a proxy. For comparison in the United States, multinational firms in our focus sectors derived 20 percent of value added from international operations, with some variation by sector and country. For instance, computers and electronics had 30 percent of value added from foreign operations. See *Activities of U.S. multinational enterprises, 2019*, Bureau of Economic Analysis, November 12, 2021. See the technical appendix for more detail.

[45] The number of reported US employees doubled from about 45,000 employees in 2011 to about 90,000 in 2019, according to companies' publicly disclosed information. See, for instance, "Two million U.S. jobs. And counting," Apple, May 2017, for the domestic share in 2011, and "Apple's US job footprint grows to 2.4 million," Apple, August 2019, for the domestic share in 2019. The number of full-time-equivalent employees comes from companies' 2011 and 2019 Form 10-K.

[46] National economies' productivity growth rates were calculated using OECD data for value added by activity. US Census Bureau and OECD structural business statistics by size class and economic activity data sets were used to calculate distribution of GVA by firm size. EU KLEMS country- and sector-specific two-sided deflators were used to calculate real GVA. Note that we calculate labor productivity using value added as output and number of workers as input, and therefore results might differ across sources (for instance, the US Bureau of Labor Statistics considers sector output instead of value added, which affects resulting growth rates).

[47] Other factors influencing this sector include that much of the growth of German discounters in the United Kingdom is accounted for in the German sample, and German and UK retail sectors miss the effect of Amazon and other global e-commerce retailers that are not headquartered locally but undoubtedly influence productivity dynamics.

CHAPTER TWO

[48] It is worth noting that a power-law-type pattern of asymmetrical contributions of a few firms, sectors, and regions has been found across many measures of economic and social progress. For industries, see *The next big arenas of competition*, McKinsey Global Institute, October 2024. For regions, see *Pixels of Progress: A granular look at human development around the world*, McKinsey Global Institute, December 2022. For growth, see *Outperformers: High-growth emerging economies and the companies that propel them*, September 2018; and *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, October 2018.

[49] The combined productivity growth of all firms in any one geography in our sample.

[50] Two percent is approximately the top quartile of subsectors' productivity growth rates.

[51] For a detailed discussion of external, sector-level factors that can drive within-firm productivity differences, see Chad Syverson, "What determines productivity?" *Journal of Economic Literature*, volume 49, number 2, June 2011. For detail on how contexts with limited technology diffusion can undermine aggregate productivity growth, see Bernado Mottironi, *Labour market power and*

aggregate productivity, POID Research Seminars, November 5, 2014.

[52] The sector environment and the presence of Standouts and Stragglers also explain why there tends to be a small set of "jumping sectors" that have the strongest productivity growth. For more, see *Solving the productivity puzzle: The role of demand and the promise of digitization*, McKinsey Global Institute, February 2018.

[53] *A microscope on small businesses: Spotting opportunities to boost productivity*, McKinsey Global Institute, May 2024.

[54] Non-Standouts account for 22 percent of the positive productivity growth in the United States, 35 percent in Germany, and 55 percent in the United Kingdom.

[55] Performance for their size is based on a higher contribution per employee compared with other large firms.

[56] Large firms are defined as the top 10 percent of firms by number of employees.

[57] Frontier firms are defined as being in the employment-weighted top quintile of the sector. Consistent with previous findings on the productivity frontier, frontier firms tend to be larger and more global than nonfrontier firms. See more in Dan Andrews, Chiara Criscuolo, and Peter N. Gal, *Frontier firms, technology diffusion and public policy*, OECD Productivity Working Papers, November 2015.

[58] According to Lucia Foster et al., *Innovation, productivity dispersion, and productivity growth*, National Bureau of Economic Research working paper number 24420, September 2018, productivity dispersion commonly found in firm-level productivity literature can reflect multiple factors, where "frictions" describe factors that the social planner cannot overcome, such as adjustment costs that are part of the technology of adjustment. "Distortions" describe market failures, policies, or institutions that impede firms adjusting to their optimal size. See, for instance, Chad Syverson, "What determines productivity?" *Journal of Economic Literature*, volume 49, number 2, June 2011. These factors include idiosyncratic productivity shocks, managerial ability and practices, product differentiation, frictions, and distortions. It is understood that the reallocation of resources away from low-productivity to high-productivity firms reduces this dispersion and contributes to productivity growth.

[59] See the technical appendix for detail on where Standouts and firms that showed 95th percentile productivity levels in 2011 or growth between 2011 and 2019 overlap.

[60] For more detail, see John Haltiwanger et al., "High growth young firms: Contribution to job, output, and productivity growth," in John Haltiwanger et al., eds., *Measuring entrepreneurial businesses*, Studies in Income and Wealth, volume 75, National Bureau of Economic Research, September 2017. Reference to the study is made to help illustrate the outsize importance of Standouts as a smaller set of firms, identified by a narrower threshold, with highest relative contribution to aggregate productivity growth. We acknowledge that definitions of high-growth firms and output generated might not be exactly equivalent to those adopted in our analysis.

[61] Based on 2012 US Census data on total number of firms (SUSB database) and self-employed establishments (NES database) in the retail sector. See *2012 SUSB annual data tables by establishment industry*, United States Census Bureau, January 2015; and *Current employment statistics highlights January 2012*, Bureau of Labor Statistics, February 3, 2012.

[62] For common descriptions and analyses of superstar firms, see *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018, which defines superstar firms as the ones with the greatest share of economic profit; and David Autor et al., "The fall of the labor share and the rise of superstar firms," *The Quarterly Journal of Economics*, volume 135, issue 2, May 2020. Some definitions of superstar firms are that they (1) have the largest revenue market share or profit pool share; (2) achieve the greatest gains in market share or marginal improvements in productivity; or (3) leverage their size to propel productivity growth, driving down marginal costs of expansion and gaining even more market share in the process.

[63] We have cross-checked the overlaps between Standouts and superstar firms with previous MGI reports, namely, *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018. In this research, superstars were firms in the 90th percentile for 2014–16 average nominal economic profit (about 700 firms). For comparison purposes, we have updated sample firms' nominal economic profit data for 2011 and 2019, which resulted in a new set of about 700 superstar firms based on 2011–19 average economic profit. Only about 70 percent of these firms overlapped with our sample. Of these, 30 percent were both superstars and Standouts, and 5 percent were both superstars and Stragglers.

[64] While we use the best available granular sector-level deflators, it cannot be ruled out that there are firm-level price effects that may give unfair advantage to large or superstar firms in becoming Standouts. Results should be robust to subsector-level price effects but may still be skewed should an individual firm (1) amass a disproportionate share of profits in a sector; (2) achieve this via monopoly or oligopoly power rather than by offering better customer value; and (3) use this power vis-à-vis suppliers from the same sector rather than other sectors so that price effects average out and do not become visible in deflators.

[65] This analysis is not as in-depth as in the 2011–19 period due to the very small sample and data limitations. It is meant to be an illustrative exercise of how specific firms can change trajectory. Our 2019–23 analysis compiles data from a variety of sources, including McKinsey Value Intelligence, S&P Global Market Intelligence, national statistics databases, IHS Markit, OECD, and the International Labour Organization. The subset of 114 firms was selected based on data availability for the 2019–23 period and consistency of data quality when compared with the 2011–19 database. A manual review of firms was conducted where firms showing variation from the 2019–23 data set to the 2011–19 database were validated and updated where required using published financial statement data. Country- and sector-level productivity growth from 2019 to 2023 was calculated using publicly available date from national statistics for deflators, wage data, and real GVA. We acknowledge that our sample does not analyze the full population of top Standouts and Stragglers. However, we note that by analyzing the subset of firms for which data is consistent across both periods, and using the same source of data for 2019 and 2023, we are confident that our findings are sufficiently robust to compare productivity performance over both periods.

CHAPTER THREE

[66] All the information is based on public sources, including companies' financial and other reports.

[67] All numbers in this section are from McKinsey Value Intelligence Platform.

[68] The metrics in this section come from the McKinsey Value Intelligence Platform unless explicitly addressed in an endnote.

[69] McKinsey Value Intelligence Platform; and S&P Global Market Intelligence.

[70] McKinsey Value Intelligence Platform; and *The economics of aerospace: The evolving aerospace R&D landscape*, Aerospace Technology Institute, 2018.

[71] Matt Burns, "Exclusive: 2019 HAX report reveals hardware startup trends," TechCrunch, October 18, 2019.

[72] "Apple Services now available in more countries around the world," Apple, April 21, 2020.

[73] Apple 10-K, 2011 and 2018. Apple stopped reporting the number of iPhones sold in 2019.

[74] easyJet annual reports, 2011 and 2019.

[75] REWE Group.

[76] *REWE strengthens logistics with investments of 250 million euros in Magdeburg*, REWE, June 21, 2024.

[77] Euromonitor.

[78] Zalando annual report, 2019.

[79] *From ICE to EV: How EV manufacturing is changing the game*, Stanley Engineered Fastening, accessed September 2024; and *Electrification*, Nissan Motor Corporation, accessed September 2024.

[80] *Global EV data explorer*, International Energy Agency, last updated April 23, 2024.

[81] "Nissan LEAF is the top-selling EV in Europe," Nissan, January 22, 2019.

[82] *Number of Nissan Leaf registered cars in Great Britain between 2011 and 2018*, Statista, accessed September 2024.

[83] David Welch, Melissa Cheok, and Bloomberg, "GM is exiting 3 more markets," *Fortune*, February 17, 2020; and Pankaj Doval, "General Motors to stop India sales on rising losses," *Times of India*, May 19, 2017.

[84] *Annual report 2019*, Smith & Nephew.

[85] This finding is aligned with evolutionary economic literature, which draws on insights from evolutionary biology, complexity theory, and network science to link the microeconomic behavior of firms, suggesting that branching out into technologically related industries is more likely than breakthroughs to new industries. For more detail, see Richard Shearmur, Christophe Carrincazeaux, and David Doloreux, eds., *Handbook on the geographies of innovation*, 2016.

[86] Amazon annual reports, 2015 and 2019.

[87] Apple 10-K, 2011 and 2019. This considers sales of wearables, home, accessories, and services (in the 2011 classification, peripherals and other hardware and software, service, and other sales).

[88] "Broadcom to acquire CA Technologies for $18.9 billion in cash," Broadcom, July 11, 2018.

[89] "Broadcom to acquire Symantec Enterprise security business for $10.7 billion in cash," Broadcom, August 8, 2019.

[90] *Company history*, Broadcom, accessed October 2024.

[91] Euromonitor.

[92] "The Home Depot adds new enhancements to Pro Xtra loyalty program," The Home Depot, January 5, 2023.

[93] *Serving shoppers a little better every day, Tesco strategic report 2016*, Tesco, 2016; *Tesco annual review and summary financial statement 2012*, Tesco, 2012; and Sarah Butler, "'If Tesco's boss can trim the fat, 2015 could see the retailer rise again," *Guardian*, January 4, 2015.

[94] According to the company's filing with the US Securities and Exchange Commission, this breaks down to $47 billion in operation revenue and $4.9 billion from loyalty travel, with $2.9 billion coming from rewards and $2 billion from the loyalty program.

[95] Out of a total of about $46 billion in revenue, roughly $7 billion came from loyalty, cargo, and other revenue. Breaking down the $7 billion, about $5.5 billion or 80 percent came from loyalty. See American Airlines Group annual report, 2019.

[96] easyJet annual report, 2019.

[97] In its annual report for 2018–19, Zeiss Group said, "The segment's DUV [deep ultraviolet] revenue bucked the trend and fell only marginally short of the prior-year level. The introduction of EUV lithography was unaffected by the market lull and compensated for the weaker demand in DUV and optics modules business."

[98] According to Nvidia's annual reports for 2017 and 2019. In 2017, data-center revenue was $830 million, compared with $2.93 billion in 2019.

[99] Jens Flottau and Guy Norris, "Airlines praise Airbus A320neo performance, but engine issues remain," *Aviation Week*, March 24, 2017.

[100] Six hundred forty-two of the 800 aircraft deliveries (approximately 80 percent) were A320 family aircraft deliveries. See "Airbus reports full-year (FY) 2019 results, delivers on guidance," Airbus, February 13, 2020.

[101] *Building on success (2019): Commercial aircraft history*, Airbus, accessed September 2024.

[102] *The world of air transport in 2019*, International Civil Aviation Organization, 2019.

[103] Equivalent to the following contributions to national sample productivity growth: American Airlines (three basis points), Delta (four basis points), United (two basis points), and Southwest (two basis points).

[104] US Bureau of Transportation Statistics.

[105] "AMR Corporation announces largest aircraft order in history with Boeing and Airbus," AMR, July 20, 2011.

[106] US Bureau of Transportation Statistics.

[107] *2011 annual report to shareholders*, Southwest Airlines Company, March 2021; and Daniel Schaal, *Southwest's international ambitions: Largest domestic carrier goes global for first time*, Skift, accessed October 2024.

[108] For instance, the Make in India initiative launched in 2014 aimed to boost manufacturing and attract foreign investment, which led to increased demand for logistics services.

[109] McKinsey Global Supply Chain Intelligence.

[110] We acknowledge that Hapag-Lloyd first applied the IFRS 16 accounting standard in 2019. This had a positive effect on its EBITDA, with about $523 million of its about $2 billion EBITDA coming from the change in accounting standard. Even using adjusted EBITDA figures for Hapag-Lloyd (making 2011 and 2019 like-for-like), the company would still be a Standout. Given the limited impact on aggregate results and no material change to Standouts and Stragglers (including in capital-intensive sectors with operating leases) as well as the lack of adjusted-EBITDA data for the majority of firms in our sample, we choose to use reported EBITDA.
See the technical appendix for more detail.

[111] "Hapag-Lloyd and CSAV complete the merger and become the fourth largest container liner shipping company in the world," Hapag-Lloyd, December 2014; and "Hapag-Lloyd and UASC complete merger," Hapag-Lloyd, May 2017.

[112] Lorraine Luk and Min-Jeong Lee, "TMSC shakes up Apple-Samsung partnership," *Wall Street Journa*l, July 1, 2013. In 2018, 744 supplier employees earned a certification in assembly-line robotics, and an employee education program was launched to educate employees on advancing robotics at supplier facilities. See Jonny Evans, "Designed by Apple, built by robots," *Computer World*, March 7, 2019; and Kyssha Mah, "Supply chain shifts from China to Vietnam," Vietnam Briefing, January 9, 2019.

[113] Jessica Young, *US ecommerce sales grow 14.9% in 2019*, Digital Commerce 360, February 19, 2020; and Euromonitor.

[114] In January 2011, Amazon's fulfillment centers, warehouses, and data centers covered about 27 million square feet; by the end of December 2018, the figure was about 2.3 billion. See Amazon annual reports for 2018 and 2010. Amazon attributed much of the increase in number of workers to jobs created in construction, logistics, and professional services; see Amazon annual report for 2019.

[115] Forrester; Amazon; and expert interviews.

[116] See, for instance, Lin Grosman, "What the Amazon effect means for retailers," *Forbes*, February 22, 2018.

[117] "Zalando outlets celebrate 10th birthday," Zalando, March 25, 2022.

[118] Ksenia Se, "The recipe for an AI revolution: How ImageNet, AlexNet and GPUs changed AI forever," Turing Post, May 16, 2024.

[119] As part of a 2016 plan to reduce £1.5 billion in costs over the next three years. For instance: "Britain's Tesco aims higher after cementing recovery," Reuters, October 5, 2016.

[120] *easyJet's new Airbus order: Let the shareholder battle commence*, Center for Aviation, June 27, 2013.

[121] "Danaher announces plan to spin off dental business into an independent, publicly traded company," Danaher, July 19, 2018.

[122] *Cisco employees and jobs*, TAdviser, August 13, 2024.

[123] We sampled about 2,400 retail firms: about 200 are in the United States, approximately 800 in Germany, and about 1,700 in the United Kingdom. In 2011–19, sample firms accounted for about

50 percent of the retail sector's 2019 GVA in the United States, 60 percent in Germany, and 90 percent in the United Kingdom. Sample firms accounted for 65 percent of sector employment in the United States, 50 percent in Germany, and more than 100 percent in the United Kingdom. Our sample firms in US retail collectively posted annual average growth in productivity of 1.4 percent. In Germany, the figure was 0.9 percent, and the UK figure was 0.3 percent.

[124] In our sample, we look at about 110 automotive and aerospace manufacturing firms in the United States, 330 in Germany, and 450 in the United Kingdom. The sample firms represent about 90 percent of total 2019 sector GVA in the United States and more than 100 percent in Germany and the United Kingdom, accounting for more than 100 percent of total sector employment in all three countries. Sample firms accounted for more than 100 percent sector share of employment in each of the geographies analyzed. Between 2011 and 2019, our automotive and aerospace sample firms' productivity declined by 0.6 percent in the United States, grew by 0.8 in Germany, and declined by 2.7 percent in the United Kingdom.

[125] "Nissan unveils 'LEAF' – the world's first electric car designed for affordability and real-world requirements," Nissan, August 2, 2009.

[126] *From evolution to revolution: Annual report 2019*, MTU Aero Engines, 2019.

[127] BAE Systems annual statements, 2012 and 2019.

[128] Our sector sample includes about 3,100 travel and logistics firms; 100 are in the United States, 1,200 in Germany, and 1,800 in the United Kingdom. In 2011–19, sample firms accounted for about 40 percent of the sector's 2019 GVA in the United States, 80 percent in Germany, and more than 100 percent in the United Kingdom. Sample firms account for 40 percent of sector employment in the United States, 70 percent in Germany, and more than 100 percent in the United Kingdom. Over the period studied, the productivity of our sector sample firms was static in the United States, declined 1.4 percent in Germany, and grew by 0.3 percent in the United Kingdom.

[129] easyJet annual reports, 2011 and 2019.

[130] Note that software is not included here as a subsector, although software offerings are significant products for several of our firms in the computer and electronics sector. In our sample, we look at about 520 firms in the United States, 600 in Germany, and 430 in the United Kingdom. The sample firms accounted for about 80 percent of total 2019 sector GVA in Germany and more than 100 percent in the United States and the United Kingdom. They also account for more than 100 percent of sector employment across the three countries. From 2011 to 2019, the productivity of the sample we analyzed in this sector grew 5.6 percent per year in the United States, 1.2 percent in Germany, and 2.4 percent in the United Kingdom.

[131] Productivity growth was 5.2 percent in the United States, 1.9 percent in Germany, and 3.1 percent in the United Kingdom per year in the period from 2011 to 2019. We compared our findings with OECD STAN Industrial Analysis 2020, accessed January 2024.

[132] Dialog semiconductor annual report, 2019

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[133] J. A. Schumpeter, "The process of creative destruction," in *Capitalism, socialism and democracy*, third edition, Allen and Unwin, 1950.

[134] Manual adjustments were made to Orbis data to ensure that entries and exits of companies in the time frame of our analysis were correctly accounted for according to companies' reports and to the best of our knowledge. See the technical appendix for detail on the data preparation process.

[135] Pathways are calculated by defining whether a firm is at or short of the frontier at the subsector level. A firm is defined as in the frontier if it is in the top 20th percentile of employment among firms ranked by productivity per employee. A firm that is in the frontier within its subsector may be outside the frontier in sector-level analysis of previous chapters. For example, in 2011, Southwest Airlines was in the frontier in the US travel and logistics sector but was outside the frontier in the US travel subsector.

[136] We assessed convergence by looking at how the productivity of nonfrontier firms grew relative to the productivity of frontier firms in 2011–19. Our approach is in line with methodology used by Min Zhu, Longmei Zhang, and Daoju Peng, C*hina's growth potential—A stocktaking and sectoral approach*, International Monetary Fund, November 2019. Others calculate country convergence by comparing the gap between countries that at time t were in the frontier and not in the frontier. See Daron Acemoglu, Philippe Aghion, and Fabrizio Zilibottu, "Distance to frontier, selection and economic growth," *Journal of the European Economic Association*, volume 4, number 1, March 2006; and Michael Kremer, Jack Wills, and Yang You, *Converging to convergence*, National Bureau of Economic Research working paper number 29484, November 2021. Firms in our sample move in and out of the frontier in 2011 versus 2019, whereas in the latter methodology, country status is fixed across the periods of comparison. If we were to fix firm frontier status as per 2011 and compare the productivity of those firms with firms that were nonfrontier in 2011, we would see a lot more convergence across the subsectors. This is because many firms that were in the frontier in 2011 reduced productivity and were replaced by other firms pulling in from outside the frontier. We chose to focus on the growing gap between the group of leaders and laggards rather than following individual firms.

[137] The case of Nvidia exemplifies what typically occurs in high-growth diverging subsectors. Other firms are not able to replicate the advantages of a frontier firm, perhaps because they are resource constrained or have a different strategic focus. For more, see Dan Andrews, Chiara Criscuolo, and Peter N. Gal, *The best versus the rest: The global productivity slowdown, divergence across firms and the role of public policy*, OECD Productivity Working Papers number 05, November 2016; and Prasanna Tambe et al., *Digital capital and superstar firms*, National Bureau of Economic Research working paper number 28285, December 2020. Divergence has been associated with rising inequality among firms, which could discourage the majority of firms from innovating and investing. Such divergence could, it has been argued, accelerate where winner-takes-most dynamics are present, for example when digital technologies are diffusing.

[138] See, for instance, J. David Brown and John S. Earle, *Understanding the contributions of reallocation to productivity growth: Lessons from a comparative firm-level analysis*, IZA Institute of Labor Economics discussion paper 3683, September 2008; and Lucia Foster, Cheryl Grim, and John Haltiwanger, "Reallocation in the Great Recession: Cleansing or not?" *Journal of Labor Economics*, volume 34, number S1, Part 2, January 2016.

[139] Note that the reallocation effect here is calculated at the sector level. It therefore includes the impact of subsector mix shifts but not the impact of any sector mix shift. It also includes the impact of employees entering or exiting our sample only to the extent that they affect within-sector firm employment shares.

[140] Note this split is sensitive to where we draw the line. The reallocation effect gets bigger when we aggregate subsectors into sectors because it then captures more of the impact of sector mix.

[141] This is in line with previous research. According to Chad Syverson, "What determines productivity?" *Journal of Economic Literature*, volume 49, number 2, June 2011, aggregate productivity growth in US retail happens mostly through the exit of less efficient single-store firms and reallocation to more efficient chain store affiliates. For detail, see Lucia Foster, John Haltiwanger, and C.J. Krizan, "Market selection, reallocation, and restructuring in the U.S. retail trade sector in the 1990s," *The Review of Economics and Statistics*, volume 88, issue 4, 2006.

[142] For Europe, see, for instance, Antonin Bergeaud, *Monetary policy in an era of transformation: The past, present and future of European productivity*, European Central Bank, ECB Forum on Central

Banking, Sintra, Portugal, July 1–3, 2024; Filippo Bondi et al., *Declining business dynamism in Europe: The role of shocks, market power, and technology*, Jena Economic Research Papers number 2023–011, September 2023; and Antonin Bergeaud et al., *From public labs to private firms: Magnitude and channels of R&D spillovers*, Centre for Economic Performance discussion paper number 1882, October 2022. For the United States, see Ryan A. Decker et al., "Changing business dynamism and productivity: Shocks versus responsiveness," *American Economic Review*, volume 110, number 12, December 2020; and Matias Covarrubias, Germán Gutiérrez, and Thomas Philippon, *From good to bad concentration? U.S. industries over the past 30 years*, NBER working paper number 25983, June 2019, revised September 2019.

143 We note that a firm newly entering our sample often was one that had been established for, say, ten years, but had only just become large enough to employ 50 or more people and therefore fit our criteria.

CHAPTER FIVE

144 See for example, *A new look at the declining labor share of income in the United States*, McKinsey Global Institute, May 2019.

145 To estimate a Standout's contribution to the entire economy, we multiplied its productivity impact on a sector by the sector's share of total national employment. We then expressed this contribution in basis points by normalizing it against the total change in national productivity and multiplying by the country's productivity growth rate. To calculate productivity growth rates for total private economies, we used data from the Bureau of Economic Analysis for the United States, National Accounts Aggregates by Industry from Eurostat for Germany, and Office for National Statistics for the United Kingdom.

146 This calculation involves rounding.

147 *Help wanted: Charting the challenge of tight labor markets in advanced economies*, McKinsey Global Institute, June 2024; and *Dependency and depopulation: Confronting the consequences of the new demographic reality*, McKinsey Global Institute, January 2025.

148 We acknowledge the potential risks associated with firms that accumulate potential unfair market and monopsony power and the longer-term concerns around market dominance stifling competition and innovation. Approaches to boosting Standouts need to be balanced against this.

149 For common descriptions and analyses of superstar firms, see *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018; and David Autor et al., "The fall of the labor share and the rise of superstar firms," *The Quarterly Journal of Economics*, volume 135, issue 2, May 2020. These are typically firms (1) with the largest revenue market share or profit pool share; (2) with the greatest gains in market share or marginal improvements in productivity; or (3) that leverage their size to propel productivity growth, driving down marginal costs of expansion and gaining even more market share in the process.

150 For common descriptions and analyses of superstar firms, see *'Superstars': The dynamics of firms, sectors, and cities leading the global economy*, McKinsey Global Institute, October 2018, which defines superstar firms as the ones with the greatest share of economic profit; and David Autor et al., "The fall of the labor share and the rise of superstar firms," *The Quarterly Journal of Economics*, volume 135, issue 2, May 2020. Some definitions of superstar firms are that they (1) have the largest revenue market share or profit pool share; (2) achieve the greatest gains in market share or marginal improvements in productivity; or (3) leverage their size to propel productivity growth, driving down marginal costs of expansion and gaining even more market share in the process.

151 For detail on how specific factors related to managerial best practices can be responsible for driving within-firm productivity growth, see Chad Syverson, "What determines productivity?" *Journal of Economic Literature*, volume 49, number 2, June 2011.

152 Chris Bradley, Martin Hirt, and Sven Smit, *Strategy beyond the hockey stick: People, probabilities, and big moves to beat the odds*, John Wiley & Sons, 2022.

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