

McKinsey
Global Institute

MGI in 2019

Highlights of our research this year



December 2019

McKinsey Global Institute

Since its founding in 1990, the McKinsey Global Institute (MGI) has sought to develop a deeper understanding of the evolving global economy. As the business and economics research arm of McKinsey & Company, MGI aims to provide leaders in the commercial, public, and social sectors with the facts and insights on which to base management and policy decisions.

MGI research combines the disciplines of economics and management, employing the analytical tools of economics with the insights of business leaders. Our “micro-to-macro” methodology examines microeconomic industry trends to better understand the broad macroeconomic forces affecting business strategy and public policy. MGI's in-depth reports have covered more than 20 countries and 30 industries. Current research focuses on six themes: productivity and growth, natural resources, labor markets, the evolution of global financial markets, the economic impact of technology and innovation, and urbanization. Recent reports have assessed the digital economy, the impact of AI and automation on employment, income inequality, the productivity puzzle, the economic benefits of tackling gender inequality, a new era of global competition, Chinese innovation, and digital and financial globalization.

MGI is led by three McKinsey & Company senior partners: James Manyika, Sven Smit, and Jonathan Woetzel. James and Sven also serve as co-chairs of MGI. Michael Chui, Susan Lund, Anu Madgavkar, Jan Mischke, Sree Ramaswamy, Jaana Remes, Jeongmin Seong, and Tilman Tacke are MGI partners, and Mekala Krishnan is an MGI senior fellow.

Project teams are led by the MGI partners and a group of senior fellows and include consultants from McKinsey offices around the world. These teams draw on McKinsey's global network of partners and industry and management experts. The MGI Council, is made up of leaders from McKinsey offices around the world and the firm's sector practices and includes Michael Birshan, Andrés Cadena, Sandrine Devillard, André Dua, Kweilin Ellingrud, Tarek Elmasry, Katy George, Rajat Gupta, Eric Hazan, Acha Leke, Gary Pinkus, Oliver Tonby, and Eckart Windhagen. The Council members help shape the research agenda, lead high-impact research and share the findings with decision makers around the world. In addition, leading economists, including Nobel laureates, advise MGI research.

The partners of McKinsey fund MGI's research; it is not commissioned by any business, government, or other institution. For further information about MGI and to download reports for free, please visit www.mckinsey.com/mgi.

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From the Directors

2019 has been another highly productive year for the McKinsey Global Institute. Through our research-based insights, our active engagement in key debates globally, and our publications this year, we have contributed to ongoing discussion on some of the key global economic and social topics. These include the shifting nature of globalization, the opportunities and challenges presented by technology, the future of work, the rise of inequality, and progress toward gender parity. Alongside global research, we have also conducted regional and country studies, including on the power of parity in Africa, China and the world, Europe's innovation challenge, India's digital leap forward, and Latin America's "missing middle" of companies and middle-class consumers.

In this booklet, we present a synthesis of our 2019 highlights and provide a "sneak preview" of some of our forthcoming publications in early 2020.

James Manyika

Director and Co-chair, McKinsey Global Institute
Senior Partner, McKinsey & Company
San Francisco

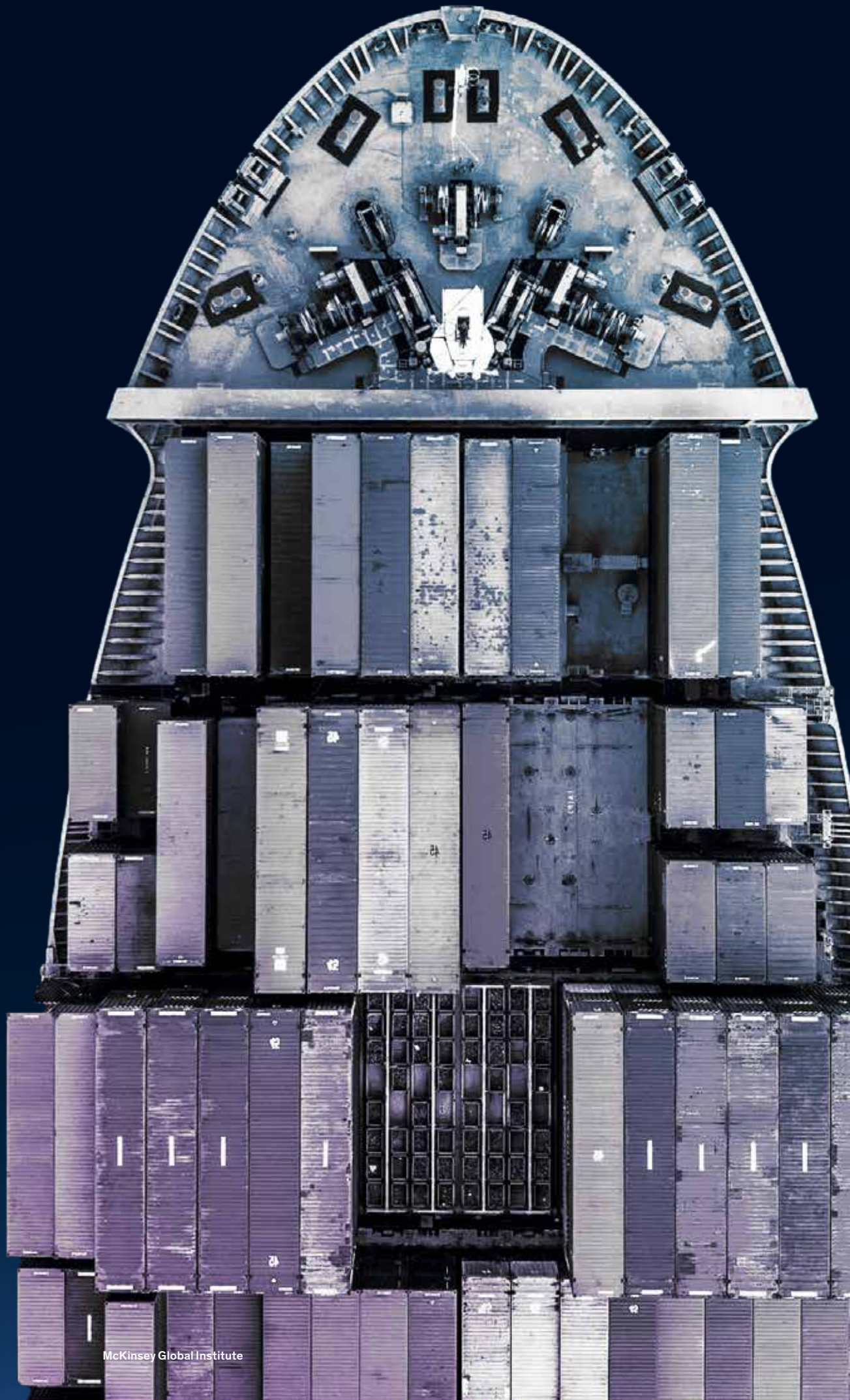
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December 2019



1. Globalization in transition

While trade tensions frequently dominated the headlines in 2019, our research highlights deeper changes in the nature of globalization.

Our most recent research on globalization analyzed 23 industry value chains spanning 43 countries. It found significant changes in trade, production, and participation between 1995 and 2017 that were partly obscured by the 2008 global financial crisis. Among the shifts: a substantial increase in cross-border services, even as goods-producing value chains have become less trade intensive, and a growing regional concentration of trade.

Two research projects in Asia highlighted aspects of this shifting landscape, specifically the eastward tilt of the global economy. The first examined how China's exposure to the world in terms of technology, trade, and capital, has declined in relative terms, even as the world's dependence on China has increased. The second kicked off a series of publications about the growing role of Asia in the global economy. Noting the region's rapid rise over the past 30 years, "the question is no longer how quickly Asia will rise; it is how Asia will lead."

Later in the year, we looked at the other side of the world, to Europe and the challenges it faces in strengthening innovation and competitiveness. Our research suggested five paths for the continent to overcome its fragmentation and lack of scale.

2019 publications:

Globalization in transition: The future of trade and value chains (January)

China and the world: Inside the dynamics of a changing relationship (July)

Asia's future is now (July)

Innovation in Europe: Changing the game to regain a competitive edge (October)

Globalization in transition

WE ANALYZED 23 VALUE CHAINS SPANNING 43 COUNTRIES AND ACCOUNTING FOR 96% OF GLOBAL TRADE. THEY REVEAL 5 STRUCTURAL SHIFTS:

1 Declining trade intensity in goods

2 Growing (and often unmeasured) trade in services

3 Less labor-cost arbitrage

4 More knowledge intensity

5 More intra-regional trade

Consumption in emerging markets up by 50% since 2007

Growing supply chains in China and other emerging markets

Next-gen technologies changing logistics, production, and products

KEY FORCES AFFECTING TRADE

-5.6 p.p.

decline in trade intensity in goods since 2007

60%

faster growth in services trade than in goods trade since 2007

18%

goods trade based on labor-cost arbitrage

New priorities for global companies

- Follow shifts in value creation within your industry
- Consider service offerings
- Assess the full costs and risks of location decisions
- Build flexibility and resilience into operations
- Prioritize speed to market and proximity to customers
- Build closer and more digital supplier relationships

The challenge for countries

- Build strong service sectors
- Prepare for automation—especially in labor-intensive value chains
- Deepen regional trade ties
- Invest in R&D and skills
- Modernize customs operations and trade agreements
- Look for new opportunities as value chains evolve

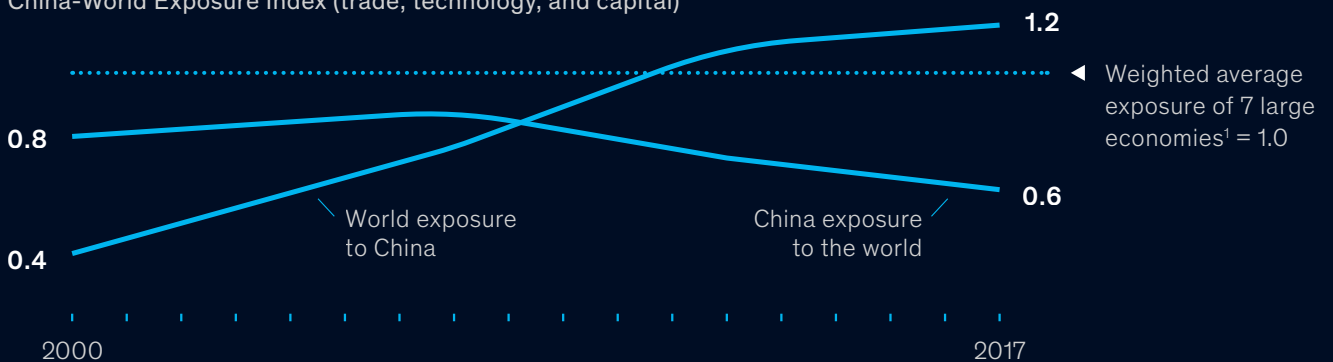
China and the world: A changing relationship

China has achieved global scale, but more can be done to integrate



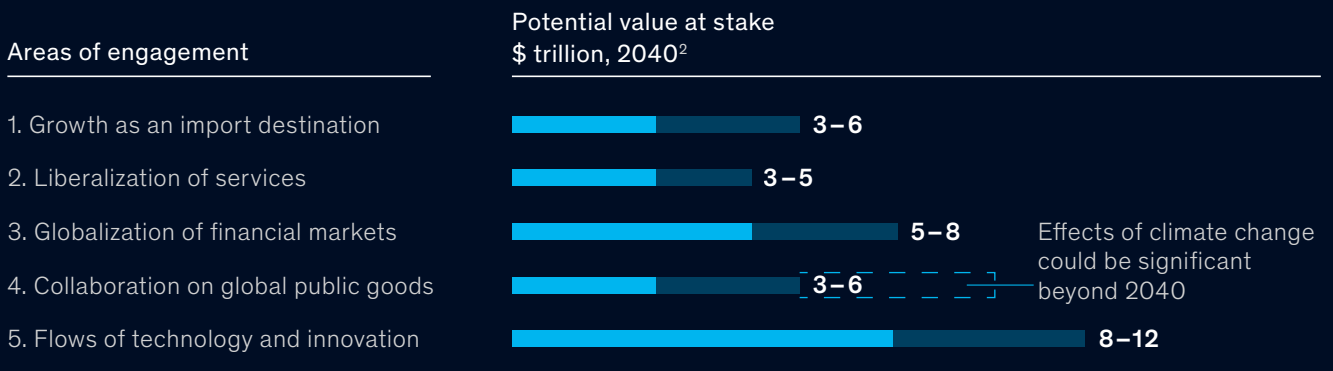
China has been reducing its exposure to the world, while the world's exposure to China has risen

China-World Exposure Index (trade, technology, and capital)



Significant value is at stake from less or more engagement between China and the world

Simulated impact, 2040



Between \$22 trillion and \$37 trillion of economic value (equivalent to about 15 to 26 percent of global GDP by 2040) could be at stake from less or more engagement between China and the world

¹ China, Japan, Germany, France, India, United Kingdom, and United States.

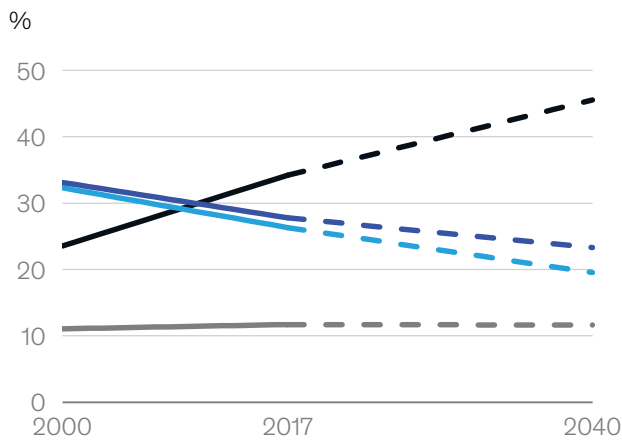
² Estimated value at stake based on specific conditions and assumptions, and should not be taken as a forecast.

Asia's future is now

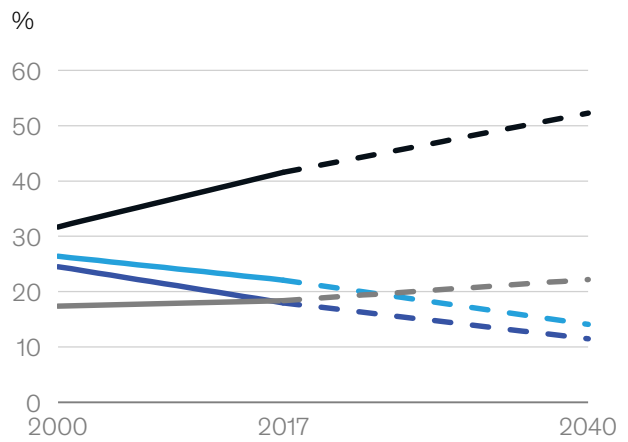
Key macroeconomic indicators demonstrate Asia's upward trajectory.

Regional share of key indicators

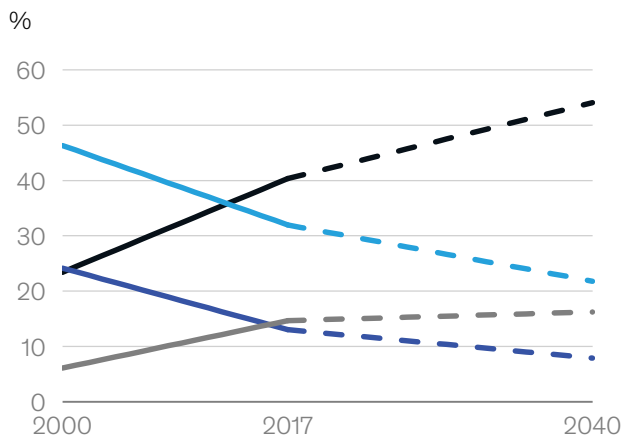
Global real GDP¹



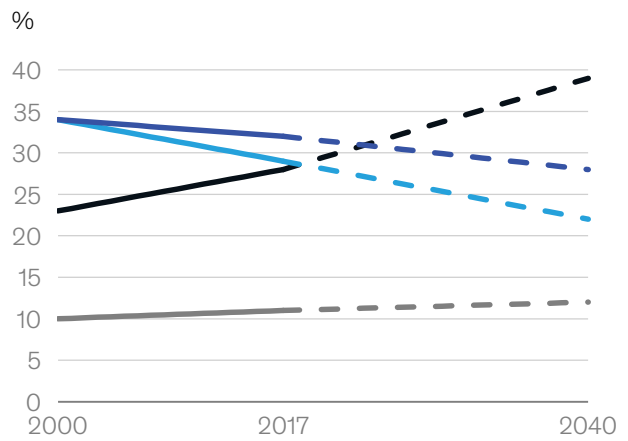
Global GDP (purchasing power parity)



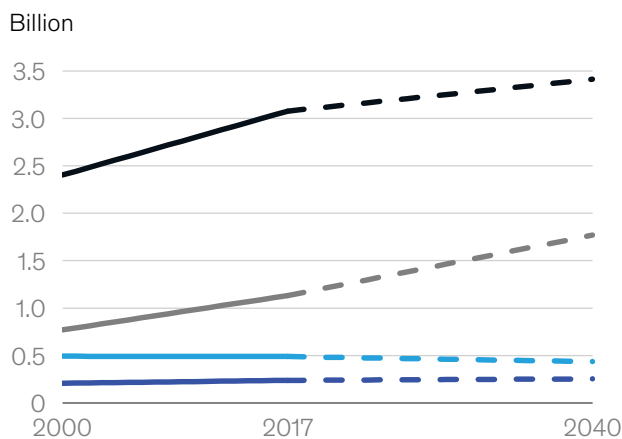
Middle-class consumers²



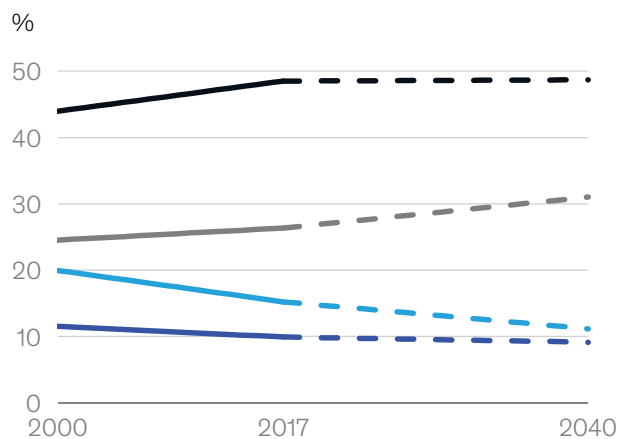
Consumption



Working-age population



Urban population



— Asia — Europe — North America — Rest of world — Actual — Forecast

1. Real GDP in 2017 US dollars.

2. Defined as households with income between \$20,000 and \$70,000 (constant 2015 prices).

Note: Figures are from the McKinsey Global Growth Model's baseline simulations and projections by external institutions, subject to modifications based on changes in economic conditions.

Source: World Bank; World Health Organization; McKinsey Global Growth Model; McKinsey Global Institute analysis

Innovation in Europe

Europe is lagging behind on many well-known elements of innovation.



Source: World Economic Forum; Atomico; European Commission; European Court of Auditors; McKinsey Global Institute analysis



2. Technology and the future of work

The spread of automation and the rise of artificial intelligence (AI) and other frontier technologies have been recurring themes for MGI research over the past few years. In 2019, we continued building on our research both on the opportunities and challenges that the technologies themselves create, as well as on the potential economic, business, and social impact, particularly on labor markets.

In February, we published a discussion paper on the state of Europe's technological readiness, the latest in our "notes from the AI frontier" series. Among other insights, we found that Europe could add about 19 percent to its output by 2030 if it were to develop and diffuse AI according to its current assets and digital position.

New research on the state of technology adoption in India noted how that country's consumers have driven rapid growth in digital technology adoption and examined how businesses across all sectors could harness the opportunities.

One element driving consumer adoption of digital technology in India is Aadhaar, the national biometric digital identity program. In April, we devoted a report to these digital ID schemes globally. It looked at the challenges and opportunities of such ID programs and sought to size the value to the global economy. We previewed our findings at the World Economic Forum in Davos.

At the VivaTech conference in Paris in May, we presented findings from our latest research on technology and its potential societal benefits. In particular, we looked at the benefits of technology beyond GDP, for social welfare more broadly, and highlighted the importance of using tech to drive innovative growth. Our findings focused on the difficult workplace and other transitions that could accompany technology adoption over the next decade, and the extent to which technological innovation itself could help smooth those transitions.

The impact of technology on the future of work has been a major focus of our research over the past few years. This year, we presented new insights in two areas. First, we took a gender lens to the question of how automation would affect the future of work, highlighting how women would need to navigate their way through a shifting workplace.

Our second set of insights focused on the regional labor market implications of automation adoption. Building on our previous reports on jobs lost and gained through automation and the changing skill requirements for the workforce, our research took a detailed view of how automation could change the labor market across 315 cities and more than 3,000 counties in the United States.

2019 publications:

Notes from the AI frontier: Tackling Europe's gap in digital and AI (February)

Digital India: Technology to transform a connected nation (March)

Digital identification: A key to inclusive growth (April)

Tech for Good: Smoothing disruption, improving well-being (May)

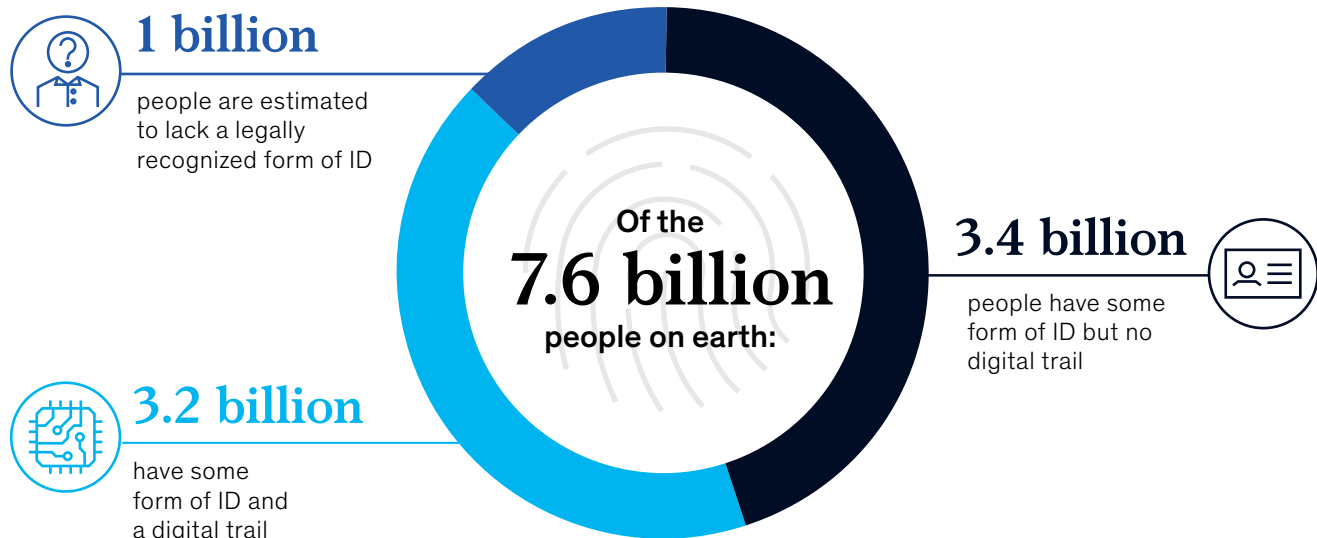
The future of women at work: Transitions in the age of automation (June)

Notes from the AI frontier: Tackling bias in artificial intelligence (and in humans) (June)

The future of work in America: People and places, today and tomorrow (July)

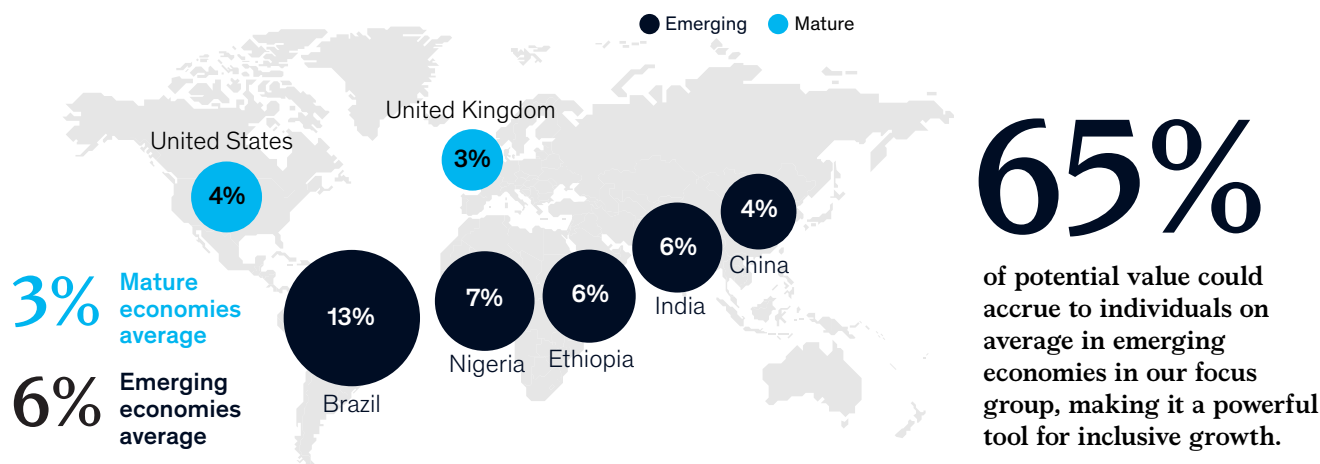
What is good digital ID?

Good digital ID is identification that is verified and authenticated to a high degree of assurance over digital channels, is unique, is established with individual consent, and protects user privacy and ensures control over personal data.



Unlocking global economic value

Across our focus countries, digital ID could unlock economic value equivalent of 3–13% of GDP in 2030.

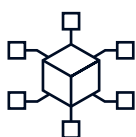


Potential for misuse and possible risk elements

While digital ID can reduce risks associated with conventional ID programs, such as manual error, it could be ...



... **misused without the proper controls**, akin to dual-use technologies such as social media, GPS, or even nuclear energy.



... **exposed to risks already present** in any digital technology with large-scale population-level usage such as system failures, cybersecurity breaches, and privacy violations.



... **potentially exposed to some risks** found in conventional ID programs such as the exclusion of individuals.

Note: Value estimates assume the digital ID program enables multiple high value use cases, attains high levels of usage, is established with individual consent, and protects user privacy and ensures control over personal data.

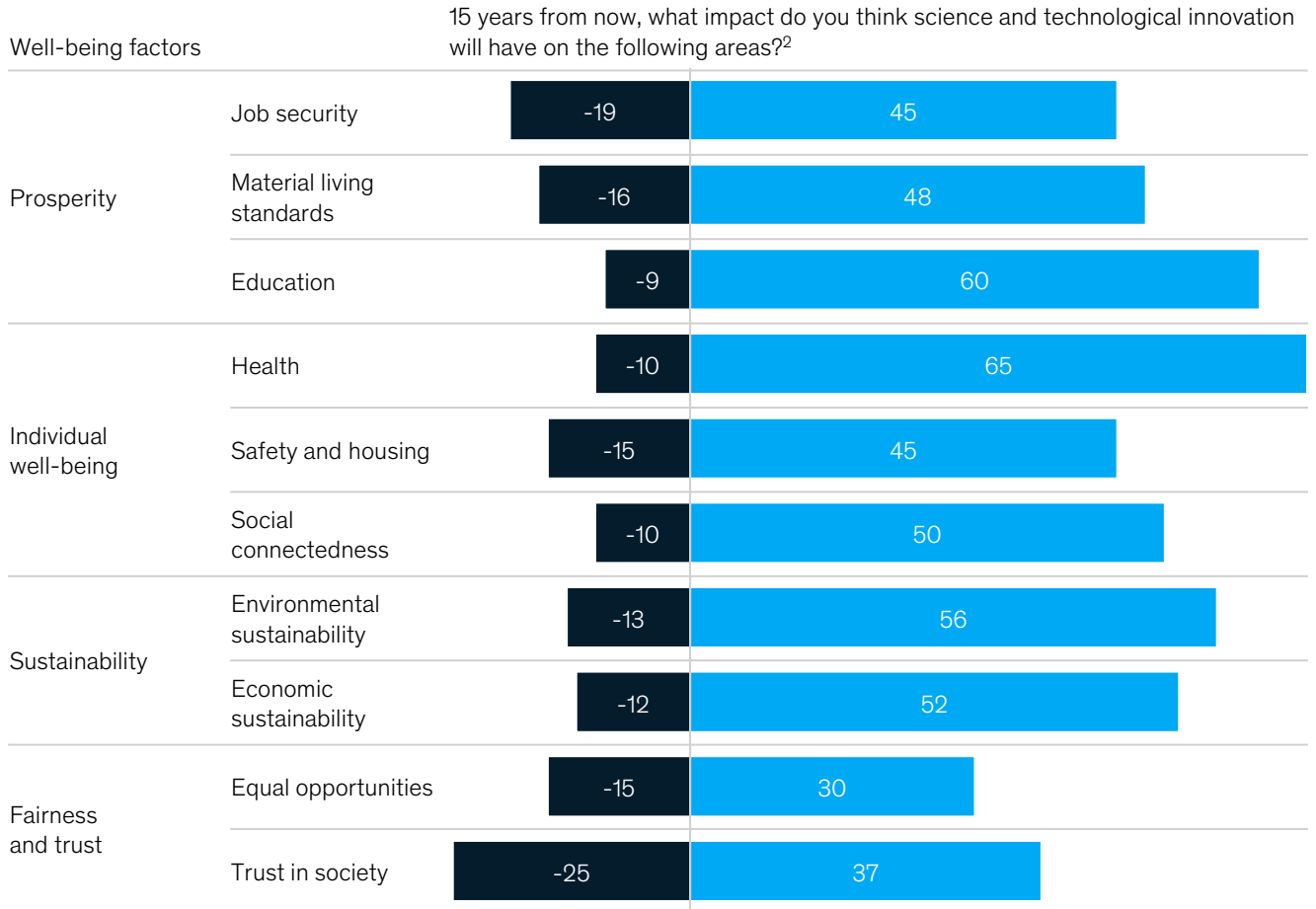
Source: World Bank; ID4D; We Are Social *Global Digital Report 2018*; ITU; WDI; Findex; McKinsey Global Institute Analysis

Tech for Good

People’s expectations of the future impact of technology are broadly positive, but with particular concerns around jobs, wages, safety, equality, and trust.

EU-28,¹
%

■ Negative impact ■ Positive impact



¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

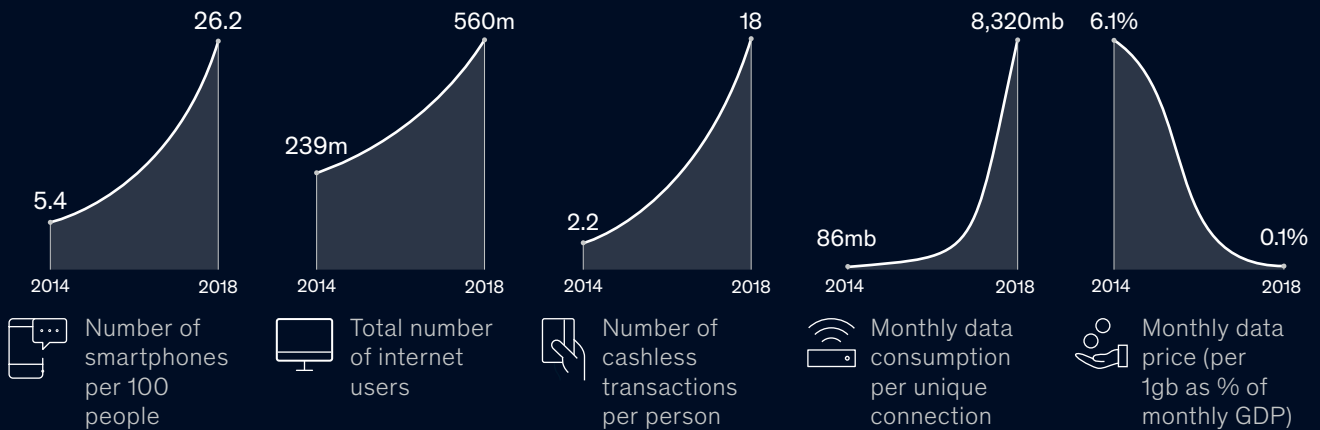
² Questions mapped to the MGI societal well-being framework. Survey with 27,910 respondents across the 28 European Union countries, representative of the European Union population.

Source: *Special Eurobarometer 419, Public perceptions of science, research and innovation, 2014*; McKinsey Global Institute analysis

Digital India

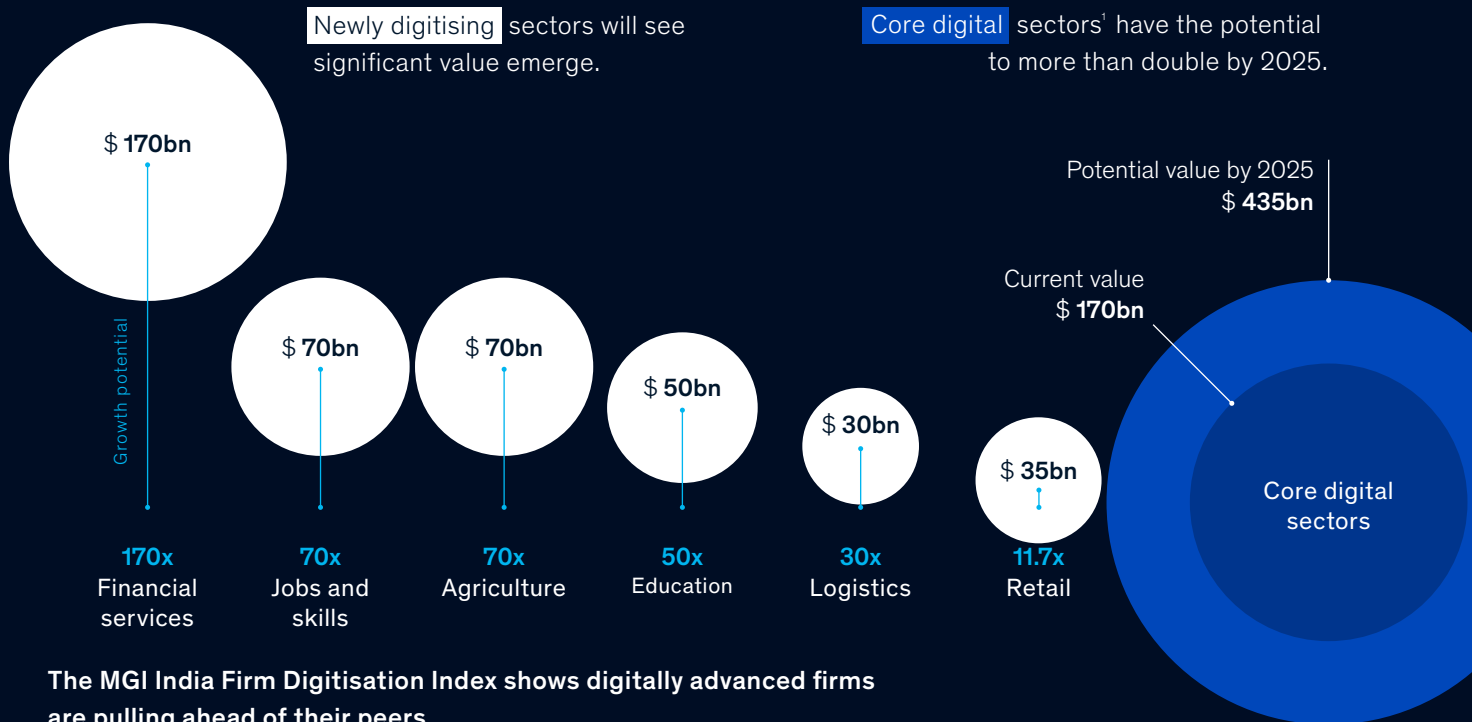
Unlocking the potential of technology

Digital usage in India is soaring as costs tumble

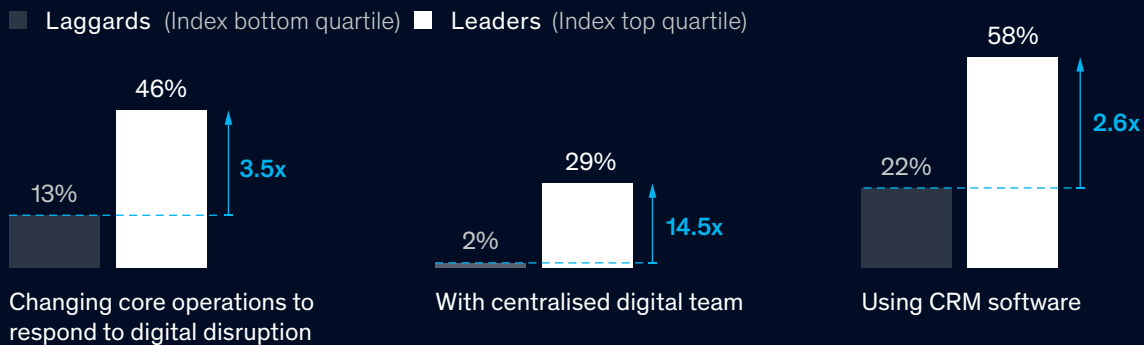


By 2025, digital could transform India's economy, sector by sector

(Values show upper limit of an estimated range)



The MGI India Firm Digitisation Index shows digitally advanced firms are pulling ahead of their peers.



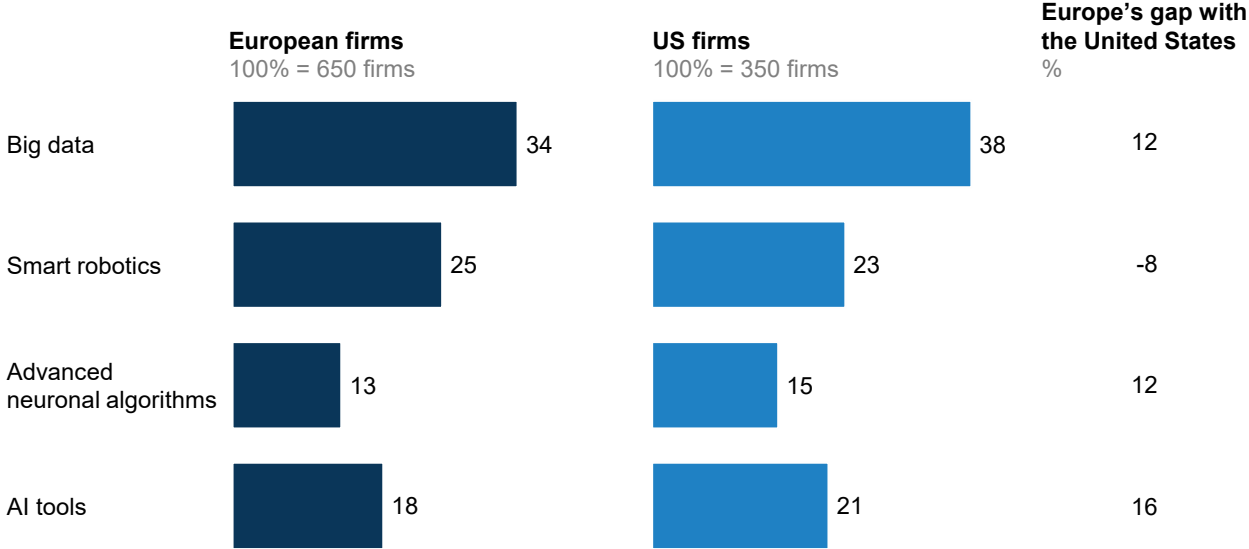
¹ IT business process management, digital communication services, and electronics manufacturing.

Source: McKinsey Global Institute analysis

Tackling Europe's gap in digital and AI

Europe's AI diffusion lags behind that of the United States thus far, with the exception of smart robotics.

% of firms using AI at scale, 2017



SOURCE: McKinsey Digital Survey, 2017; McKinsey Global Institute analysis

The future of women at work

Navigating transitions could put women on a path to more productive, better-paid work; failing to do so could worsen existing challenges

The overall scale of job losses and gains could be similar for men and women¹



Patterns of jobs lost and gained will differ for men and women

Biggest **job losses** (% of 2017 employment for each gender)

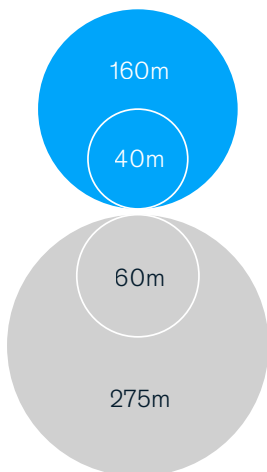


Biggest **job gains** (% of 2017 employment for each gender)

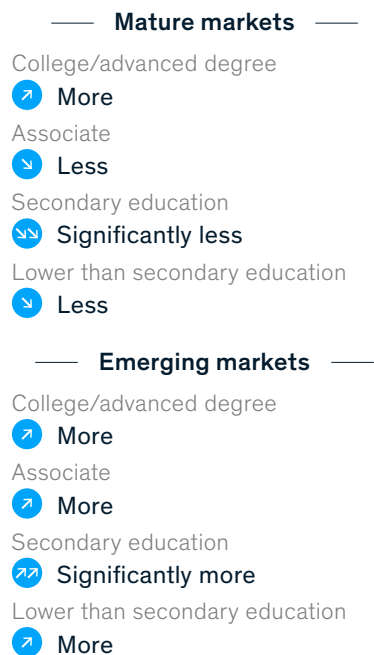


But to capture job opportunities, millions of women will need to make major work transitions by 2030

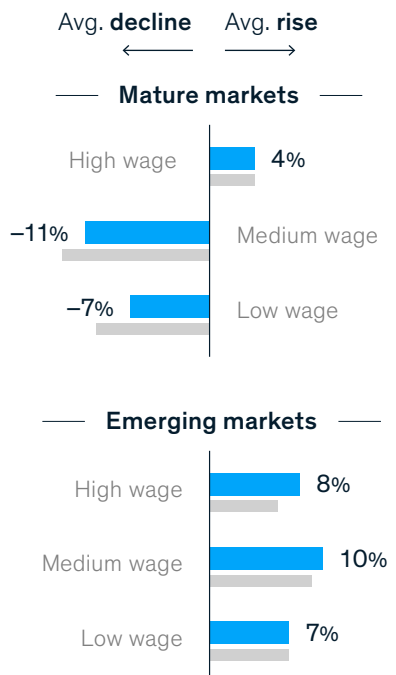
40–160 million women (7–24%) and 60–275 million men (8–28%) will need to switch occupations by 2030. If women can navigate these transitions, they could maintain their current share of employment; otherwise gender inequality in work could worsen.



Many women will need higher education attainment or reskilling to stay employed.



Navigating the transitions holds the promise of higher wages for women.



Concerted measures and creative new solutions by governments, companies, and individuals are needed in three areas to enable the necessary transitions and overcome long-established barriers

- 1 Invest in training programs and platforms to enable women to develop necessary skills.
- 2 Enable women to balance unpaid and paid work, and develop infrastructure and networks, to boost their labor mobility and flexibility.
- 3 Raise women's access to technology, their skills to use it, and their share of tech jobs and leadership roles.

¹ Based on analyzing ten countries that account for 65% of global GDP: Canada, China, France, Germany, Japan, Mexico, India, South Africa, the United Kingdom, and the United States.

Source: McKinsey Global Institute analysis

NOTE: All numbers described are based upon a trend-line scenario of job creation and a midpoint scenario of automation. The range of transitions estimate is based upon both an early and a midpoint scenario of automation. See technical appendix for more details.

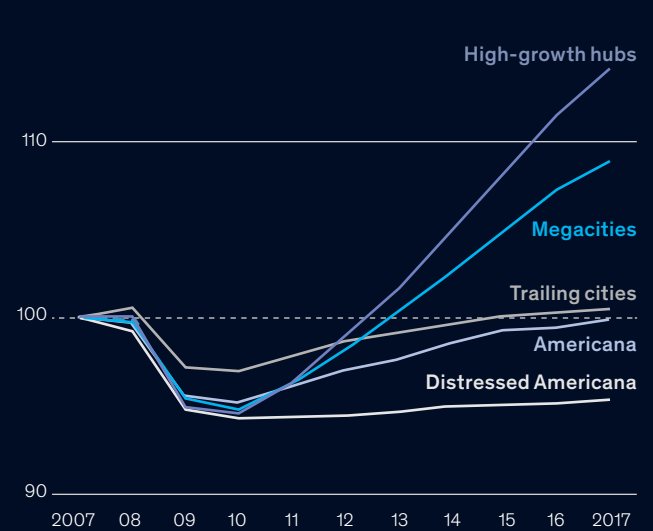
America is a mosaic of local economies on diverging trajectories

Automation could widen existing disparities

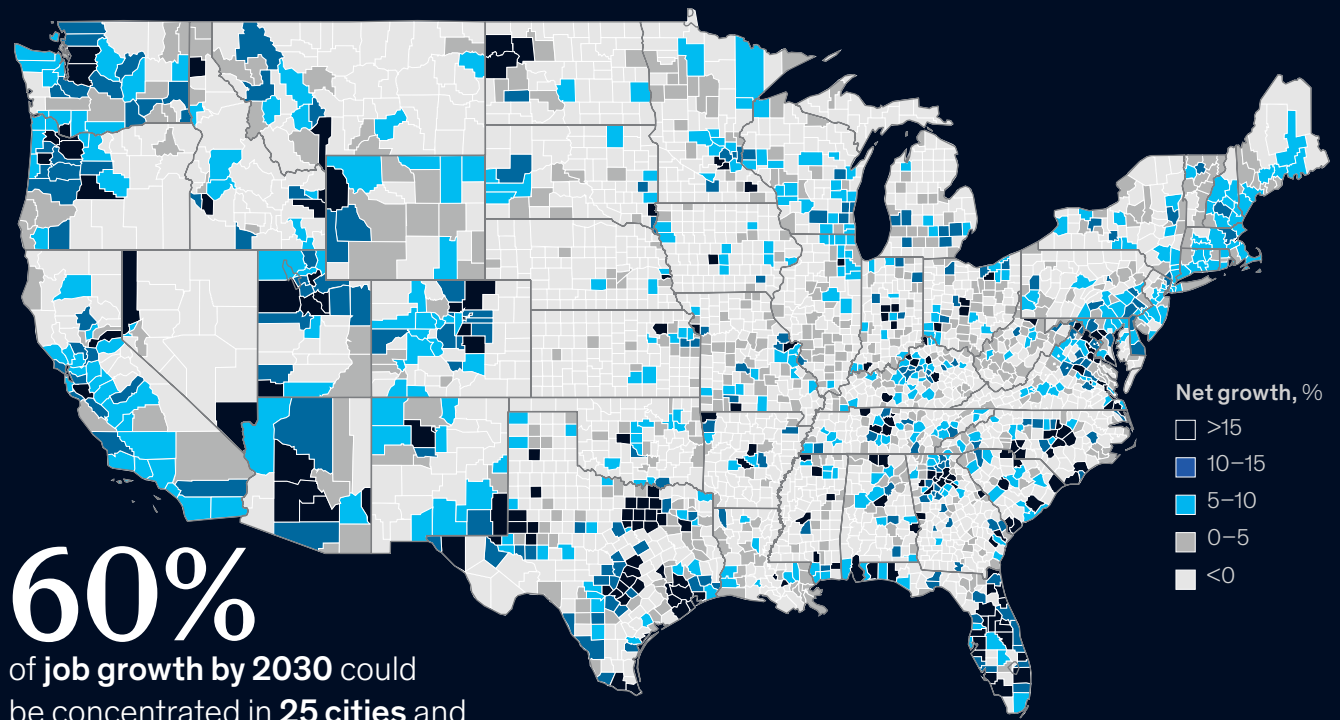
13 community segments have varying economic and demographic profiles

Economic dynamism	Most	Urban core Megacities; High-growth hubs	63 counties	30% of US population
		Periphery Urban periphery	271 counties	16% of US population
		Niche cities Small powerhouses; Silver cities; College-centric towns	89 counties	6% of US population
		Mixed middle Stable cities; Independent economies; America's makers	325 counties	24% of US population
	Least	Low-growth/rural areas Trailing cities; Americana Distressed Americana; Rural outliers	2,365 counties	24% of US population

Employment change for select community segments, % of 2007 employment



Estimated net job growth in midpoint adoption scenario, 2017–30, %



60%
of job growth by 2030 could be concentrated in **25 cities** and their peripheries

Potential workforce displacement in midpoint adoption scenario, 2017–30

14.7M
Young workers age 18–34

11.5M
Workers over age 50

11.9M
Hispanics and African Americans

4x

Higher displacement risk for workers with high school diploma or less



3. Socioeconomic challenges

MGI has focused its attention on key socioeconomic themes at regular intervals, including our *Power of Parity* series on gender equality, dating back to 2015, a 2016 report on income stagnation, *Poorer than their parents? Flat or falling incomes in developing countries*, and work on other topics ranging from obesity to affordable housing.

In 2019, we again focused on several socioeconomic themes in our research. Looking at the United States, we used a micro-to-macro approach to examine the main factors underlying the decline of the labor share of income and the corresponding rise of the capital share. Our research found that some of the most-cited reasons, including technology and globalization, were not the most significant factors; rather, boom-bust effects, including from the recent commodity supercycle, and rising depreciation had the biggest impact.

In June, we published a discussion paper on inequality, ahead of the G-7 summit in Biarritz in France that had put that topic on its agenda. This provided a detailed fact base, highlighting how wealth and income inequality among countries has been declining, even as that inequality within countries, especially in the OECD, has been growing. As well as looking at cross-border and within-country differences, the paper also shone a spotlight on two cities, Washington DC and Paris.

One of the critical issues for households in cities is the cost of housing, which has been rising much faster than inflation in OECD countries. This year, we focused in detail on the housing market in Los Angeles. Our research followed previous work on affordable housing in general, and in California in particular. It found that 70 percent of all households in Los Angeles would have to stretch financially to obtain a standard-size unit in their current neighborhood.

We also continued our series of regional perspectives on gender equality and the potential economic opportunity that this could bring, with a focus on Africa. We found solid progress in countries including Botswana and Rwanda, but also significant room for countries to make more progress in equality at work and in society across the continent.

2019 publications:

A new look at the declining labor share of income in the United States (April)

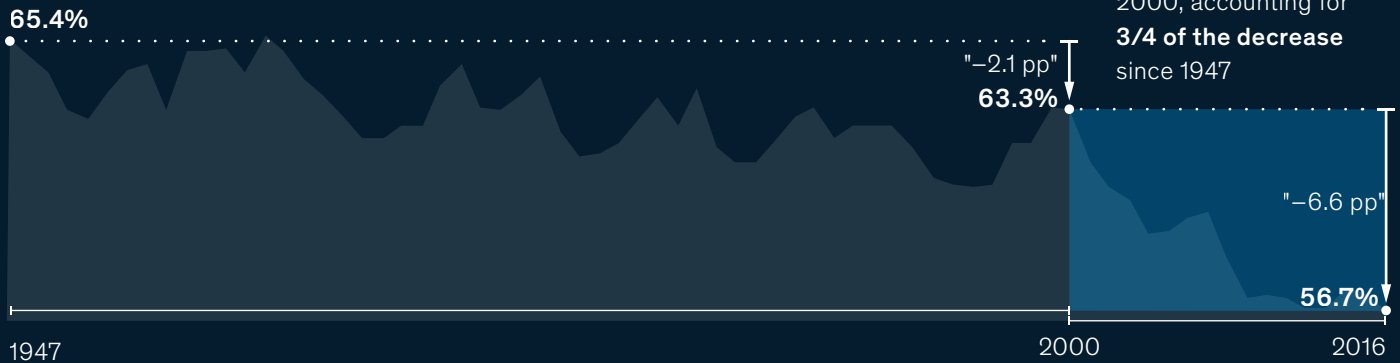
Inequality: A persisting challenge and its implications (June)

Affordable housing in Los Angeles: Delivering more-and doing it faster (November)

The power of parity: Advancing women's equality in Africa (November)

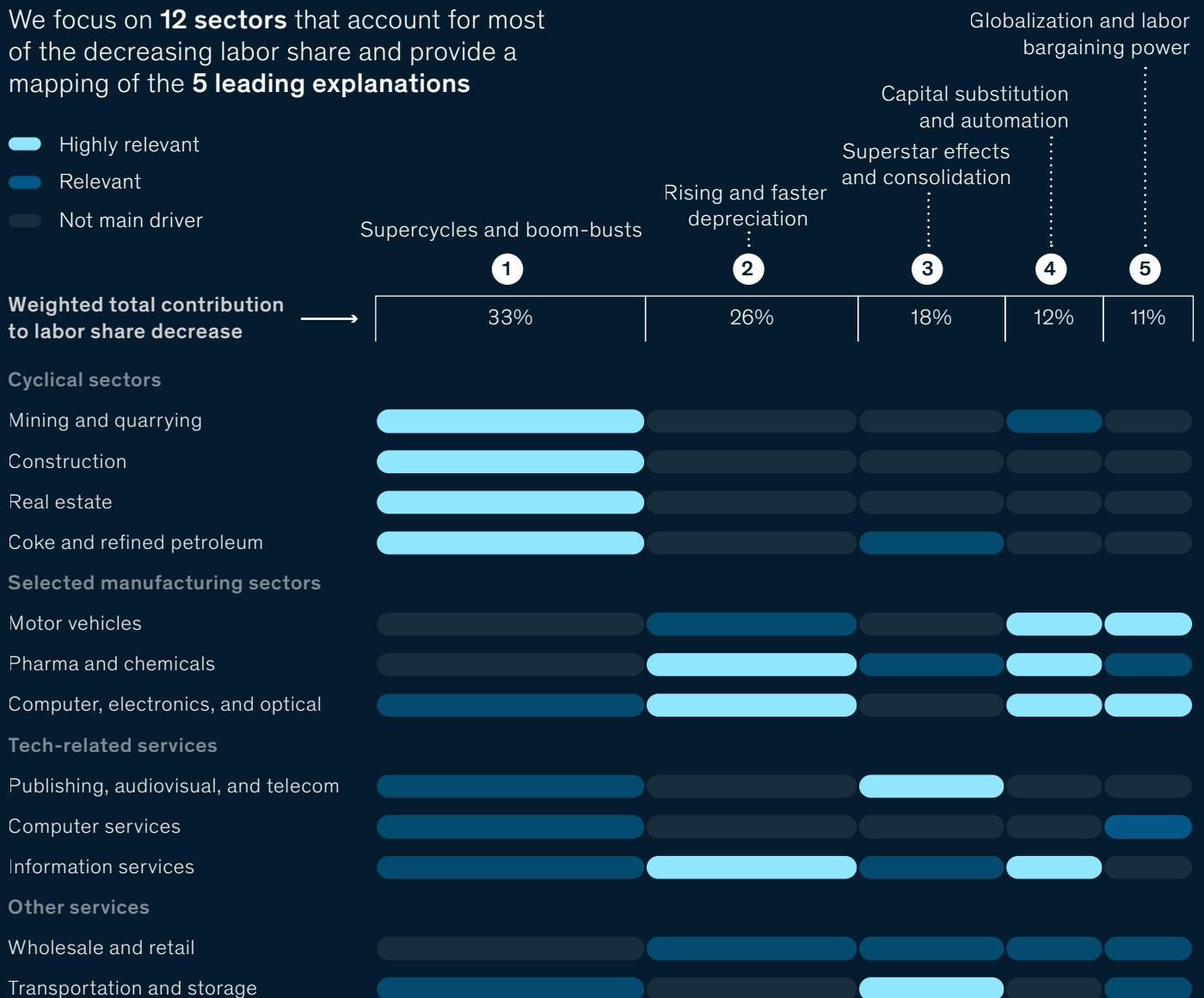
The declining labor share of income in the United States

The percentage of economic output that accrues to workers as compensation in exchange for their labor: 1947 to 2016



We focus on **12 sectors** that account for most of the decreasing labor share and provide a mapping of the **5 leading explanations**

- Highly relevant
- Relevant
- Not main driver



Source: BLS; OECD STAN; McKinsey Global Institute analysis

Reimagining Los Angeles

Unlocking affordable

HOUSING

Housing production
in LA County

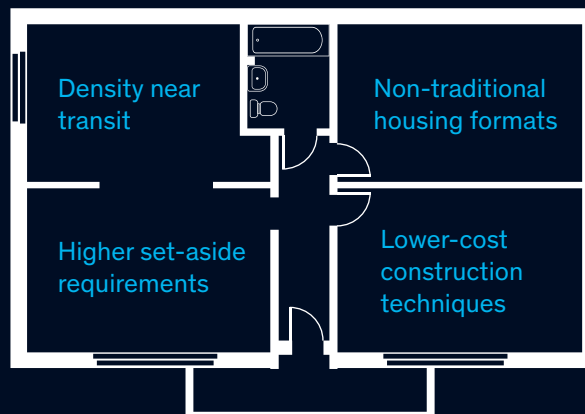
~100,000

housing units permitted
from 2014 to 2018....

12%

...of which were
affordable

A combination of...



...could deliver more
affordable housing—
more affordably

The keys that can help Los Angeles provide safe,
decent housing for residents in all income brackets



Transit

Capitalizing on Metro expansion to add more affordable units through set-asides



Innovation

Incentivizing new lower-cost construction techniques and non-traditional housing formats



Efficiency and scale

Streamlining approvals and financing to reduce pre-construction time



Safety net

Supporting the most vulnerable tenants

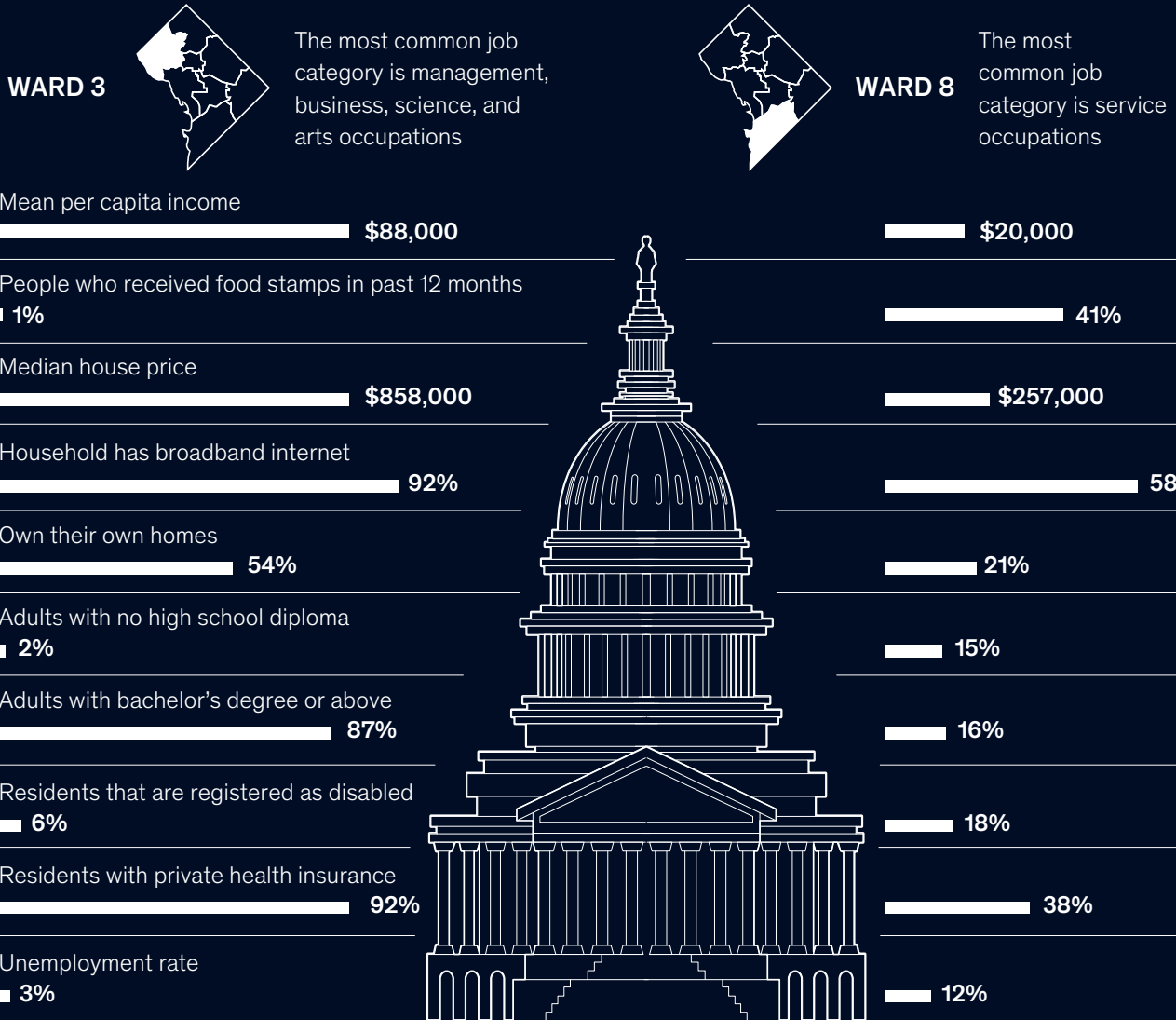


A delivery coalition

Bringing together the public, private, and social sectors to get things done

Inequality: A persisting challenge and its implications

Washington, DC, is one of the most unequal cities in the United States, as reflected in different outcomes for average residents of Ward 3 and Ward 8.

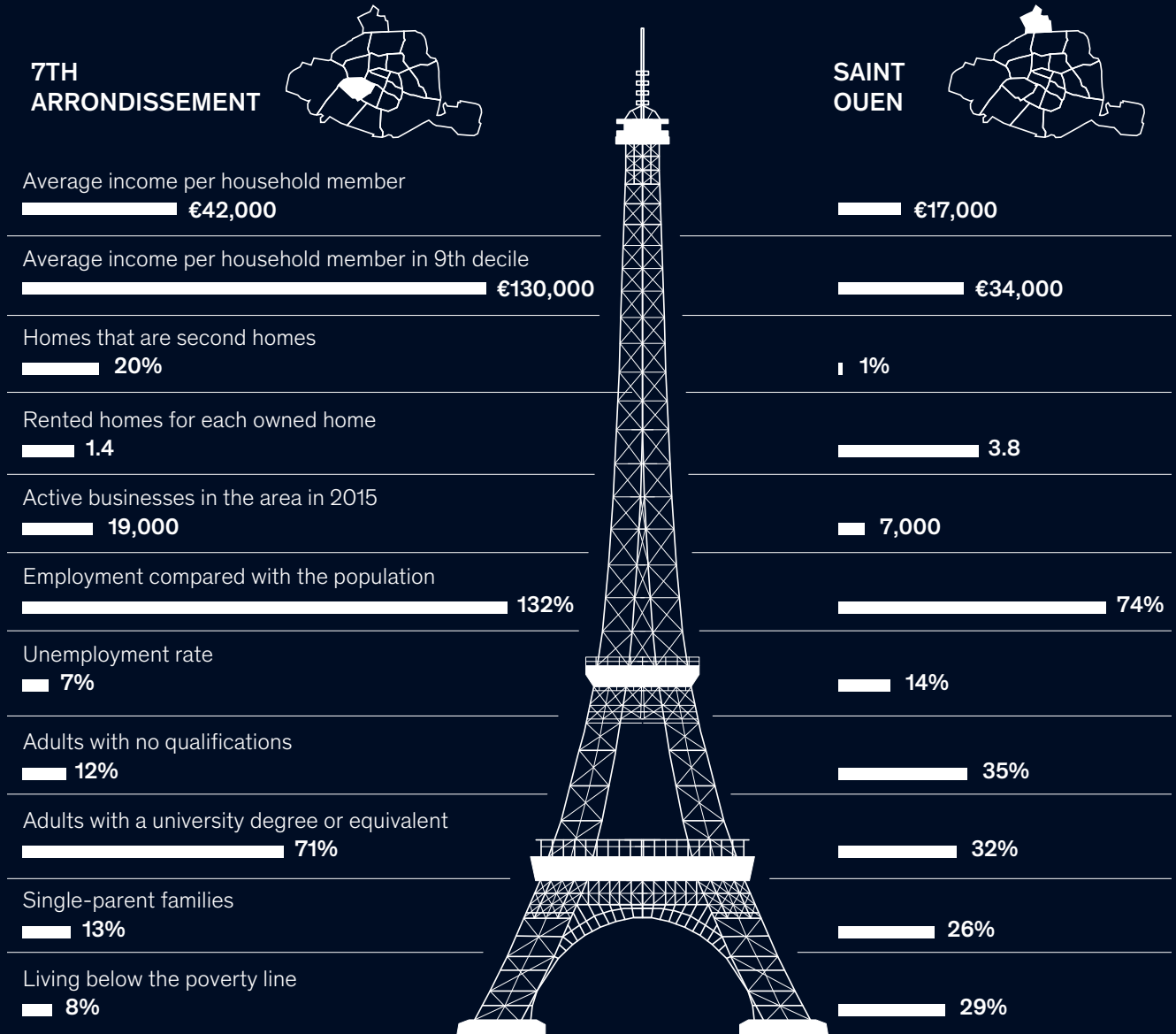


Source: ACS 2017 5-year survey, US Census Bureau, March 2019, census.gov; McKinsey Global Institute analysis

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Inequality: A persisting challenge and its implications

Life in Saint Ouen, just outside the city limits of Paris, differs markedly from life in the 7th arrondissement of the city itself.



Source: National Institute of Statistics and Economic Studies (INSEE); McKinsey Global Institute analysis

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TORRE CABALLITO
REFORMA 10

4. The changing business landscape

The new competitive challenges that companies must address have also been a recurrent theme of our research in the past. This year, we followed up on our “Superstars” research and also looked at issues of innovation, growth, and business dynamism in both Europe and Latin America. As the year drew to a close, we focused on the broader challenges that CEOs need to think about, in a world of rapid transformation.

2019 publications:

“What every CEO needs to know about ‘superstar’ companies,” *McKinsey Quarterly* (April)

Latin America’s missing middle: Rebooting inclusive growth (May)

In April, the McKinsey Quarterly published our latest discussion of corporate dynamics, *What every CEO needs to know about “superstar” companies*. This distilled our 2018 research into superstar companies, sectors, and cities into a succinct article with key takeaways for business leaders about the growing skew in corporate profits and losses.

Our latest research on Latin America brought both a business and a consumer focus to the region’s economy. Our research found a preponderance of very small companies and some very large ones across the region, but a significantly smaller cohort of mid-sized, dynamic companies of the sort that have driven growth in other regions, notably Asia. It also found a similarly undersized cohort of middle-class consumers who could drive domestic demand.

In November, we started discussing our new work on the changing 21st century company. MGI co-chairman James Manyika kicked off the public presentation of that research with a checklist of the ten questions CEOs need to ask about how to operate in an increasingly complex world.

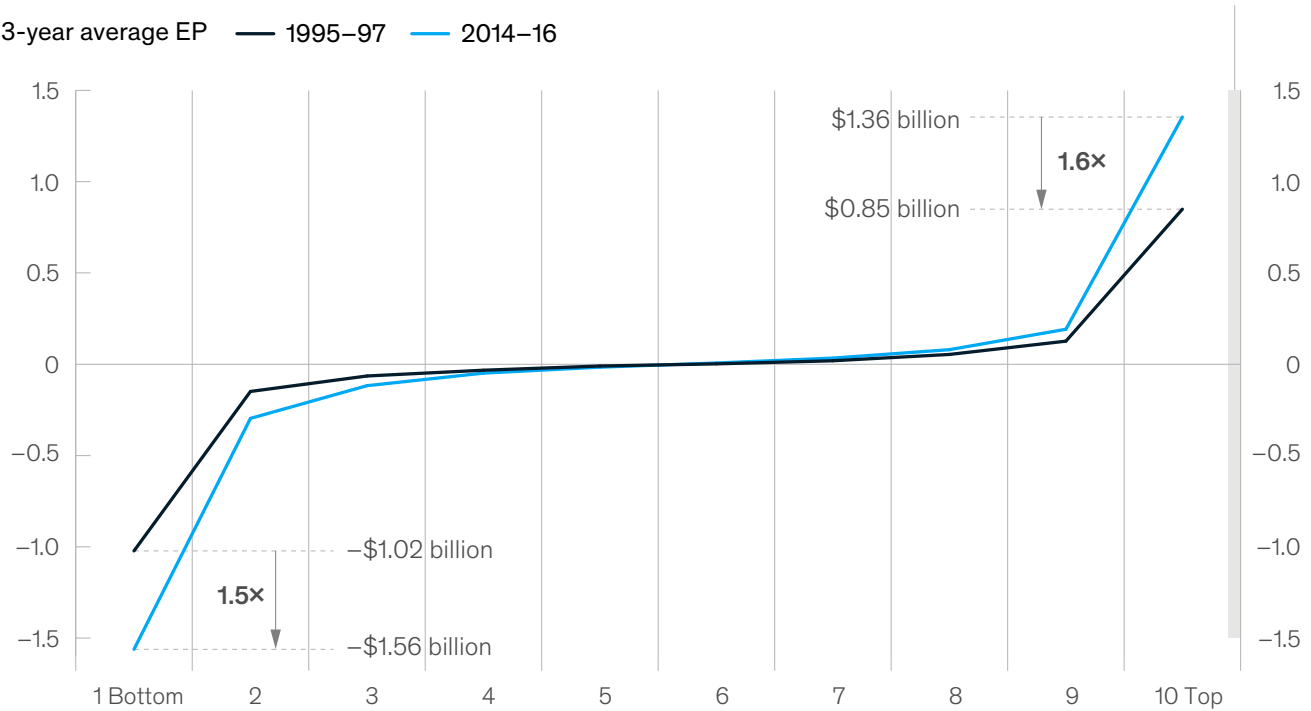
What every CEO needs to know about “superstar” companies

The distribution of economic profit and loss has become more skewed over the past 20 years.

Average economic profit (EP) per company by EP-distribution decile,¹ \$ billion

Top 1% of companies average EP for 1995–97 = \$3.5 billion, 2014–16 = \$6.4 billion

3-year average EP — 1995–97 — 2014–16



¹In 2016 dollars. Considers corporations with average sales of \geq \$1 billion (adjusted for inflation) to calculate economic profit in each time period. Sample sizes are 2,450 companies in 1995–97 and 5,750 companies in 2014–16. Source: Chris Bradley, Martin Hirt, and Sven Smit, *Strategy Beyond the Hockey Stick: People, Probabilities, and Big Moves to Beat the Odds*, John Wiley & Sons, 2018; “Superstars”: The dynamics of firms, sectors, and cities leading the global economy, McKinsey Global Institute, October 2018, McKinsey.com; Corporate Performance Analytics by McKinsey; McKinsey analysis

Latin America's two missing middles

Igniting inclusive growth requires addressing the “missing middle” of midsize firms and a solid middle class with growing spending power.

Latin America

Benchmark economies

China, India, Indonesia, Malaysia, Philippines, Poland, Russia, South Africa, Thailand, and Turkey

Supply

Average number of firms per \$1T GDP, grouped by revenue, 2016

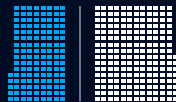
Over \$5B



\$500M – \$5B



\$100M – \$499M



\$10M – \$99M



Less than \$10M



← Millions

Millions →

Latin America needs to expand the pool of modern, globally competitive firms to raise productivity and increase the number of high-wage jobs. Digital technologies provide a new opportunity.

Demand

Percent of population contributing per quintile of consumption

Upper quintile

4%

6%

Upper middle quintile

8%

12%

Middle quintile

14%

17%

Lower middle quintile

22%

24%

Lower quintile

51%

43%

Three-quarters of the population in Latin America accounts for just 40 percent of total consumption, compared to two-thirds in benchmark countries

More productive jobs with higher wages and rising middle-class prosperity increase demand and spur new investment. This can accelerate a virtuous cycle of inclusive growth.

Ten crucial questions CEOs and leaders need to ask about how they operate in an increasingly complex world





CEOs and leaders will need to adapt to the new age of disruption—and quickly. To become a 21st-century company, they must ask themselves ten crucial questions:

1. What is our mission and purpose as a company?
2. How far do we go beyond shareholder capitalism? How are we accountable to different stakeholders?
3. Who benefits in our economic success? How?
4. What is the time horizon for managing our economic success and impact?
5. What is our responsibility to our workforce, especially given future-of-work implications?
6. How do we leverage data and technology responsibly and ethically?
7. What are our aspirations for inclusion and diversity?
8. What is our responsibility for societal and sustainability issues involving our business, and beyond our business?
9. What are our responsibilities regarding participants in our platforms, ecosystems, supply and value chains and their impact on society?
10. How should we address the global and local (including national) imperatives and implications of how we compete, contribute and operate?



5. A “sneak preview” of our 2020 research

We already have some rich offerings in the pipeline for publication in the first few months of 2020.

Climate risk

As the Earth's climate changes, we conduct a “micro-to-macro” examination of the nature and implications of physical climate risk, through nine detailed case studies and a global geospatial analysis.



Evolving social contract

A look at the evolving social contract over the past two decades, and the outcomes for individuals in OECD countries as workers, consumers, and savers.





Future of work in Europe

After our report on the future of work in the United States, we turn our attention to a detailed regional look at labor markets in Europe.





Connectivity

The next generations of high-speed fiber, wi-fi, cellular networks, low-power wide area networks, near-field communication between devices, and low-earth orbit satellite constellations are about to make the world more connected. The convergence of these technologies will give internet users greater speed and reliability as well as lower latency, but deployment will require billions in capital investment from providers and is likely to be uneven across geographies.

Healthy lifespan

Healthcare is often viewed as a cost. Our global report will take a different approach by focusing on how improving healthcare can drive economic growth.





Biological revolution

Advances in biological science in parallel with the accelerating development of computing, data processing, and artificial intelligence technologies are fueling a new wave of innovation. Applications could be used in most sectors—far beyond human health to areas including agriculture, consumer markets, materials and energy, and defense and law enforcement.






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