

MCKINSEY GLOBAL INSTITUTE

THE FUTURE OF JAPAN: REIGNITING PRODUCTIVITY AND GROWTH

MARCH 2015

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THE FUTURE OF JAPAN: REIGNITING PRODUCTIVITY AND GROWTH

MARCH 2015



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PREFACE

Two lost decades have taken a toll on Japan's confidence and competitiveness, but today there is new resolve to do "whatever it takes" to revive the nation's prospects. Beyond its dramatic moves in monetary policy and fiscal stimulus, Japan is wrestling with a wide array of policy proposals intended to address long-standing structural barriers that have hampered productivity. In addition to reigniting growth in the immediate term, Japan has to prepare for a brave new world of demographic headwinds, fast-paced technological change, and amplified global competition.

Abenomics speaks to many of these challenges, but Japan needs an even broader agenda for change—and its fundamental challenges cannot be solved in the policy arena alone. This report aims to highlight potential avenues for growth and renewal, with particular emphasis on areas where the private sector can take the lead.

This report is the result of collaboration between the McKinsey Global Institute (MGI) and McKinsey's Japan practice. The project was led by Georges Desvaux, managing partner of McKinsey's Japan office, and Jonathan Woetzel, an MGI director in Shanghai. Tasuku Kuwabara, a McKinsey partner in Tokyo, and Michael Chui, an MGI partner based in San Francisco, directed the research. The research team, led by Salvador Guzman-Herrera and Asta Fjeldsted, comprised Mami Ariie, Ken Fujimoto, Karen Kawabata, Motonori Kuwana, Andrew Marconi, Andrey Mironenko, Mika Mizunuma, Miki Sarumaru, Misako Sasayama, Elizabeth Silliman, and Manae Uchibori. Lisa Renaud provided editorial support. Thanks go to our colleagues in operations, production, and external relations, including Tim Beacom, Marisa Carder, Matt Cooke, Vanessa Gotthainer, Deadra Henderson, Midori Horii, Misayo Iye, Yoko Matsumoto, Hanako Muto, Tomoko Okayasu, Julie Philpot, Rebeca Robboy, and Eriko Tsurugaya.

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This report contributes to MGI's mission to help business and policy leaders understand the forces transforming the global economy, identify strategic locations, and prepare for the next wave of growth. As with all MGI research, this work is independent and has not been commissioned or sponsored in any way by any business, government, or other institution. We welcome your comments on the research at MGI@mckinsey.com.

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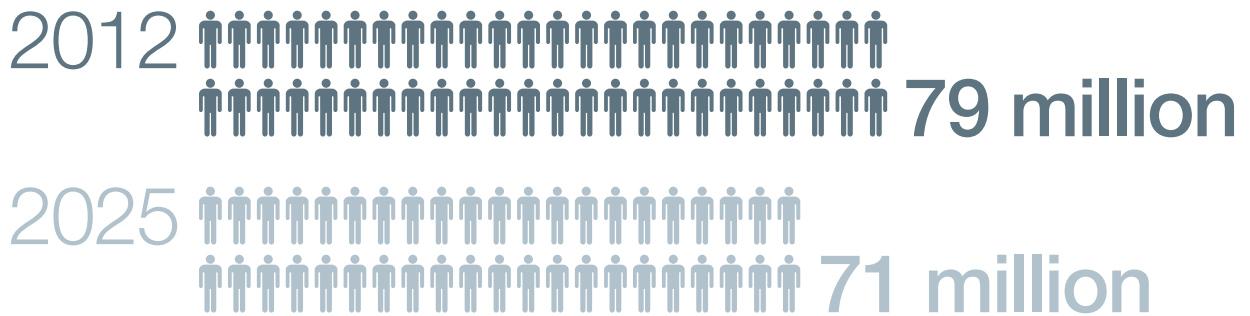
THE FUTURE OF JAPAN: REIGNITING PRODUCTIVITY AND GROWTH

Over the course of two painful “lost decades,” Japan has lost much of its competitive edge. Its economy continues to operate below its potential. Productivity growth has steadily eroded in almost every sector, including its signature advanced manufacturing industries. Policy changes can create the right conditions for reigniting growth, but Japan needs a greater focus on what individual companies can do immediately and on their own. In fact, launching a major private-sector initiative to transform Japan’s productivity performance can constitute a “fourth arrow” of economic reform to complement the Abenomics agenda.

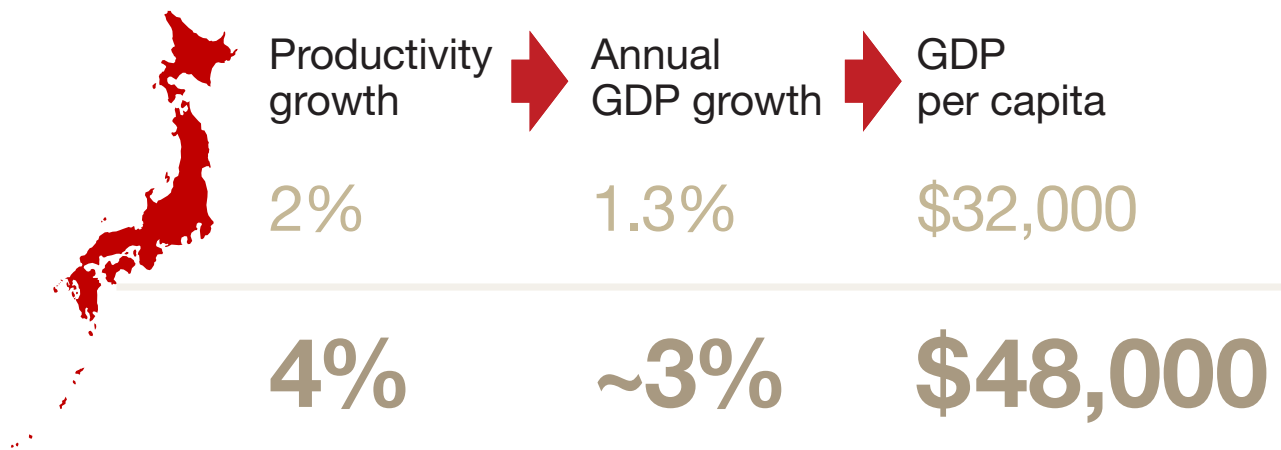
- A demographic challenge of historic proportions has arrived on Japan’s doorstep. Its working-age population will decline from 79 million in 2012 to 71 million in 2025, and its dependency ratio is set to soar from 0.60 to 0.73 over the same period. With its workforce shrinking, Japan has to rely on productivity as its primary catalyst for growth.
- Japan’s labor productivity growth has been stalled below 2 percent for much of the past two decades, and today there is a substantial and widening gap between Japan and other major advanced economies. Capital productivity has similarly eroded: the return on investment generated by listed non-financial companies in Japan is 23 percentage points below the performance of equivalent US corporations. Japan is on pace for sluggish annual GDP growth of just 1.3 percent through 2025 if these trends continue. But there is still time to head off this outcome.
- If Japan can successfully double its rate of productivity growth, with a sharp focus on increasing value added as well as reducing costs, it could boost annual GDP growth to approximately 3 percent. This would increase Japan’s GDP by up to 30 percent over the current trajectory by 2025 and improve its fiscal outlook. Some \$1.4 trillion in GDP growth is at stake in 2025 alone.
- Multiple fast-moving forces are realigning the global economy, including immense flows of global trade, the rise of billions of new urban consumers in the emerging world, and technology breakthroughs. Japan can ride these trends to gain new momentum.
- Companies have multiple avenues for growing revenues and finding deeper operational efficiencies. These strategies fall into three main categories: adopting global best practices, deploying next-generation technologies, and organizing for discipline and performance. Japan can reach some 50 to 70 percent of its productivity goal by applying practices that are already in use elsewhere around the world.
- Around one-third of the productivity potential can be captured within four sectors: advanced manufacturing, retail, financial services, and health care. In the case of health care, we estimate that Japan can slow the rate of annual expenditure growth from 3.7 percent to just 1.5 percent.
- Implementing productivity improvements such as increased automation will affect jobs in many industries. But the pursuit of new growth markets and a projected 3.7 percent decline in Japan’s labor force by 2025 can cushion the net impact on employment.
- The public and private sectors will have to work together to create the right environment for growth, focusing on talent and skills development, labor market frameworks, entrepreneurship, innovation, competition, and infrastructure productivity.

The task of continuously capturing new productivity improvements grows more difficult over time, but it is achievable, particularly if Japan takes steps to create new competitive dynamics across entire industries. This effort goes beyond cost cutting; it is about spurring growth and increasing value added by launching business lines, pushing the boundaries of innovation, and entering new markets. Private-sector initiative and drive will be key to the resurgence of Japan.

Japan's working-age population is declining



With Japan's labor force shrinking, productivity will determine its economic outlook for 2025



A private-sector "fourth arrow" could accelerate productivity and boost value added by 28%



Global best practices



Next-generation technologies



Organizing for discipline and performance



EXECUTIVE SUMMARY

Despite two painful “lost decades,” Japan remains the third-largest economy and the fourth-leading exporter in the world. It is a nation with advanced technological know-how, a formidable manufacturing base, world-class infrastructure, and a large and affluent consumer market. This is a rare combination of strengths—and yet the world remains pessimistic about Japan’s prospects for growth and reinvention.

A demographic challenge of historic proportions has arrived on the nation’s doorstep, and many Japanese themselves regard the future with anxiety. Japan passed the tipping point at which its population began to decline in 2011. As of 2013, a quarter of its population was age 65 or older; by 2040, that share will rise to more than one-third. The implications of this shift are already being felt economically and socially.

Japan’s productivity growth has been stalled below 2 percent for much of the past two decades, reflecting both missed opportunities to grow value added and deteriorating cost competitiveness. A continuation of this trend would put the economy on pace to grow by only 1.3 percent annually through 2025. Another decade of sluggish growth would do little to boost household purchasing power. Even more ominously, it would constrain the resources available for social security and health care just as demand for them intensifies.

There is still time to head off this outcome. With its working-age population shrinking, Japan has to focus on productivity as the primary catalyst for economic momentum. If Japan can successfully double its rate of productivity growth, it could boost annual GDP growth to approximately 3 percent. By 2025, this would increase Japan’s GDP by up to 30 percent over the current trajectory. The size of the prize is \$1.4 trillion in annual GDP growth in that year alone.

Public policy changes can create the right conditions for growth, but most of the outcome is in the hands of the private sector. Individual companies can do a great deal immediately and on their own without waiting for government action. Reigniting the Japanese economy will depend on their willingness to invest and take risks. The good news is that our research has identified areas within multiple industries that are ripe for revenue growth and efficiency improvements. This effort is not simply about cost cutting. It is also about spurring growth by launching business lines, pushing the boundaries of innovation, and entering new markets. A major private-sector initiative to accelerate productivity growth can constitute a “fourth arrow” of economic stimulus that complements the Abenomics agenda.

Japan’s productivity growth has been hobbled by inadequate competitive pressures and a rigid labor market

After making rapid leaps forward in the 1970s and 1980s, productivity growth has steadily eroded in almost every sector, including Japan’s signature advanced manufacturing industries. Today there are substantial and widening labor and capital productivity gaps between Japan and other advanced economies (Exhibits E1 and E2). In 2010, the mean return on invested capital for large listed Japanese companies was 23 percentage points lower than that of non-financial institutions in the US S&P 500, a symptom of large-scale misallocation of capital.¹ Japan has been unable to sustain consistent growth in value added, and the economy continues to operate below its potential.

2x

Acceleration in productivity needed to push Japan’s GDP growth to approximately 3%

¹ In the first and second sections of the Tokyo Stock Exchange, excluding financial institutions.

Exhibit E1

Japan's labor productivity gap with the United States has been widening across most industries

Labor productivity gap by sector (% based on \$ 2009 at purchasing power parity) Index: 0 = United States



NOTE: Education, public administration, and domestic employees not included.

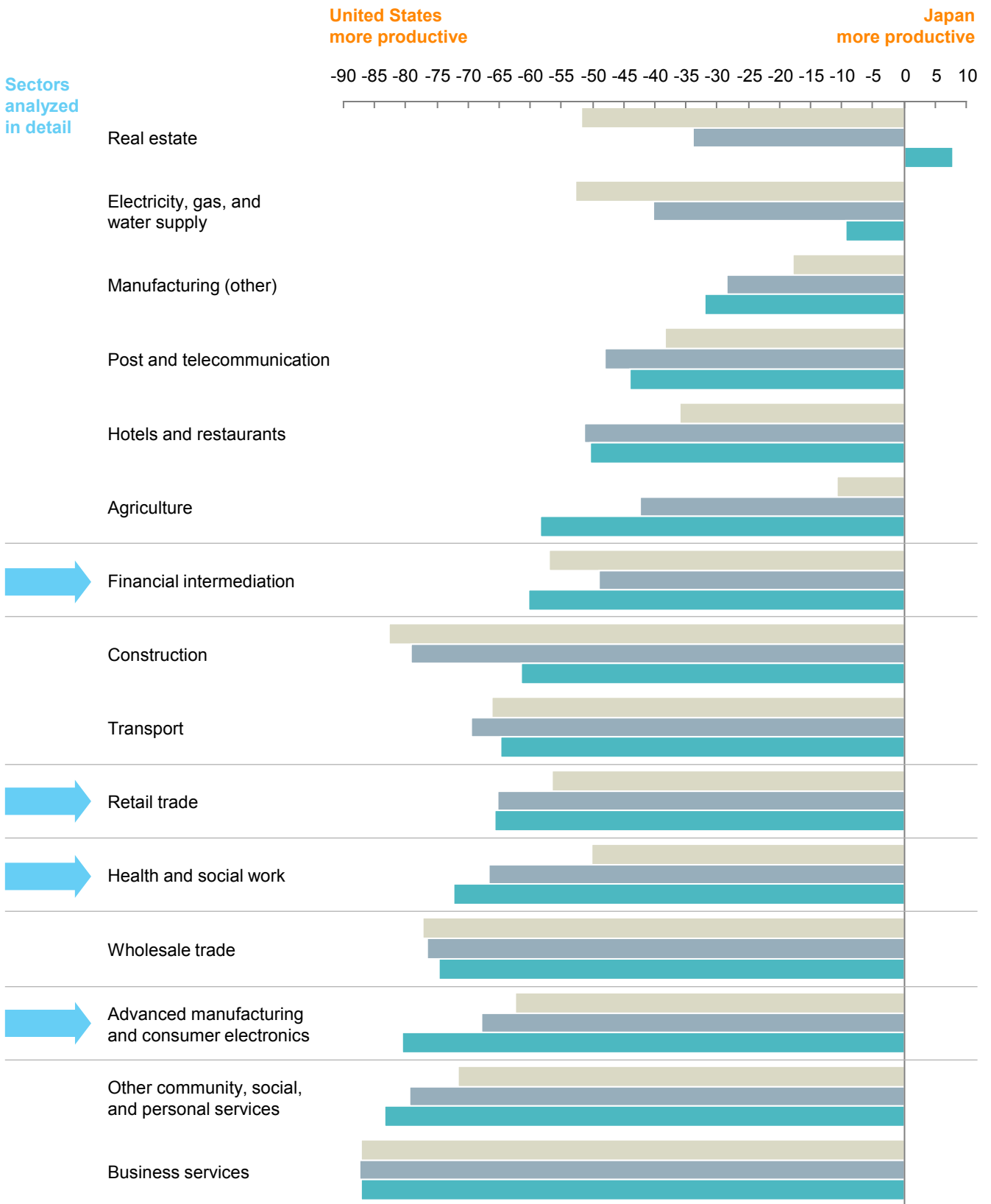
SOURCE: World Input-Output Database; World Bank; McKinsey Global Institute analysis

Exhibit E2

Japanese sectors are also falling behind US sectors in capital productivity

Capital productivity gap by sector (%)
 Index: 0 = United States

2000 2005 2011



NOTE: Education, public administration, and domestic employees not included.

SOURCE: World Input-Output Database; World Bank; McKinsey Global Institute analysis

Competition fuels productivity, as the most nimble and innovative companies win out over less efficient firms. But in Japan, highly indebted firms and even uncompetitive divisions of large conglomerates have often been kept alive in the interest of stability.² As banks continue to roll over bad loans, and corporate headquarters continue to allocate funds to underperforming units, resources are diverted that could be put to better use elsewhere and the process of creative destruction is impeded. In addition, regulatory barriers make it difficult for new competitors to challenge incumbents in certain sectors. The presence of multinationals could provide additional competitive intensity, but Japan attracts very little foreign direct investment (FDI).

Japan's long-standing lifetime employment model has also contributed to a certain degree of stasis. Today the legal strictures around lifetime employment have mostly been lifted, making the labor market more flexible in theory. But downsizing is viewed in a strongly negative light in practice, producing inefficient bureaucracies that lack agility. Workers, too, are reluctant to advance their careers by changing employers, which limits their incentive to develop new skills.

Japan has partially addressed this issue by allowing firms to hire non-regular (temporary) workers, or *haken*. By 2013, more than one-third of workers were covered by these arrangements, which offer limited legal protections and no pensions. At the current rate of growth, *haken* could account for 50 percent of the workforce by 2030. Paradoxically, this has taken a toll on productivity: temporary workers have fewer incentives to excel, and employers do not invest in their development. At a broader societal level, this situation has created a two-tiered workforce and contributed to inequality.

A continuation of current trends would have profound consequences, but Japan can change course

Although unemployment has remained low for the past two decades, deflation has eaten away at income growth and discouraged consumer spending. Japan has maintained global market share in automotive and other select industries, but many of its companies are being outperformed by Korean, Chinese, and US competitors. Few Japanese startups have broken through on a global scale. Perhaps most worrisome is Japan's fiscal trajectory; in 2014, its public debt stood at 234 percent of GDP.

Japan has an opportunity to once again outpace the world in efficiency and quality.

If current trends hold, Japan's GDP per capita would grow by a mere 1.3 percent annually over the next decade. Its overall labor productivity gap with the United States is on track to widen from 29 percent in 2011 to 37 percent in 2025. Japan could face a third decade of stagnation—one that would collide with an unprecedented demographic shift, creating even more damaging consequences.

But Japan has a window of opportunity to create a different outcome—to once again outpace the world in efficiency and quality, emerging as a global leader in fields such as advanced materials, 3D manufacturing, and the life sciences.

² Richard C. Koo, *The holy grail of macroeconomics: Lessons from Japan's Great Recession*, Wiley, 2009.

In this scenario, Japan would open the door to greater competition from multinationals, and its large companies would rise to the challenge. The Japanese education system would foster experimentation and critical thinking. Entrepreneurship would become rooted in campus life, with students in Tokyo University dorms cooking up plans for the next Google, Facebook, or Alibaba.

In this future, Japan proves that it is possible to provide an aging population with top-quality medical care while containing costs. Improved health allows experienced workers to remain on the job as they age, as physically demanding tasks are automated. Millions of women join the workforce, and many rise through the leadership ranks.

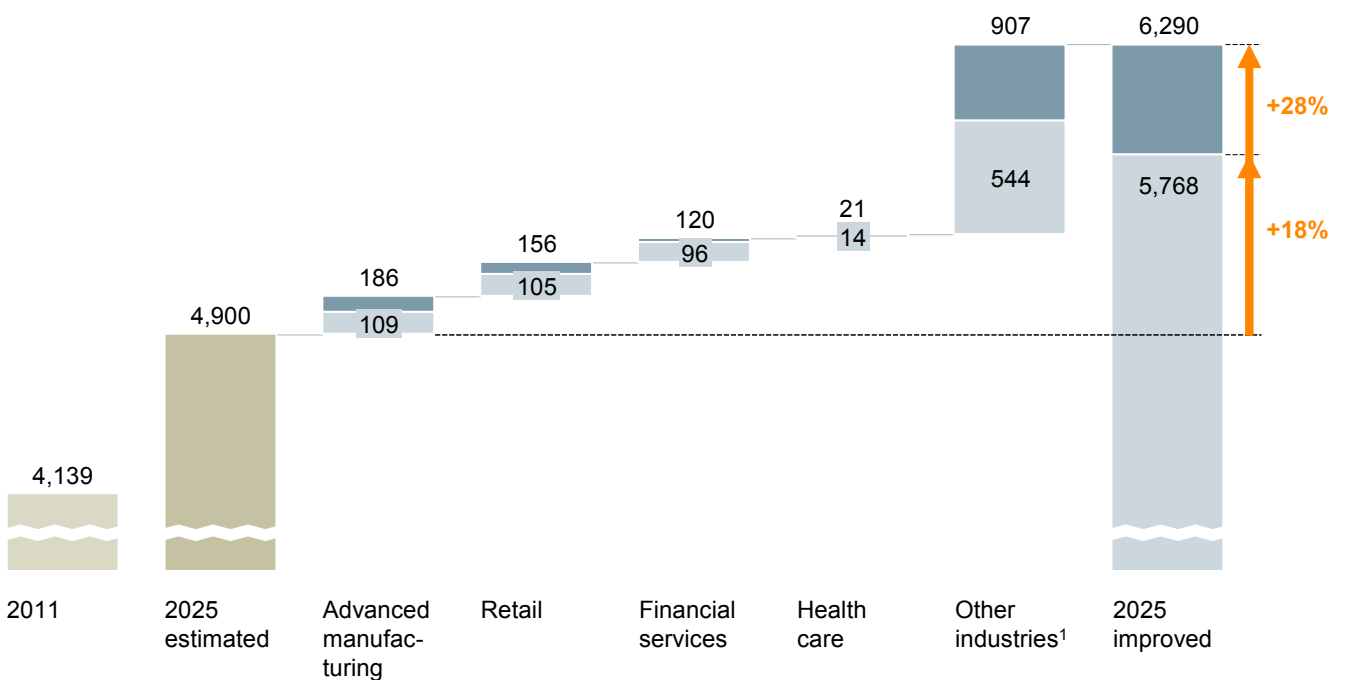
This vision is highly aspirational, but Japan can begin to move in this direction. Instead of settling for 1.3 percent annual GDP growth, Japan could grow by an average of approximately 3 percent through 2025. This would lift Japan's projected annual GDP in 2025 by almost 20 to 30 percent over current trends—for an increase of up to some \$1.4 trillion in that year alone (Exhibit E3).

Exhibit E3

Productivity initiatives in specific industries can help Japan increase value added by up to 28 percent above the current trajectory

Value added
\$ billion, 2009

■ High range
■ Low range



1 Increases in value added and productivity in the sectors examined in detail were used to extrapolate gains in similar industries (e.g., gains in advanced manufacturing were applied to all manufacturing).
NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; IHS; McKinsey Global Institute analysis

To get there, Japan will need to more than double its labor productivity growth rate, boosting it to approximately 4 percent. This is an ambitious goal for any economy, but with its labor force shrinking, Japan has to focus on productivity to accelerate growth. Increased labor force participation will also play a part, as will innovative business models and social paradigms. Japan's capital productivity could improve by 25 percent through better allocation of resources, higher revenues, and a push for greater cost effectiveness in infrastructure spending.

New efficiency measures such as increased automation will affect jobs in many industries. But a growing economy combined with a projected 3.7 percent decline in Japan's labor force by 2025 can cushion the net impact on employment.

Japan's productivity challenge ultimately has to be met by the private sector—and there is a great deal that individual companies can do immediately and on their own.

Firing a fourth arrow: Individual companies can transform Japan's productivity performance

A nationwide effort to accelerate productivity growth—led by the business community and spanning every sector of the economy—could amount to a “fourth arrow” for Abenomics. Many of the barriers and bottlenecks that have constrained growth are not imposed by regulation; they stem from traditional ways of doing business. Japan can reach some 50 to 70 percent of its productivity goal by adopting practices that are already in use around the world, while most of the remaining improvement can be captured by deploying new technologies.

Incorporating global best practices

- **Become more globally integrated.** Rather than relying heavily on the domestic market, Japanese companies have to become more aggressive about entering the fastest-growing overseas markets. But rather than just going global, enterprises have to *become* truly global, thinking beyond borders with regard to their operational footprint and talent development. Organizations can retain their Japanese roots while cultivating deeper connections to global value chains.
- **Improve capabilities across the value chain.** Japanese companies have historically excelled in manufacturing and product development, but they need to invest in building world-class capabilities in other functions such as sourcing, supply-chain management, customer relationship management, marketing, and after-sales service.
- **Continue the journey of digitization.** In most companies, an end-to-end review will likely reveal areas that have received a lack of IT investment and process innovation. Replacing outdated IT systems and equipping employees with mobile tools can enable massive improvements in performance.
- **Determine the optimal physical footprint.** Organizations may need to reconfigure in a more digital world with changing demographics. In retail, for example, smaller urban storefronts (or, conversely, big-box stores) offering innovative customer experiences can help to reduce costs and increase proximity to customers. Health-care providers

may need to consider whether their locations, scale, and degree of specialization match the needs of patients by age and geography. Financial institutions may need to close some of their least profitable branches and incorporate new interactive technologies into others.

Adopting next-generation technologies

- **Harness the power of big data.** Big data is a powerful tool for pricing, customer segmentation and marketing, sales forecasting, risk management, and R&D—and many large Japanese companies have yet to begin using it to transform their operations.
- **Take automation to the next level.** Intelligent software systems and robotics could help Japanese companies address critical labor shortages in the years ahead.
- **Deploy advanced technologies in manufacturing processes.** Technology can reinvent the assembly line yet again, from the adoption of low-cost sensors and big data analytics for better accuracy in production to the use of 3D printing for mass customization.

Organizing for discipline and performance

- **Restructure as needed to create a more competitive and fluid industry landscape.** If additional policies that have constrained market forces are removed, companies will have to adapt to a much more intense level of competition. Some may need to reorganize or exit unprofitable markets, while others may undertake mergers and acquisitions to achieve economies of scale.
- **Create a culture of performance and accountability.** Shareholders and top executives can reinforce that productivity is a top organizational goal by tying performance goals to incentives. Some of Japan's largest companies have already begun shifting away from the traditional seniority-based advancement system in favor of merit-based pay structures, and other firms can follow their lead. Promoting younger talent into management ranks and rewarding results can create agile organizations with fresh ideas.
- **Draw on all sources to build talent, leadership, and skills for the future.** Individual companies can attract and retain female talent by implementing supportive human resource policies and making tangible changes in workplace culture (such as relaxing the demands for long hours that make it difficult for new mothers to return to work). It is especially critical for companies to invest in programs that develop and mentor female leaders who can drive growth and productivity in the future. Employers will also need to retain valuable skills and experience by reengineering the workplace to accommodate aging workers, perhaps by automating physically demanding tasks, offering flexible hours, or focusing on ergonomics. Older workers could also transition to mentorship and training roles.
- **Focus on the customer to achieve a better return on R&D investments.** Instead of focusing on technology itself, the development process has to start with understanding what the customer wants and deliver solutions based on that insight. Innovation has to evolve from closed and tightly managed R&D operations to more fluid, open processes involving teamwork across the organization and collaboration with customers and suppliers.

Box E1. Riding global trends for faster growth

What is different about today's environment that could support a fundamental shift in Japan's direction? The answer is simple: everything.

This is an era of explosive growth in global trade, yet Japan's share of global exports has fallen from 7 percent in 2000 to 4 percent in 2013. But Japan has the manufacturing, export, and innovation capabilities to make up for lost time and lost market share. As emerging economies continue to industrialize, they will become growth markets for vehicles, machinery and equipment, and electronics, all long-standing areas of strength for Japan.

Much of the developed world is aging—and it will be watching intently to see if Japan, the nation at the leading edge of this trend, can pioneer policy responses. The private sector will also have to develop new business practices and technologies to alleviate labor shortages, all of which will have positive implications for productivity. Japan could be well positioned to export innovative products and services geared to seniors, who represent a lucrative consumer segment.

The world is undergoing a historic surge of urbanization, a shift that puts the spotlight on infrastructure. There is a huge opportunity for Japan to improve capital productivity in its own infrastructure projects as well as providing project finance and engineering expertise to the rest of the world.

Today multiple transformative technologies, from artificial intelligence and 3D printing to the Internet of Things, have already appeared on the horizon. Japan is already adopting—and even inventing—some of these breakthroughs. Now the challenge is to accelerate adoption throughout entire industries so that technology moves the needle on productivity performance.

As one of the most rapidly aging, urbanized, globally connected, and technologically advanced societies on the planet, Japan stands smack in the forefront of a global wave of disruption. These trends present both pressures and incentives to act. Japan can turn the current wave of global disruption into opportunity.

Four sectors illustrate Japan's untapped productivity potential

Around one-third of the estimated productivity potential can be captured within the four sectors discussed below, which were selected to illustrate differing parts of the Japanese economy. The strategies outlined here are by no means exhaustive, but they do offer a starting point for action and an indicator of the size of Japan's opportunity.

Advanced manufacturing

Advanced manufacturing (which includes automotive, industrial machinery, and electronics) represents the vanguard of Japan's industrial capabilities and the source of its signature exports. But over the past 15 years, this sector's global market share has eroded in the face of new competition. Japan's advanced manufacturers once raised the bar for the rest of the world in efficiency and quality, but today their labor productivity is 29 percent below that of the US sector and 32 percent below Germany's. This gap is not only significant; it has been widening.

At the firm level, Japanese auto companies have remained excellent performers, but the biggest names have shifted much of their production outside of Japan to local markets. The consumer electronics space has not fared as well. Lean players such as Samsung, LG, Xiaomi, Huawei, and Lenovo have grabbed market share for products such as TVs, PCs, and smartphones—often at the expense of Japanese firms. The major Japanese conglomerates have spent the past decade fighting for profitability. In some cases, they made unfortunate bets on technologies that did not win out in the marketplace. The Japanese consumer electronics industry includes many subscale companies and plants focusing on products with declining margins.

Our research has identified multiple industries that are ripe for revenue growth and efficiency improvements.

One of the advanced manufacturing sector's major challenges has been downward pricing pressure, but this is a worldwide phenomenon that does not fully explain Japan's productivity gap. Four other issues have been at play. First and foremost has been an insufficient focus on fast-growing global markets. Japanese automakers have successfully tailored their vehicles for emerging markets, but other Japanese products have failed to resonate in lower-income economies. Second, Japan's electronics sector remains heavily weighted toward hardware in an era when the market has shifted toward software, IT services, mobile applications, and integrated solutions. Third, Japan spends more on manufacturing R&D than almost any other country, but in recent years, that investment has not adequately paid off in the form of new hit products. Fourth, Japan has to contend with a higher non-labor cost base, due in part to inefficiencies in global operations and in functional areas such as supply chains (Exhibit E4). Japan's advanced manufacturing industries could face a future of declining global market share and slow productivity growth. The sector's value added is on pace to increase by a mere 1.4 percent annually through 2025.

But Japanese companies can change this outcome by aggressively adopting global best practices, starting with redirecting their formidable R&D capabilities to higher-value spaces. In an era of rapid-fire technology breakthroughs, there is enormous potential to create entirely new goods and services—not to mention applying innovation to management and production practices. Companies will have to make smart decisions about where to

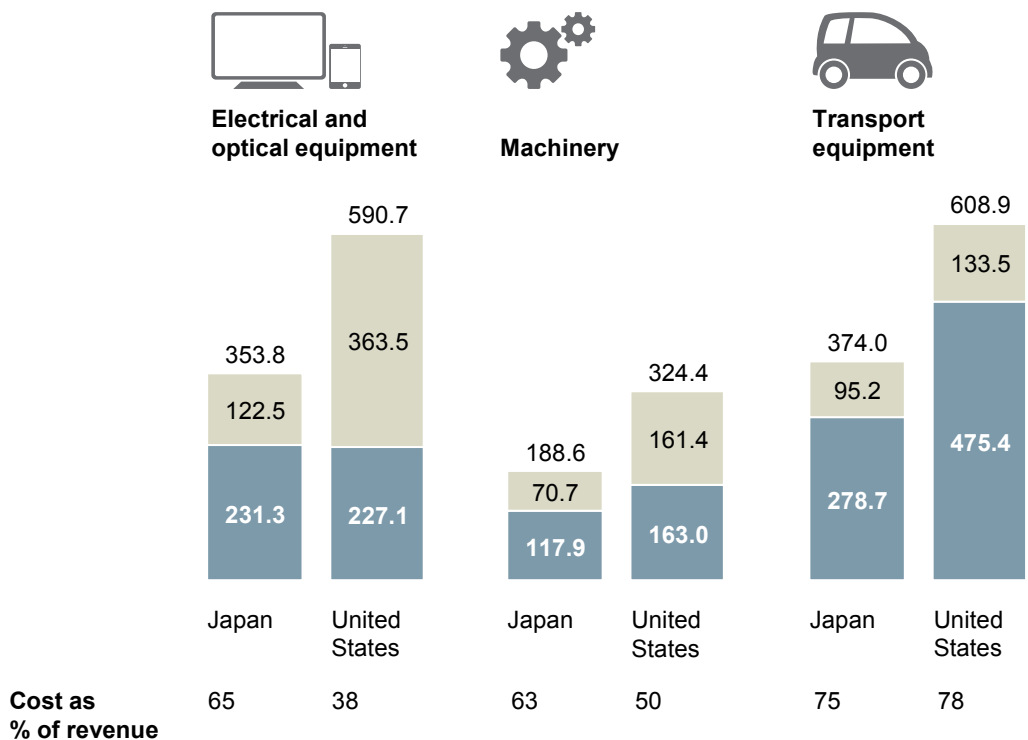
compete globally and which market segments to target; adopting international standards can broaden their appeal. They will have to strive for operational excellence in areas such as supply-chain management, product platforms, sourcing, procurement, revenue management, and support costs. Manufacturers can also create new revenue streams by adding after-sales services, such as delivery and installation, operation, maintenance, or systems integration. Mergers and acquisitions would allow companies to reach the critical size necessary to benefit from economies of scale and better deploy their capital and human resources.

Exhibit E4

Japan has a high non-labor cost base, particularly in the electrical and optical equipment industry

Revenue breakdown by subsector, 2011
\$ billion, 2009 at purchasing power parity

■ Value add (includes labor cost)
■ Non-labor cost of intermediate inputs



NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; McKinsey Global Institute analysis

The coming decade will bring an ongoing wave of innovation in manufacturing. Software is increasingly being integrated into traditional manufactured goods. The coming wave of connected cars, for example, represents a new competitive challenge—and a major market opportunity—for Japan’s automakers. Japan can also capitalize on growth in robotics and 3D printing for its own production processes and for export.

By 2025, these combined strategies have the potential to boost the sector’s value added by more than 50 percent above the current trajectory. If a critical mass of Japanese manufacturers were to adopt breakthrough technologies, they could virtually close the productivity gap with the United States.

Retail

Japan's retail sector benefits from a large and sophisticated consumer base as well as excellent logistics. High Internet and mobile penetration has underpinned growth in online shopping. But small specialty shops, many of them family-owned, account for approximately half of all retail sales—and because these businesses are less productive, they create a drag on the overall sector. Segments such as traditional convenience stores, supermarkets, and drugstores also remain highly fragmented; the relative lack of large chains has prevented investment in automation and technology. Only 40 percent of Japanese retailers are among the top ten national players, compared with 75 percent in the United Kingdom and 76 percent in Germany.

Since the 2000 repeal of the Large Scale Retail Store Law, traditional store formats have been on the decline. With a greater weighting of modern-format stores, the retail sector increased its labor productivity by 2.2 percent annually between 2000 and 2011. But Japan has not kept pace with the US sector in terms of operational innovations. Even those formats with higher consolidation and revenue growth have struggled to reduce costs and improve operating margins. Legacy IT systems and overinvestment in floor space have also weighed on profit margins.

On its current trajectory, the sector's value added would increase by just 1.1 percent annually through 2025. By then, the Japanese sector's productivity would stand at only 71 percent of the US level. In addition, if the industry continues to expand total floor space at its current rate, sales per square meter would decline by about 1 percent annually through 2025.

But the retail sector can make a quantum leap in performance by deploying new technologies, responding to changing demographics, and increasing its efficiency. We estimate that there is potential to boost labor productivity by anywhere from 22 to 39 percent by 2025.

One element in this formula is achieving smarter store footprints. By introducing innovative customer experiences and multiple channels, retailers can rationalize floor space, saving costs and boosting revenues. Retailers also need to adopt global best practices in operations along the entire value chain, some of which employ cutting-edge technologies. In addition to managing complex shipments from vendors, the Internet of Things can use sensors and tags in stores to avoid stock-outs and signal when reorders are necessary. Becoming fluent in big data and advanced analytics can help retailers better understand and segment their customers and make both front- and back-end operations (such as sales forecasting and employee scheduling) more efficient. With the return of some limited inflation, Japanese retailers may finally have an opening to raise prices. Companies can capture new value added by implementing pricing strategies built on a deeper level of marketing insights from big data.

The continuing growth of e-commerce is another important source of retail productivity. Japan has already developed the world's third-largest e-commerce market, but sales are growing more slowly than in the United States (and are well below the dramatic rate of growth in China). E-tailers such as Rakuten and Amazon are making strides, but there is still ample room for adoption by brick-and-mortar incumbents—and for disruptive new players to emerge in this space.

Accelerating consolidation and the transition to more modern-format stores (and perhaps “leapfrogging” directly to more innovative digital-hybrid formats) will be crucial to improving the sector's productivity.

Financial services

Japan's financial sector was the third-largest in the world in 2012, with \$11 trillion in assets. But its low-risk, low-margin operating model has produced limited revenue growth. More than half of personal financial assets are held in cash or cash deposits. Between 2005 and 2011, annual labor productivity growth was 4.5 percent in the US sector and 7.6 percent in the German sector, while Japan actually experienced a decrease of 2 percent.

During Japan's long period of muted demand, banks tended to funnel excess cash into low-risk, low-return government debt. The government's most recent and most aggressive program of quantitative easing is meant to reverse this trend and spark new lending and investment. Jumpstarting the flow of financing and investment is an Abenomics priority, and the conditions may be coming together for the financial services sector to achieve higher margins, increase its value added, and create momentum in the broader economy.

Looking specifically at the banking industry, Japanese institutions serve their customers with fewer branches and fewer employees than US banks. Despite this advantage, their labor productivity was 22 percent lower than that of US banks in 2011. The major factors driving this gap include low returns on assets, risk aversion, simpler product offerings, and intense competition that has driven down pricing. Japan's persistently low interest rate environment has limited spreads and depressed returns on investments—and because loan demand has stagnated, banks have been unable to compensate for declining interest margins by boosting volumes. A failure to build deeper relationships harms banks' ability to increase advisory revenues.

Japan's insurance sector trailed the US sector in labor productivity by 29 percent in 2011. There is high market penetration for life insurance products, but policies produce lower revenues. Product offerings and pricing strategies tend to be relatively basic across all types of coverage, and there has been little growth in demand for property and casualty coverage. Insurers, like banks, have struggled with low returns on their investments.

Whatever Japan's macroeconomic conditions, individual firms still have scope to improve productivity and growth. Players can rethink their investment strategies to shift toward higher-yield assets, finding a better balance between risk and reward. They also need to find new ways to maximize value from customers. Many firms already segment their customers by wealth and life stage to develop tailored offerings, but new analytics tools can take this to an entirely new level of detail. There are opportunities to launch a wider variety of financial products, using big data tools to monitor risk and determine pricing. In particular, financial firms can create products and advisory services to meet the needs of seniors and affluent individuals.

Japanese banks are already the world's largest international lenders, but further emphasis on foreign lending and foreign expansion (especially into the most promising markets in emerging Asia) could be an avenue for growth. Insurers have similarly increased their overseas operations in response to declining revenues at home.

Banks and insurers alike can undertake an end-to-end review of processes and focus attention on areas that have received little IT investment and digital process transformation. Financial institutions will have to continue their efforts to deliver a truly seamless online and offline experience while slimming down or reimagining their branch formats, with more advisory and sales centers.

By 2025, these initiatives could increase the sector's value added by up to 44 percent while reducing the labor required by 9 percent. This would boost labor productivity up to 24 percent over the current trajectory—and provide a lift to the entire economy by putting cash reserves to work in productive investment.

Health care

Providing universal access to quality health care is a point of national pride. Japan manages to achieve good outcomes while holding health-care spending to 8.1 percent of GDP (well below Germany, at 11.3 percent, or the United States, at 17.7 percent). But there are serious questions about whether the current trajectory is sustainable. Government estimates indicate that health-care expenditures could reach some \$515 billion by 2025, for average annual growth of 3.7 percent. If health care swallows an ever-larger share of national spending, it could crowd out consumption and investment in other parts of the economy and force painful tax and social security reforms.

The aging population is frequently discussed as the driver of health-care costs, but that is only part of the story. Utilization rates remain very high by international standards; Japanese patients consult physicians an average of almost 13 times per year, more than twice the OECD average. The average hospital stay is three times longer in Japan than in other advanced economies—partly due to reimbursement formulas, but also because hospitals often continue to care for patients who might be better served in rehabilitation centers or nursing homes, which are in short supply. The ongoing process of medical innovation also contributes to rising expenditures.

Measures such as increasing taxes to shore up the system or adjusting reimbursement rates are only partial solutions, and repeated rounds will not be feasible. Japan needs to bend the cost curve in a more fundamental way. The good news is that other nations facing similar pressures have managed to implement successful reforms, and Japan can draw on their experiences. One of the most important lessons they offer is that reimbursement changes drive provider changes.

The current system rewards providers for generating a high volume of procedures. Japan took a positive step by introducing a diagnosis procedure combination (DPC) payment system, much like the billing system used by Medicare in the United States (although Japan's version includes a length-of-stay component). It shows promise for controlling costs and standardizing data, but a limited number of institutions participate. Policy makers can reopen this issue and consider deeper reforms such as mandating DPC adoption across the entire system, implementing capitation (which pays providers a set amount for each enrollee, whether or not the individual seeks treatment), or directly linking reimbursement to performance and outcomes.

Because Japan has some 3,000 private insurers, a crucial part of the health-care landscape is fragmented. Insurers do not perform a gatekeeping or cost-control function, as they do in other countries—but Japan could transform them from payors to real players. Instead of imposing uniform reimbursement rates, Japan could give them greater flexibility to negotiate with providers and design their own formulas. Germany's experience indicates that once insurers are given responsibility for real management, a wave of consolidation could follow.

Reducing the number of visits per capita requires significant changes on both the demand and supply sides. Requiring continuing medical education and recertification could promote a greater culture of trust among patients. The clinical data aggregated by electronic medical records can be used to create a ratings-based system that allows patients to compare providers (much like the UK National Health Service's Choices website). On the other side, steeper co-payments could discourage unnecessary additional visits or repetitive testing.

Japan's Ministry of Health, Labour and Welfare has made progress in expanding the use of generic drugs; meeting its goal of achieving a 60 percent penetration rate by 2017 would save some \$8 billion annually. But this would still leave Japan below international benchmarks. Japan can set a more ambitious target and take steps to bring the price of generics down to international levels.

Japan has a fragmented provider landscape, with many small generalist hospitals. Surprisingly few institutions specialize in specific therapeutic areas, with repercussions for the quality of care. Financial incentives could encourage some hospitals—especially subscale institutions—to merge or specialize. Mergers could lead to major savings in IT systems, purchasing, and the allocation of resources. Greater specialization would prevent high-risk procedures from being performed at low-volume centers. It would also improve housing and treatment options for elderly patients, particularly those with dementia. There are major efficiency gains still to be captured from electronic medical records and big data tools. Most hospitals do have solid technology systems in place, but the key will be connecting these systems and ensuring interoperability across providers.

This is an age of medical breakthroughs. Already, 3D printers are being used to produce artificial organs and implants, robots are being deployed in medical settings, and nanodevices are making more procedures minimally invasive. In addition to adopting advances in patient care, Japan has the scientific and manufacturing capabilities to pioneer many of these technologies.

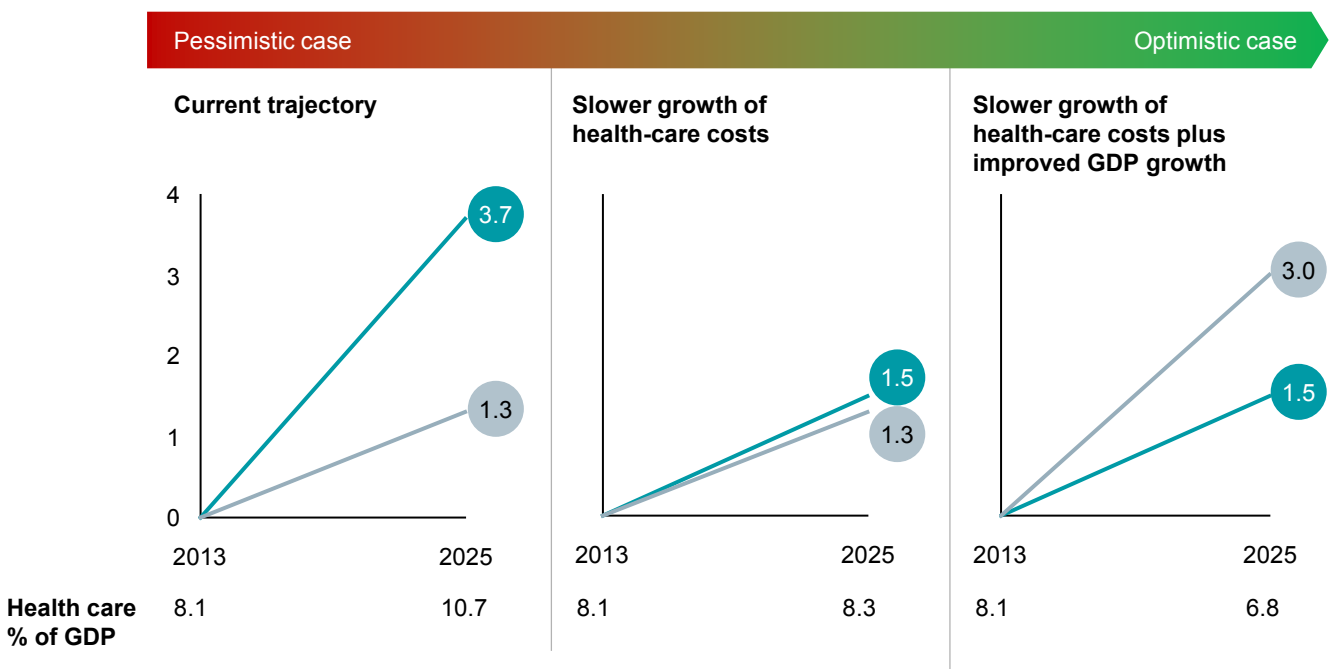
Today Japan's health-care expenditures are growing faster than GDP and are on track to swell to 10.7 percent of GDP by 2025. But we estimate that the reforms described above can slow the annual rate of growth from the anticipated 3.7 percent to just 1.5 percent. By 2025, expenditures could come in some 22 percent below projections, holding the line at 8.3 percent of GDP, only slightly above the level in 2013 (Exhibit E5). This would free up resources that could be used to develop a more comprehensive long-term care sector. Furthermore, if Japan's productivity initiatives successfully boost GDP growth to 3 percent, health-care spending would grow more slowly than GDP, putting the system on a more sustainable path.

Exhibit E5

Reforms could help Japan cut the growth rate of health-care expenditures in half, potentially even bringing it below the rate of GDP growth

Compound annual growth rate (%)
Index: 0 = 2013

— Health-care costs ● Growth rate (%)
— GDP



SOURCE: Ministry of Economy, Trade and Industry; Ministry of Health, Labour and Welfare; McKinsey Global Institute analysis

Japan has a road map, and now it needs the political will to start the journey. Reform will be a process of “continuous improvement” that will require periodic readjustment. It will take a steady commitment to create a more sustainable system—one based on a vision that looks decades ahead and is insulated from short-term political pressures.

The right policies and enablers can spur growth

Deregulating and reforming individual sectors can inject new dynamism into the economy. But Japan also has to create a broader environment that is conducive to growth. While Abenomics speaks to a number of these priorities, the agenda for change needs to be even broader.

Tapping new talent sources

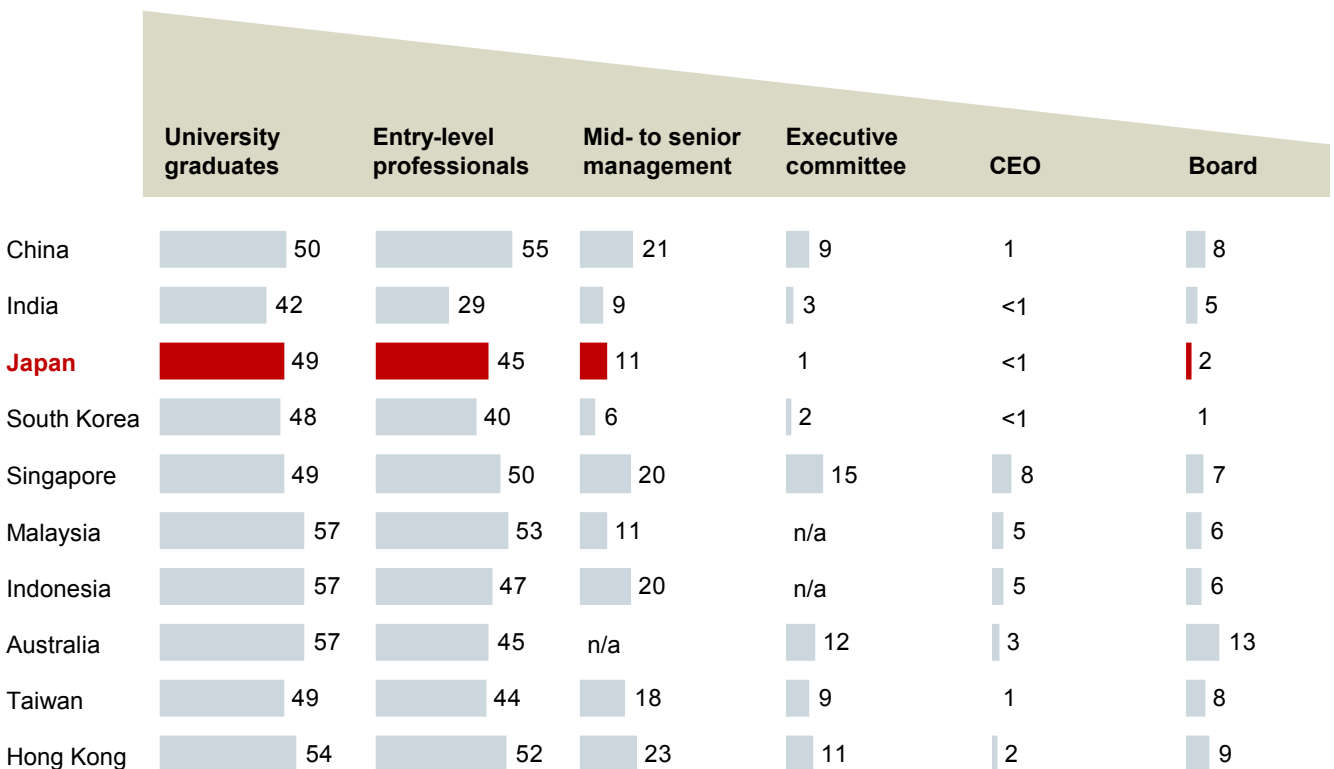
- Encourage more women to participate in the workforce and create pathways to success.** Many Japanese feel that women should focus on household duties, and this cultural attitude is exacerbated by a sharp gender gap in pay and a glass ceiling. But Japan cannot afford to lose so much potential talent. The participation rate drops sharply when women reach prime childbearing age; they step off the career ladder when they might otherwise begin moving up into managerial roles (Exhibit E6). The government has recognized that expanding child care is a critical starting point. Additionally, Japan can follow through with removing tax policies that encourage married women to opt out of the workforce or to choose low-paying part-time work. Companies and institutions have a critical role to play in helping women fulfill their potential as future leaders of Japan. They need to make gender diversity a top strategic priority, with executive teams demonstrating visible support for this change.

Exhibit E6

Japanese women step off the career ladder during their prime child-bearing years and occupy few senior leadership roles

ESTIMATES

%



SOURCE: McKinsey proprietary database, 2011; government publications

- **Retain experienced workers as they age.** Japan is gradually raising the mandatory retirement age that companies can impose from 60 to 65 by 2025, requiring employers to offer continuing employment options to workers who hit retirement age and offering subsidies to employers that hire and retain older workers. In fact, Japan already has one of the highest labor force participation rates in the world for older workers. But since a quarter of the population is expected to be over age 75 by 2055, further policy adjustments may be needed—and, as mentioned above, individual companies will have to drive this effort forward by implementing more flexible working models and ergonomic adjustments that can entice seniors to stay on the job.
- **Address supply constraints by rethinking immigration policies.** Japan will need to identify critical roles that are being affected by an undersupply of labor and consider whether foreign workers could provide at least a partial solution. Increasing their presence would not only fill gaps in specific roles; it could also bring an infusion of diverse ideas, new energy, and best practices developed in other countries.

Creating a more dynamic labor force with the skills demanded in a fast-changing environment

- **Make the workforce more equitable.** The greater flexibility afforded by the use of temporary workers has harmed productivity while creating a two-tiered workforce, as discussed above. Faster economic growth will not be enough in and of itself to create a more equitable system. Policy makers may need to take formal steps to provide better conditions and benefits for temporary workers—both to ensure they are protected and to increase their motivation to become more productive.
- **Create ambitious retraining programs to meet new business requirements.** Since multiple industries face wide-ranging technology transformations, the public and private sectors will have to ensure that well-chosen, well-designed training programs are available on a large scale. Companies can also collaborate at the industry level to offer apprenticeships and partner with education providers to design vocational training and certificate programs.

Reforming the education system to build talent and capabilities over the longer term

- **Instill critical thinking skills.** The next generation of workers will need critical thinking skills and an open attitude toward experimentation to enhance Japan's productivity and competitiveness. The current educational experience leaves graduates at a disadvantage in this area compared with their international peers.
- **Promote a global mindset.** Japan could benefit from achieving greater foreign language fluency and expanding international student exchanges, which lay the groundwork for future research collaborations and business deals.
- **Create a true education-to-employment pipeline.** In most countries, the education-to-employment system fails many young people and employers alike. But employers and educators can bridge this gap by moving more fluidly into each other's worlds. Companies can help to design curricula and lend their employees as "faculty," while education providers can integrate internships into their programs and secure hiring guarantees for graduates. Sustaining long-term growth requires careful, ongoing evaluation of evolving shifts in demand for specific skills.

Fostering a startup culture

- **Increase access to funding.** Despite favorable regulatory changes, there is little angel investing in Japan. Information platforms can help to build a community of angel investors, and large corporations could play a role where individual investors currently do not. Japan's venture capital industry is also underdeveloped. Israel offers a useful template; it rapidly expanded its fledgling VC industry in the 1990s by offering tax incentives to foreign investors and matching private capital. The Innovation Network Corporation of Japan is a positive step in this direction, but unlocking private investment will require sustained effort.
- **Promote a supportive legal and regulatory framework for startups.** Making the process of setting up a new business more user-friendly could motivate more aspiring entrepreneurs to take a leap with their ideas. Japan can also revisit the framework around intellectual property protection and its incentive structure for commercializing university research.
- **Create an ecosystem that allows entrepreneurs and innovation to flourish.** Japan's current network of business incubators has a limited reach, and the public sector may need to mobilize resources. New York, for example, has undertaken an ambitious public-private partnership to build Cornell Tech, which will offer an MBA program with a digital, entrepreneurial focus. University-affiliated business incubators (such as Waseda University's) can expose Japanese students to the process and excitement of turning ideas into profitable realities.

Implementing market-oriented reforms to unleash competition

Reducing government intervention in specific sectors could open the door to a wave of consolidation that would allow companies to realize economies of scale. A number of market distortions, such as barriers to entry for startups, protectionist measures that limit imports, zoning restrictions, and subsidies that keep unproductive firms afloat, could be removed.

- **Promote competition by allowing companies to enter and exit the market.** The birth of new firms and the closure of failing companies are akin to a healthy circulatory system—and the continued support of highly indebted firms as well as uncompetitive divisions of large conglomerates represents a disorder that hinders that dynamic. Resolving the continuing overhang would improve the allocation of capital across the economy.
- **Deepen global trade ties.** New trade agreements would open the door for Japanese companies to penetrate new markets and grow revenues. Japan is engaged in a number of bilateral and multilateral negotiations, the largest of which is the proposed Trans-Pacific Partnership. Bringing these agreements to a successful conclusion could provide Japan with new sources of growth.
- **Move toward open standards.** Shifting away from proprietary technologies to globally accepted standards and platforms that allow for interoperability (and participating in the creation of these standards) will broaden the market for Japanese products.
- **Promote a culture of performance at the macro level, including increased shareholder pressure.** Proposed new regulatory standards call for at least two outside directors on each corporate board, but even stronger measures may be needed to ensure accountability and improved corporate governance. Shareholders in Japan have traditionally exercised relatively little pressure for performance, but a more activist approach would push management to increase revenues and achieve operational efficiencies.

Improving productivity in infrastructure

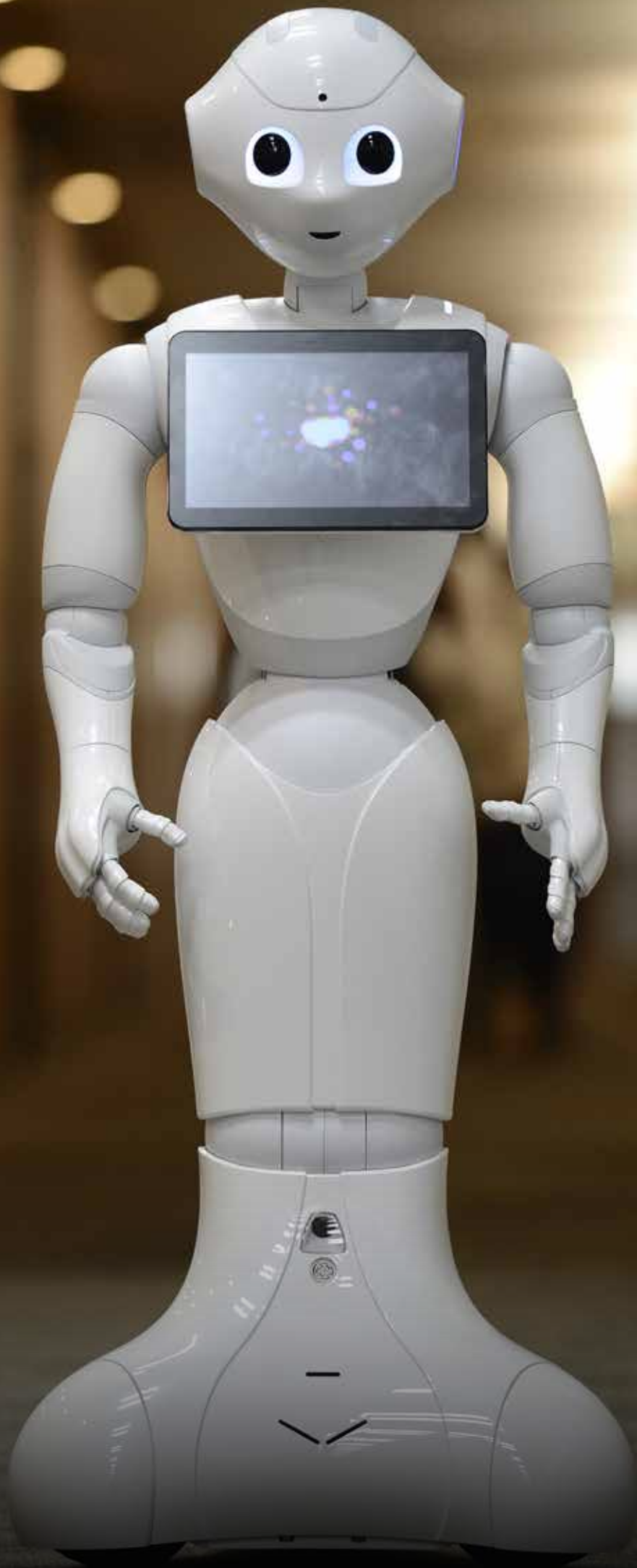
Modern infrastructure comes at a high public cost if projects encounter long delays or if they are underutilized after their completion. While the value of infrastructure stock in most economies averages around 70 percent of GDP, Japan has the world's highest infrastructure stock, at 179 percent of GDP in 2012.³ Given the size of its investment, Japan needs to maximize every dollar.

- **Make project selection and project management as rigorous as possible.** It is critical to direct investment to where it can underpin economic growth or societal goals rather than to “showcase” projects. Proposals should be subjected to a sophisticated cost-benefit analysis and prioritized using a transparent, fact-based decision-making process. An important source of savings would come from speeding up the approval and land acquisition processes and using the latest technology to plan and manage projects. Advanced 5D building information modeling systems, for example, can ensure design accuracy and feasibility to prevent substantial changes and delays later in the process.
- **Use maintenance, optimization, and demand management to extend the life of existing infrastructure assets.** In many cases, it is more cost-effective to invest in extending the life span and capacity of existing assets than to build new projects. Refurbishment and optimization strategies can save approximately 15 percent on infrastructure investment.
- **Export world-class infrastructure.** Japan can export its engineering expertise to the rest of the world. Recent MGI research estimated that Southeast Asia alone has some \$3.3 trillion in infrastructure needs through 2030. There are many opportunities to serve as either financier or provider of infrastructure services in developing economies around the world, but Japan will have to compete for them.

• • •

The next decade offers a window of opportunity for Japan to shift its trajectory, in part by capitalizing on immense flows of global trade, the rise of billions of new urban consumers in the emerging world, and technology breakthroughs. But the new global economy is not simply realigning; it is also accelerating. The time is right for Japan to undertake bolder moves, bigger investments, and deeper reforms. Decades ago, Japanese manufacturers famously introduced the world to “lean” practices. Today businesses throughout the Japanese economy can apply these concepts to new industries and use digital technologies to take them to the next level. Focusing on the priorities discussed here can help to address persistent legacy issues and put Japan on a faster track toward recovery and renewal.

³ *Infrastructure productivity: How to save \$1 trillion a year*, McKinsey Global Institute, January 2013.





1. THE ORIGINS OF JAPAN'S PRODUCTIVITY IMPERATIVE

For much of the postwar era, Japan has been synonymous with rapid improvements in efficiency and quality. It remains widely admired for innovation in both technology and processes. From the 1950s through the 1980s, it outpaced the United States and Western Europe in productivity gains—and this advantage led to robust economic growth, producing one of the world's highest standards of living.

Over two painful “lost decades,” however, Japan has lost much of its competitive edge. Growth in both labor and capital productivity has steadily eroded in almost every sector of the economy. This trend holds true even in Japan's signature advanced manufacturing industries, which originally introduced the world to the concept of “lean.” Today there is a substantial and widening productivity gap between Japan and other leading advanced economies.

The task of continuously capturing new productivity improvements grows more difficult over time, but it is achievable, particularly if Japan takes steps to create new competitive dynamics across entire industries. The good news is that our research has identified areas within multiple industries that are ripe for efficiency improvements and revenue growth. This effort goes beyond cost cutting; it is about spurring growth and increasing value added by launching business lines, pushing the boundaries of innovation, and entering new markets. (See Box 1, “Why productivity matters.”)

With its working-age population shrinking, Japan will need to focus on productivity as never before. Overall productivity growth has been stalled below 2 percent for much of the past two decades, which puts the Japanese economy on pace to grow by only 1.3 percent annually through 2025.⁴ This sluggish pace would do little to boost household purchasing power, and it would intensify the fiscal pressures of providing social security and health-care benefits to an aging population. But if Japan can successfully double its rate of productivity growth, returning to the levels it once posted in the 1970s and 1980s, it could boost annual GDP growth to approximately 3 percent. This would indicate solid momentum and contribute to an improved fiscal outlook.

While policy changes can create the right environment for growth, the vast majority of this potential is in the hands of the private sector. There is a great deal that individual companies can do immediately and on their own without waiting for government action. Multiple fast-moving forces are realigning the global economy, and Japan can capitalize on these trends to seek out new growth opportunities. To break out of its slump, the economy needs broader adoption of global best practices, a wave of investment in new technologies, and a greater willingness to try bold new business models.

⁴ Japan's productivity growth was 1.5 percent in 2013 (the latest year for which OECD data is available).

Box 1. Why productivity matters

Productivity growth is the result of workers making more—and better—goods per hour. This may be a simple concept, but at the macroeconomic level, it becomes a powerful force. Productivity gains are a marker of progress and higher living standards. Conversely, a loss of momentum in this area can cause slow-motion damage to an economy over time. As Nobel laureate Paul Krugman once put it, “Productivity isn’t everything, but in the long run it is almost everything.”⁵

At the global level, rising productivity and a steadily growing labor force, the twin drivers of economic growth, combined to produce 50 years of rapid economic expansion. Today, however, the prospects for growth are becoming murkier in the face of demographic headwinds—not only in Japan but in advanced economies around the world.

MGI has studied the patterns of growth in dozens of industries and across more than 20 countries. A recent report building on this body of work attempts to analyze what the decades ahead might bring.⁶ Given the pressure of aging trends on the pool of available labor, it finds that the world’s rate of GDP growth is set to slow by 40 percent from its rate over the past 50 years. As a result, income growth could decline by 19 percent in developed economies and by 14 percent in emerging economies. To head off this outcome, the world needs to accelerate the pace of productivity growth by 80 percent, reaching a difficult-to-achieve average of 3.3 percent a year.

These global findings clearly resonate for Japan, the first nation confronting the full magnitude of the world’s demographic shift. As of 2013, a quarter of the population was age 65 or older. That share is projected to rise to 36 percent by 2040 and to 40 percent by 2060.⁷ Its shrinking workforce presents Japan with an urgent imperative to boost productivity—and other advanced economies will be watching intently to see if Japan can pioneer solutions.

MGI’s work suggests that, at a global level, it is possible to boost productivity past the point needed to counteract demographic trends. Most of this potential comes from adopting existing best practices more widely. The rest would stem from fully deploying the current pipeline of technological, operational, and business innovations, which could push the boundaries of what is achievable through today’s best practices. In Japan’s case, it is important to note that more than half of the productivity gains that MGI’s analysis finds feasible in advanced economies could come from closing the gap between less efficient companies and plants and those with higher productivity.

Productivity allows companies to offer better products and services at more competitive prices, which leads to increased consumption and higher-value-adding employment. This virtuous cycle could pave the way to sustainable growth while addressing the demographic challenge and maintaining the universal health-care and pension systems that underpin Japanese society.

⁵ Paul Krugman, *The age of diminished expectations*, MIT Press, 1994.

⁶ For a fuller discussion, see *Global growth: Can productivity save the day in an aging world?* McKinsey Global Institute, January 2015.

⁷ *Population projections for Japan: 2011 to 2060*, National Institute of Population and Social Security Research, January 2012.

Once a two-speed economy, Japan now faces deteriorating productivity growth across all sectors

When MGI studied Japan in 2000, it found that a “two-speed” economy had developed.⁸ Export-oriented manufacturing industries (including steel, automotive, consumer electronics, and machine tools) set the global standard, but these stood in sharp contrast to low-performing, domestically oriented manufacturing and service sectors that were protected from both international and local competition by tariffs and regulation. Our research recommended three types of reforms to unleash growth: ending subsidies for unproductive firms and allowing them to exit the market, removing laws and regulations that prevent more productive companies from entering markets or introducing innovative products, and creating incentives for competition and innovation.

Given its rapidly aging population and the persistently low labor force participation of women, Japan will have to focus on productivity as the primary catalyst for growth.

Japan has taken some steps toward reform, including a bid to improve corporate governance by requiring the addition of independent directors and the establishment of special economic zones to showcase deregulation. Deeper reforms of key industries such as the power sector, health care, and agriculture are part of the “third arrow” of Abenomics, although many ideas are still in the proposal or legislative stages. In the meantime, structural issues continue to constrain sectors across the economy. Barriers to entering and exiting various markets still exist; for example, zoning regulations limit the presence of big-box retailers, while tax incentives keep smaller, less productive shops afloat. Tariffs and other protectionist policies shield many domestic industries from global competition. Furthermore, government subsidies support unprofitable health-care providers and payors, channeling public resources into maintaining an inefficient system. Without bold new incentives for innovation and competition in place, the current era of digital and scientific breakthroughs has not produced a surge in entrepreneurship in Japan on a par with what has been unleashed in many other countries.

Today, the two-speed characterization of Japan’s economy no longer holds true. Even its advanced industries have lost their competitive edge; labor productivity in the transport equipment sector, for instance, is almost half the level in Germany. Today virtually all sectors of Japan’s economy lag behind the United States in terms of both labor and capital productivity, even though the United States (like other advanced economies) has itself posted only weak productivity gains over the past decade (Exhibits 1 and 2). If current trends are not reversed, Japan’s overall labor productivity gap with the United States is on track to grow from 29 percent in 2011 to 37 percent in 2025.

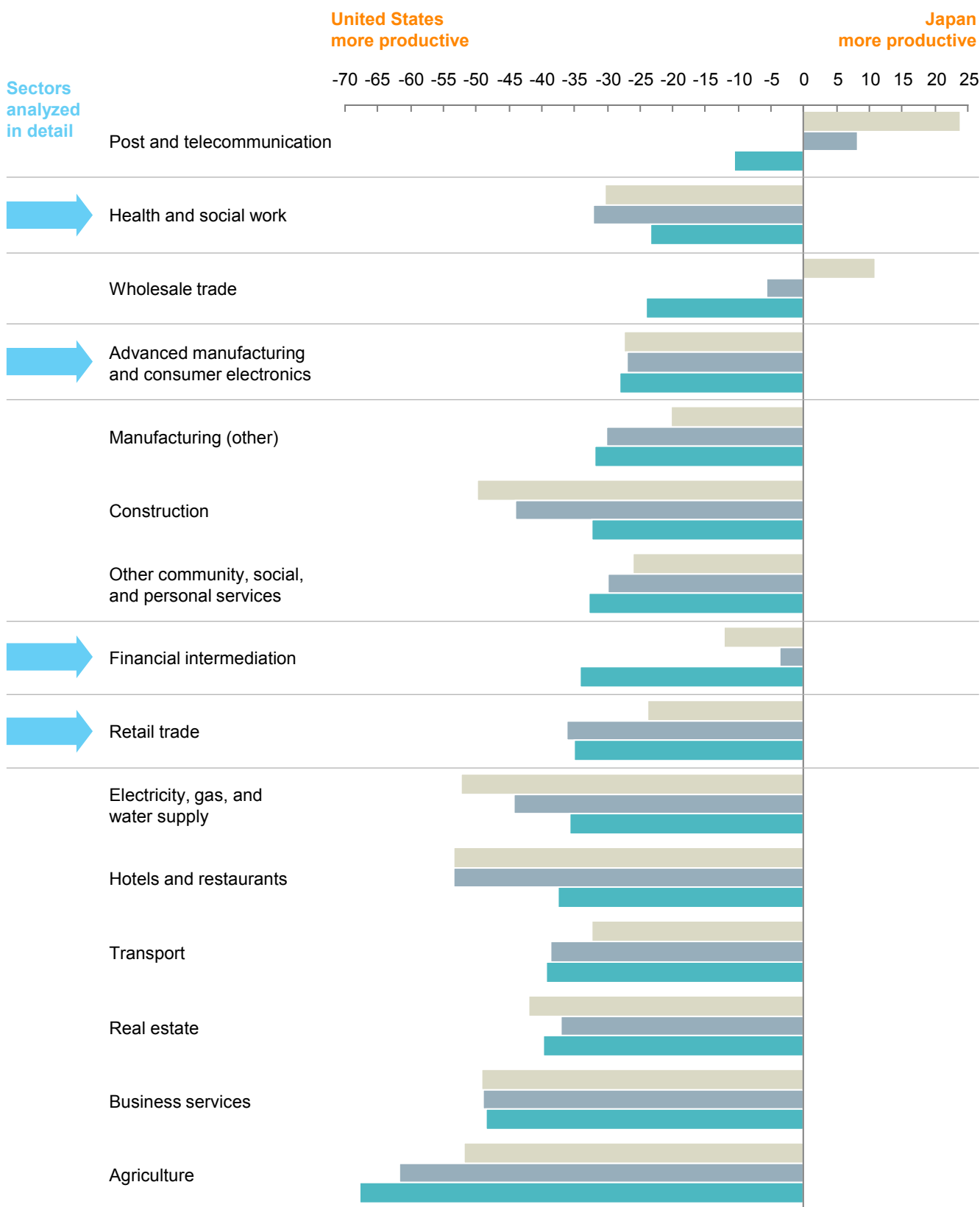
These gaps represent the fundamental structural challenge facing Japan. GDP growth can be generated by an expansion of the labor force and by productivity increases—and given its rapidly aging population and persistently low labor force participation rate for women, Japan will have to focus on productivity as the primary catalyst for growth. Its ability to increase incomes and maintain its standard of living into the future hangs in the balance.

⁸ *Why the Japanese economy is not growing: Micro barriers to productivity growth*, McKinsey Global Institute, July 2000.

Exhibit 1

Japan's labor productivity gap with the United States has been widening across most industries

Labor productivity gap by sector (% , based on \$ 2009 at purchasing power parity) Index: 0 = United States



NOTE: Education, public administration, and domestic employees not included.

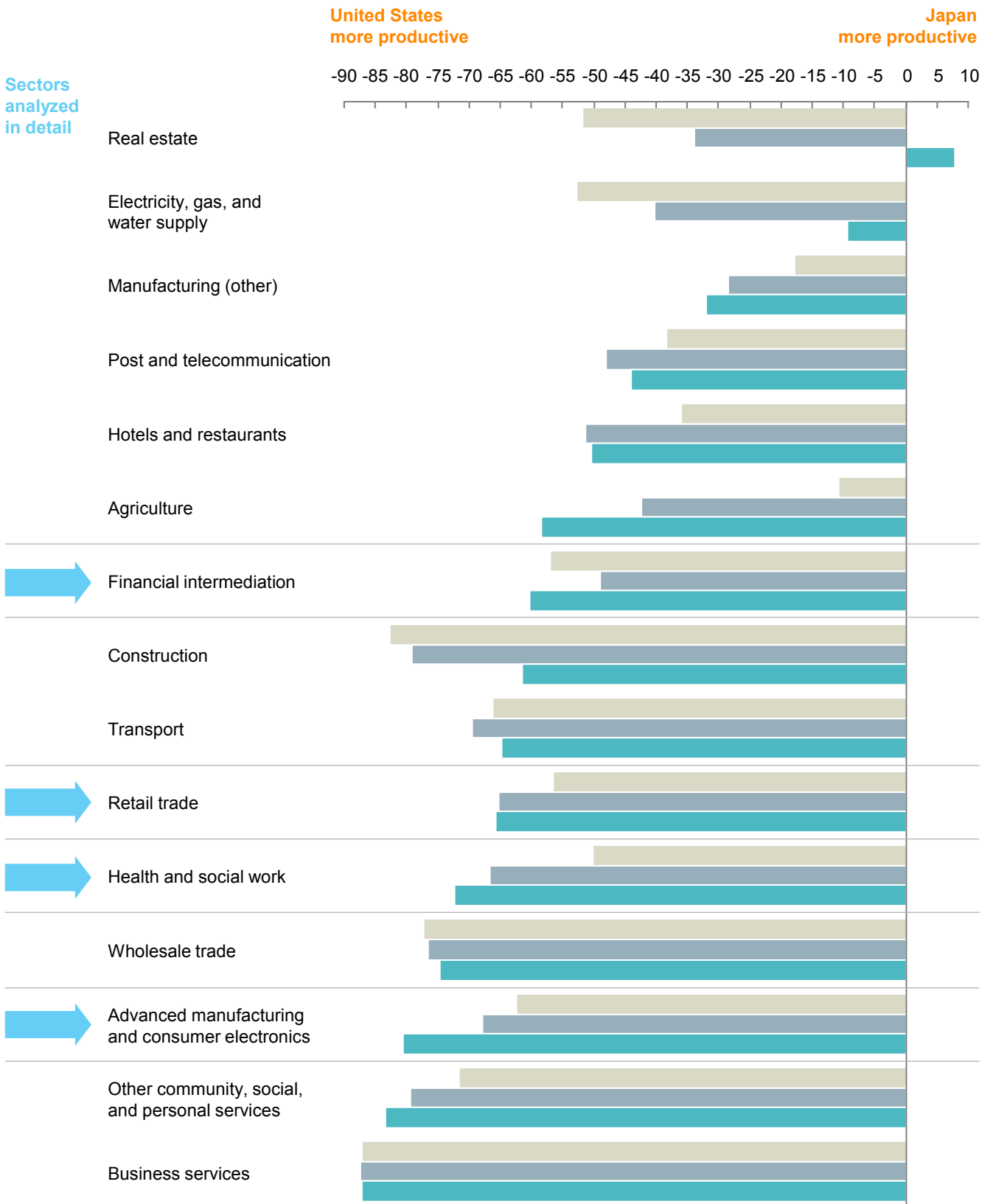
SOURCE: World Input-Output Database; World Bank; McKinsey Global Institute analysis

Exhibit 2

Japanese sectors are also falling behind US sectors in capital productivity

Capital productivity gap by sector (%)
Index: 0 = United States

2000 2005 2011



NOTE: Education, public administration, and domestic employees not included.

SOURCE: World Input-Output Database; World Bank; McKinsey Global Institute analysis

0.8%

Japan's average annual GDP growth over the past 20 years

The “lost decades” have eroded productivity

Following the collapse of its stock market and real estate bubble at the beginning of the 1990s, Japan went on to post an anemic average annual GDP growth rate of only 0.8 percent from 1992 to 2012. This prolonged slowdown was accompanied by a dramatic drop-off in productivity growth.

Japan once made rapid leaps forward in productivity, averaging 3.5 to 4 percent annual increases in the 1970s and 1980s. But its productivity growth slowed to less than 2 percent throughout the 1990s and 2000s, a pace that lagged behind even the modest gains posted by the United States. After the mid-1990s, productivity growth particularly stagnated in distribution services (retail, wholesale, and transportation) and manufacturing (excluding electrical machinery). One contributor to this trend was lower IT investment and a failure to capture the full productivity and innovation potential of new digital technologies.⁹ While industry growth and technology innovation have been the primary drivers of US progress, Japan's recent productivity gains have been based on holding output steady with a shrinking workforce rather than growing markets and revenues. With weak demand for both domestic consumption and exports, Japan has been unable to sustain clear and consistent growth in value added; the economy continues to operate below its potential.

Structural issues within the Japanese economy, including the factors discussed below, have increased the challenges of reigniting productivity growth.

Inadequate competitive pressures

Industries with a high level of competition tend to be more productive overall, as the most nimble and innovative companies win out over less efficient firms. The market pressure applied by allowing firms to fail offers a bracing effect on overall productivity. But in Japan, this process of winnowing out does not play out as expected. Since Japan's asset price bubble burst in the early 1990s, highly indebted firms have been kept alive by banks that may have a stake in them and wish to minimize bankruptcies.¹⁰ This stabilized employment during the initial crisis, but the continued operation of unproductive firms today diverts valuable resources that could be put to far better use elsewhere. The extension of credit guarantees, particularly for small and medium-sized enterprises in service sectors, limits the pressure for bank-led workouts and restructuring. With weak balance sheets, these companies are unable to invest in productivity improvements.

The same tendency to preserve stability even at the expense of competitiveness is also apparent in large conglomerates, which have typically shied away from radical reallocation of resources or from restructuring underperforming business units. This phenomenon has undermined capital productivity.

Given Japan's relatively limited entrepreneurial activity, it is rare for startups to disrupt established industries. In addition, regulatory barriers make it difficult for new competitors to challenge incumbents, particularly in industries such as health care, education, transport, and utilities.¹¹ The presence of multinationals could provide additional competitive intensity; in general, these companies tend to be more productive than purely domestic firms (due to

⁹ Kyoji Fukao and Tsutomu Miyagawa, *Productivity in Japan, the US, and the major EU economies: Is Japan falling behind?* Research Institute of Economy, Trade and Industry, July 2007.

¹⁰ Richard C. Koo, *The holy grail of macroeconomics: Lessons from Japan's Great Recession*, Wiley, 2009. See also Ricardo J. Caballero, Takeo Hoshi, and Anil K. Kashyap, “Zombie lending and depressed restructuring in Japan,” *American Economic Review*, volume 98, number 5, December 2008. For a more recent discussion, see Noah Smith, “Japan needs more corporate funerals,” *Bloomberg View*, February 5, 2014, and Atsushi Koderu, “Zombie firms pressured to act,” *Japan Times*, June 6, 2014.

¹¹ *Japan sustainability report*, Group of Twenty, IMF, November 2011; *Japan: 2014 Article IV consultation, concluding statement of the IMF Mission*, IMF, May 2014.

their ability to shift production functions to lower-cost countries).¹² But Japan attracts very little investment from multinationals. FDI inflows into Japan's manufacturing sector in 2011 amounted to just 0.06 percent of GDP, compared with 0.60 percent in the United States and 0.24 percent in Germany.¹³

There is no one reason for Japan's relative dearth of foreign investment, but rather a host of smaller factors such as the language barrier, a (frequently mistaken) belief that Japanese consumers have fundamentally different preferences than consumers in other developed countries, the proximity of many countries with lower labor costs, and a history of protectionist policies. Doubling inward foreign investment is part of the Abenomics agenda, and the public sector will have to make a concerted effort to win over global investors—not only to capture the jobs and revenue they represent but for the best practices and new technologies they bring and the competitive dynamics they can unleash.

Relative inflexibility in the labor market

Historically, Japanese companies offered a lifetime employment system that emphasized seniority. This evolved because of cultural and social norms, and it provided a strong foundation on which to drive postwar growth and nurture a sense of belonging and cohesiveness among employees. Today the legal strictures around lifetime employment have mostly been lifted, making the labor market more flexible in theory. But in practice, downsizing is viewed in a strongly negative light, making it difficult for firms to pare back where necessary. Workers, too, tend to be reluctant to advance their careers by moving from company to company.

Inflexibility hurts productivity in a few ways. First, it can result in overstaffed and bloated workforces, especially in headquarters and office environments. Second, since workers are not likely to change employers, an important informal channel of sharing best practices is lost. Third, employees have little incentive to continue developing new skills throughout their career since they are unlikely find themselves competing for a new job.

Japan has partially addressed this issue by allowing firms to shift away from the lifetime employment model and begin hiring non-regular (temporary) workers, or *haken*. Between 2000 and 2013, 6.5 million non-regular workers were added to the workforce, while 4.1 million “regular” employees left the workforce.¹⁴ By 2013, more than one-third of workers were covered by these arrangements (Exhibit 3). Unlike full-time regular employees, these temporary workers have limited legal protections and earn no pensions. This shift has afforded firms a greater degree of agility, but paradoxically, it takes a toll on productivity. Not only do temporary employees have fewer incentives to excel, but employers rarely invest in their development.¹⁵ At a broader societal level, this situation has created a two-tiered workforce and contributed to inequality. This issue urgently needs to be addressed, since *haken* could account for more than 50 percent of the workforce by 2030 if current trends continue.

1/3+
Share of non-regular employees in Japan's workforce

¹² Eiichi Tomiura, “Foreign outsourcing, exporting, and FDI: A productivity comparison at the firm level,” *Journal of International Economics*, volume 72, number 1, May 2007. Multinationals are defined here as companies that have at least 20 percent ownership stake in a foreign enterprise; domestic companies used for comparison do not take part in exporting.

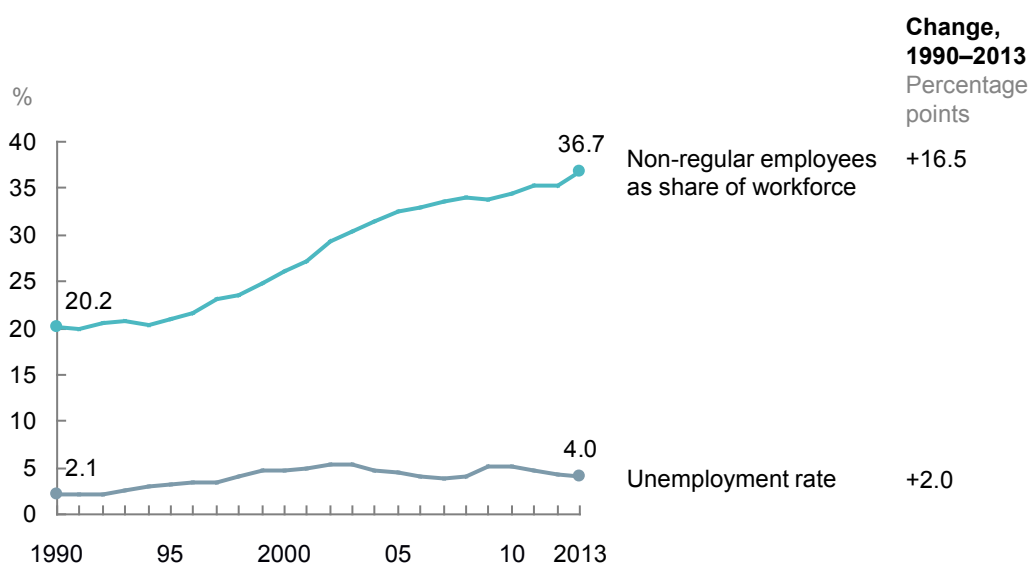
¹³ OECD. StatExtracts, 2014.

¹⁴ Statistics Bureau, Ministry of Internal Affairs and Communications, 2014.

¹⁵ Multiple international studies have shown that a dual labor market can have a negative effect on productivity for a variety of reasons, including lower motivation and reduced training for temporary workers. See, for example, Chie Aoyagi and Giovanni Ganelli, *The path to higher growth: Does revamping Japan's dual labor market matter?* IMF working paper number 13/202, October 2013; Francesca Lotti and Eliana Viviano, *Temporary workers, uncertainty, and productivity*, Bank of Italy, October 2012; Juan J. Dolado and Rodolfo Stucchi, *Do temporary contracts affect TFP? Evidence from Spanish manufacturing firms*, Institute for the Study of Labor (IZA) discussion paper number 3832, November 2008. One study focused on Japan suggests that part-time workers are about 75 percent less productive and receive 70 percent lower wages than full-time workers; see Kyoji Fukao et al., *Deferred compensation: Evidence from employer-employee matched data for Japan*, Hitotsubashi University Research Unit for Statistical Analysis in Social Sciences, October 2006.

Exhibit 3

Non-regular employment has increased substantially over the past two decades



NOTE: Numbers may not sum due to rounding.

SOURCE: Labour Force Survey, Statistics Bureau of Japan; National Livelihood Survey, Ministry of Health, Labour and Welfare; McKinsey Global Institute analysis

A continuation of current trends would have profound economic and societal consequences

234%

Japan's public debt as a share of GDP in 2014

Slower GDP growth has already had damaging, if subtle, effects in Japan. Although unemployment has remained low throughout the two lost decades, deflation has eaten away at income growth. Japan ranks third in the world in terms of GDP, but was only 16th for GDP per capita in 2013.¹⁶ As a result of falling real wages, consumer spending has been virtually stagnant since 1997.

While Japan has maintained global market share in automotive and other select industries, many of its companies are being outperformed by Korean, Chinese, and US competitors. In 2010, the mean return on invested capital for large Japanese companies¹⁷ was 23 percentage points lower than that of non-financial institutions in the US S&P 500. The struggle for market share and profitability is particularly apparent in categories that were once Japanese flagships, such as TVs and mobile phones.

Perhaps most worrisome is the unsustainable nature of Japan's current fiscal trajectory. Public debt was 234 percent of GDP in 2014, giving Japan the dubious honor of topping Greece in this category.¹⁸ However, more than 90 percent of this public debt was held by domestic investors (mostly financial institutions) as of 2012; this is in contrast to other advanced economies, whose debt instruments are mostly held externally. This high level of domestic purchasing of government bonds has kept borrowing costs low and avoided the volatility that can accompany foreign capital flows (although it has also limited returns for financial firms). Yet Japan ranks as the world's most indebted country.

¹⁶ 2013 ranking based on 2005 US dollars at 2005 purchasing power parity; figures from OECD Economic Outlook.

¹⁷ In the first and second sections of the Tokyo Stock Exchange, excluding financial institutions.

¹⁸ For further discussion, see *Debt and (not much) deleveraging*, McKinsey Global Institute, February 2015.

Fiscal pressures are being exacerbated by Japan's demographic shift, as deficits continue to build within the pension and health systems. According to the World Bank, Japan passed the tipping point at which its population began to decline in 2011. The implications of an aging society are beginning to make themselves felt both economically and socially. The number of Japanese citizens over age 65 who live alone has increased by 80 percent over the past ten years, for example.¹⁹ This trend has created a sense of isolation and anxiety as well as speeding the depopulation of rural areas.

The past two decades have also been marked by political instability. Japan saw 16 prime ministers come and go between 1989 and the end of 2012. Today, however, the recent reelection of Shinzo Abe has provided a greater degree of certainty, ensuring a measure of continuity for at least the next four years. This should allow time to implement a more systematic growth agenda without abruptly changing course; it should also improve Japan's ability to mount a coherent and consistent response to rising geopolitical challenges.

Large Japanese companies are generating sharply lower returns on invested capital than their US counterparts.

The Japanese economy can draw on significant strengths to reverse this situation

Many global commentators have seized on these sobering trends and written off Japan's prospects for growth and renewal. But this narrative of doom and gloom tends to obscure the nation's remarkable strengths, including technological know-how, a formidable manufacturing base, a highly educated labor force, world-class infrastructure, and a large and affluent consumer market.

Despite two decades of sluggish growth, Japan is still the third-largest economy in the world, and its citizens enjoy a high standard of living. In 2012, real GDP reached \$5.6 trillion, behind only the United States and China.²⁰ Even under an expectation of limited growth (at just above 1 percent annually), Japan would likely retain this ranking in 2025.

Japan achieved this status largely on the back of its highly efficient manufacturing and exporting capabilities, which it built through heavy capital investment and an emphasis on technology and process innovation. In auto manufacturing, for example, Japanese companies (led by Toyota) imported US and European mass-production approaches, procedures, and equipment, and then added their own adaptations (such as the concept of continual refinements and a greater integration of suppliers into production processes) to reap even greater benefits from them.²¹ Thanks to its sophisticated industrial base, Japan exported more \$700 billion worth of goods in 2013, with a heavy weighting toward knowledge-intensive products such as vehicles, industrial equipment, and electronics. Although it has begun to run a trade deficit in recent years, Japan ranks as the world's fourth-leading exporter.²² Its modern transportation and logistics infrastructure is considered among the best in the world.²³

¹⁹ *National livelihood survey 2012*, Ministry of Health, Labour and Welfare.

²⁰ 2010 US dollar values. IHS, real GDP by country.

²¹ Michael A. Cusumano, "Manufacturing innovation: Lessons from the Japanese auto industry," *MIT Sloan Management Review*, October 1988.

²² 2013 values, OECD international trade statistics.

²³ Japan ranked sixth globally for the overall quality of its infrastructure in the World Economic Forum's *Global competitiveness report 2014–2015*.

Although Japanese consumers have, to some degree, shifted away from top-quality luxury goods and have begun to hold out for bargains, domestic demand continues to be a major engine of the economy.²⁴ Japan is the second-largest consumer market in the world in many categories, including packaged goods, over-the-counter drugs, and cosmetics. And the Japanese consumer still has untapped potential: most households have significant savings and hold more than half of their assets in cash and deposits.

Japan also remains a powerhouse of technology and innovation. As of the end of 2013, its Internet penetration exceeded 86 percent, and because of excellent digital infrastructure, Japan has the second-fastest connection speeds in the world.²⁵ This provides a solid foundation for technology adoption in multiple fields. Furthermore, Japan accounted for one-fifth of all patents filed globally in 2012. Japanese players have captured major market share in multiple fields with long-term growth potential, such as articulated robots, lithium-ion batteries, carbon fiber products, and vacuum pumps.

Japan can build on a remarkable set of advantages, including technological know-how, a formidable manufacturing base, a highly educated labor force, world-class infrastructure, and a large and affluent consumer market.

Japan prides itself on having a highly educated population and a deeply held work ethic. In 2012, 46.6 percent of the workforce had attained tertiary education (the second-highest share in the world). Educational equity has improved in recent years: women accounted for only 36 percent of university graduates in 2000 but 42 percent in 2012. Japan has also begun to attract some top foreign students, a strategy that has served to bolster talent development and innovation in other countries. The number of visiting Chinese students in Japan doubled between 2001 and 2011, reaching almost 90,000 (out of some 140,000 total foreign students at the tertiary level).²⁶

Taken together, these factors constitute an impressive set of advantages. Japan is facing a daunting economic and demographic challenge, but it has the financial, physical, human, and social capital at hand to meet them.



The next decade offers a window of opportunity for Japan to shift its trajectory—in part by taking advantage of some of the broad trends that are reshaping the world economy, including increased connectivity across borders and disruptive technologies. But the new global economy is not simply realigning; it is also accelerating, which increases the imperative to act now. The following chapter takes a closer look at what it will take for Japan to restore competitiveness and capture a greater share of global growth.

²⁴ Brian Salsberg, “The new Japanese consumer,” *McKinsey Quarterly*, March 2010.

²⁵ Penetration statistics from Nielsen and the International Telecommunications Union; connection speed rankings from Akamai’s *State of the Internet* report, first quarter, 2014.

²⁶ *Education at a glance 2014: OECD indicators*, OECD, October 2014.





2. THE OPPORTUNITY FOR A NEW PATH

Japan's efforts to change course are approaching a critical inflection point. After showing promising signs of growth in the first half of 2014, the economy slid back into recession. Policy makers are attempting to administer a dose of strong medicine to the faltering economy, including additional fiscal stimulus and an enormous new round of quantitative easing.

If current trends hold, Japan's GDP per capita would grow by a mere 1.3 percent annually over the next decade, weakening consumer purchasing power. The overall labor productivity gap with the United States is on track to grow from 29 percent in 2011 to 37 percent in 2025. The nation could face a third decade of stagnation—one that would collide with an unprecedented demographic shift, creating even more damaging consequences.

The continued aging of the population is inevitable, and unless Japan can boost workforce participation and productivity, this trend could overwhelm the economy. Projections from McKinsey's Cityscope database indicate that Japan's working-age population will decline from 79 million in 2012 to 71 million in 2025 (with effective employment decreasing from 58 million in 2012 to 56 million in 2025). Its dependency ratio is set to soar from 0.60 to 0.73 over the same period, eventually hitting a staggering 0.96 by 2050.²⁷ Persistent sluggish growth would constrain the resources available for the social security and health-care benefits that Japanese citizens expect at the very moment when demand for these services will intensify. Japan's public debt, already the highest in the world, would continue to mount. Saddled with snowballing burdens of health care and elder care, Japan's younger workers would have diminished hopes for the future.

There is still time to head off this outcome. Japan has the opportunity and the capabilities to engineer a leaner and more competitive economy. It will take political will to push through structural reforms—but the private sector can take action in many areas without waiting for policy changes. Japan can add a “fourth arrow” to the Abenomics agenda by engaging the business community in a multifaceted, long-term national project to accelerate productivity growth and innovation in every sector of the economy. In fact, our analysis finds that Japan can meet some 50 to 70 percent of its productivity challenge if the private sector adopts the best industry practices already in use by global companies in a variety of industries.²⁸

Japan can change course and reignite growth

If productivity stagnates at 2013 levels while the population continues to age, the average citizen will see his or her annual income shrink by approximately \$1,600 in real terms by 2025. Japan would have to boost labor productivity by some 5 percent by 2025 merely to maintain the GDP per capita it posted in 2013. Maintaining today's income level is not enough, of course—it is just the beginning. To sustain current social security spending, and to ensure competitiveness and employment opportunities for generations to come, Japan needs to grow beyond the status quo.

²⁷ The dependency ratio is defined as the ratio of the non-working-age population (those below 14 years of age and those above age 65) to the working-age population (ages 15–65).

²⁸ This was estimated by calculating the potential impact produced by various industry levers described in detail in Chapter 3. Most of the remaining improvement can be captured through technology adoption.

Imagine a future Japan that once again outpaces the world in efficiency and quality—so much so that experts from overseas flock there to study the best practices developed in its industries. In this scenario, Japan emerges as a global leader in cutting-edge fields such as advanced materials, 3D manufacturing, and the life sciences. Several major technology clusters anchored by research centers and universities serve as the foundation for a newly revitalized culture of innovation; top researchers and engineers from around the world gather in these settings to collaborate. Intelligent robots fill the gaps where labor is scarce, delivering results with high precision and low cost—and Japan exports this technology to the rest of the world. At home, Japan reserves its human capital for tackling more creative and knowledge-intensive work, reaping higher returns while working fewer hours.

Achieving a more prosperous future largely boils down to whether Japan can more than double its annual rate of productivity growth to generate new economic momentum.

This future Japan has developed a thriving entrepreneurial ecosystem with easier access to seed capital. Not only is there a wave of new startups, but Japan also opens more of its domestic markets to multinationals and foreign firms, unleashing new competitive dynamics that force its large companies to rise to the challenge and become more nimble. Japanese names enjoy market-leading positions in their respective industries globally and are run by a new generation of innovative executives (some of whom come from outside Japan and all of whom have international experience). More Japanese companies move to replace traditional seniority-based pay scales with merit-based incentive structures that reward younger talent. Corporations cede more responsibility to early-tenure managers with fresh ideas. Shareholders insist on a new culture of performance, accountability, and agility—one that transforms the way talent is managed and the way capital is allocated.

Japanese companies play an active role in establishing and implementing international standards and take a more open-architecture approach to hardware and software development. Financing and government support is made available to help Japanese firms expand across all major geographies.

A rigorous focus on resource productivity helps Japan become a global leader in new technologies for energy efficiency, transportation, and infrastructure management, opening new possibilities for exporting some of these solutions worldwide. More of the nation's energy comes from domestic renewable sources, and “smart cities” deploy intelligent infrastructure systems to manage demand and increase efficiency. Japan bolsters its energy security, while efficiency and lower costs support new growth in domestic manufacturing.

The Japanese education system of the future would be retooled to instill a more open and global mindset. Top students study abroad and undertake international internships as a core part of their experience. Japanese universities hire more foreign faculty and welcome the same share of international students as their leading European counterparts. Entrepreneurship becomes rooted in campus life, with students in Tokyo University dorms cooking up plans for the next Google, Facebook, Alibaba, or Tencent. Government funding for education focuses on developing the specialized skills that are needed by employers as well as the entrepreneurial and creative approaches that spur innovation in the economy more broadly.

Japan remains one of the healthiest nations in the world and leads the way in demonstrating that aging nations can deliver high-quality medical care while containing costs. The health-care sector deploys new technologies such as remote health monitoring systems that can take readings 24/7, alerting patients and doctors when an intervention is needed. Japan becomes a leader in cutting-edge fields such as regenerative medicine, and it pioneers the use of intelligent robots for everything from the daily care of elderly patients to the sterilization of surgical instruments. New incentives encourage the development of more specialist practices that deliver a higher quality of care, and providers compete on the basis of outcomes rather than the number of treatments they perform.

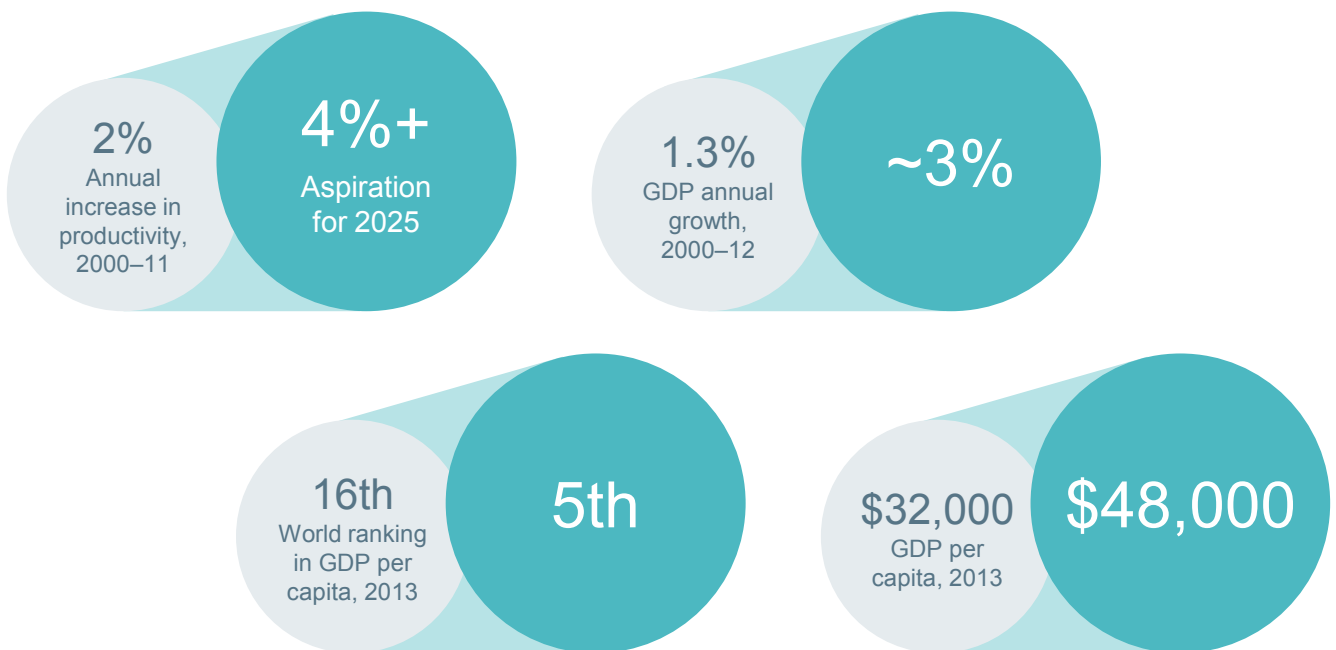
Improved health allows experienced workers to remain on the job as they age, with increased automation to relieve them of more physically demanding tasks. New policies and practices draw more women into the labor force—and women begin to assert a much greater presence in all types of leadership roles. Japan also begins to liberalize its immigration policy to address its labor shortages.

Thanks to the adoption of autonomous vehicles, Japanese society becomes even more mobile. High-speed connections between industry clusters allow for better deployment of specialized and high-skilled labor. Mobile payments make for seamless transactions, and big data analytics help companies offer goods and services that are better tailored to what consumers really want. The Japan of the future harnesses technology to improve the quality of life.

In this scenario, the specter of deflation disappears, and Japan's economy averages approximately 3 percent annual growth through 2025 (Exhibit 4). GDP per capita increases by almost 3.5 percent annually, and Japan closes a substantial share of its current productivity gap with the United States. Economic growth generates revenue that supports Japan's commitments to provide health care and social security for the elderly, and the nation begins to chip away at public debt.

Exhibit 4

Accelerating productivity growth would change the outlook for Japan's economy over the next decade



SOURCE: World Input-Output Database 2011; IHS; OECD GDP statistics; McKinsey Global Institute analysis

This alternative vision is highly aspirational, but Japan can in fact begin to move in this direction. Achieving a more prosperous future largely boils down to whether Japan can more than double its annual rate of productivity growth to generate new economic momentum. Increased labor force participation will also play a part, as will a greater willingness to experiment with more innovative business models and social paradigms.

Global trends are creating growth opportunities

After two decades of frustrated attempts to break out of stagnation, it is only natural for an outside observer to ask what is different about today's environment that could support a fundamental shift in Japan's direction.

The answer is simple: everything. The world outside Japan has been changing radically, and it's no longer possible to stand apart.²⁹

As one of the most rapidly aging, urbanized, globally connected, technologically advanced, and resource-scarce societies on the planet, Japan stands smack in the forefront of a global wave of disruption. These trends present both pressures and incentives for Japan to make bold moves. In some cases, they play directly to its strengths—and even where they pose economic dangers, they will force Japan to adapt. And because Japan will be among the first nations to face these issues, its responses will be of global relevance.

Global markets are growing more interconnected and fluid

We take it for granted that our world has grown more connected, but it is startling to contemplate the immense flows of goods, services, finance, people, and data and communications that now move across the world's borders. Previous MGI research estimated that \$26 trillion worth of goods, services, and finance were traded in 2012 and projected that global flows could triple by 2025.³⁰ Today market forces are “on steroids”—but Japan has yet to capitalize on these opportunities, as it is not as plugged into the global economy as other developed countries. It ranks 21st on the MGI Connectedness Index (below the United States, most of Western Europe, Russia, Hong Kong, Malaysia, and South Korea). Its ratio of exports to GDP is 0.15, in contrast to 0.40 for Germany. Its private sector has lacked the agility to match the speed of change in this new world, and as a result, Japan's share of global exports has fallen from 7 percent in 2000 to 4 percent in 2013.

But Japan has the manufacturing, export, and innovation capabilities to make up for lost time and lost market share. By 2025, emerging economies will account for half of global consumption.³¹ As their incomes rise and as they continue to industrialize, these countries will be growth markets for more sophisticated, value-added products such as vehicles, machinery and equipment, and electronics—long-standing areas of strength for Japan. To take advantage of growing demand, Japanese firms will have to operate in a more genuinely global fashion. This may include tailoring products and services in new ways and lowering price points to compete in volume-driven markets. Companies will have to gather detailed market intelligence to cater to varying consumer preferences and design their products to fit local definitions of value; consumers everywhere are beginning to expect specificity and customization.

For Japan, this new era of global connectedness presents a massive opportunity to overcome sluggish consumption growth at home. Targeted, prioritized international expansions, especially throughout emerging Asia, can unlock new demand.

7%
Japan's share of
global exports in
2000

4%
Japan's share in
2013

²⁹ See Richard Dobbs, James Manyika, and Jonathan Woetzel, *No ordinary disruption: The four global forces breaking all the trends*, Public Affairs, 2015, for a book-length discussion of how these forces are transforming the global economy.

³⁰ *Global flows in a digital age*, McKinsey Global Institute, April 2014.

³¹ *Urban world: Cities and the rise of the consuming class*, McKinsey Global Institute, June 2012.

An aging population can spur policy reform and represent a huge new consumer market

Much of the developed world is aging along with Japan. Many advanced economies will soon face the prospect of a shrinking labor force. This trend will only intensify in the future, as 60 percent of world's population lives in countries with fertility rates below the replacement threshold. This fundamentally transforms the economic growth equation: if countries cannot grow through an expansion of the labor force, they have to look to productivity gains to compensate. Growing dependency ratios will also force countries to make hard policy choices to maintain their social safety nets in the face of limited fiscal resources.

No country is more exposed to this demographic headwind than Japan. Further exacerbating the problem, only 59 percent of Japanese in the 60-to-64-year-old age bracket are employed (vs. 66 percent in Sweden and 79 percent in Iceland).

As the country at the leading edge of the global demographic challenge, Japan will have to pioneer policy solutions to increase labor force participation. The private sector will also have to innovate to develop new business practices and technology solutions to fill critical shortages and maximize the impact of human capital (such as advanced robotics, autonomous cars, or intelligent software systems that can perform knowledge work). These developments can have positive implications for productivity, and some of these solutions could be exported to other countries.

The graying of the population also represents more than a policy or societal challenge. Seniors are a potentially lucrative consumer segment. Japan could be well positioned to export innovative products and services geared to the changing needs and preferences of aging consumers in other developed markets (as Fujitsu has done with its senior-friendly smartphone).

Japan—and the rest of the world—is growing more urban

The world is undergoing a historic surge of urbanization that is spurring new economic growth. As of 2007, more people lived in cities than in rural areas. The global urban population is growing by 65 million a year, creating legions of new consumers. Nearly half of global GDP growth between 2010 and 2025 is expected to come from 440 cities in emerging markets.³² If Japanese companies can develop the necessary market intelligence and tailor their products to match local cultural preferences and price points at the city level, they could unlock significant export opportunities.

Although Japan's total population is expected to decline by 2025, Tokyo is projected to remain the world's largest metropolitan area, with 38 million inhabitants.³³ Japan is already one of the world's more urbanized nations, but now depopulation of the countryside is accelerating, posing challenges for integrating rural migrants into already-dense urban areas. This shift also poses important questions about infrastructure investment—both in growing urban centers and in rural areas with fewer and fewer inhabitants.

While the value of infrastructure stock in most economies averages around 70 percent of GDP, Japan peaks with the world's highest level at 179 percent in 2012. Furthermore Japan's spending on infrastructure has historically been among the world's highest, averaging approximately 5 percent of GDP from 1992 to 2011 (second only to China, at 8.5 percent of GDP). Beyond any new projects it may undertake in the future, Japan's recent wave of infrastructure projects locks in the need for substantial ongoing expenditures for operation, maintenance, renewal, or expansion as existing assets age. Previous

40%
Potential
improvement in
infrastructure
productivity

³² Ibid.

³³ Projections from McKinsey Cityscope database.

MGI research has identified opportunities to improve infrastructure productivity by up to 40 percent through better project selection, streamlined construction and delivery, capacity management, and optimized maintenance.³⁴

Its modern, world-class infrastructure puts Japan in an excellent position for trade and digital innovation. In addition, Japan can export its engineering expertise to the rest of the world—and there is a growing market for infrastructure as the world’s emerging economies urbanize. Recent MGI research estimated that Southeast Asia alone will need to invest some \$3.3 trillion in infrastructure through 2030, with much of this going to urban transit, water, and power systems. The region’s infrastructure gaps are growing increasingly evident: less than two-thirds of Indonesia’s roads are paved, and approximately a quarter of the population in both Indonesia and the Philippines still lacks access to electricity.³⁵ Japan is already partnering with the region’s governments on a variety of projects. Tokyo Metro is providing technical assistance to develop urban metro lines in Hanoi, for example, and Japan is providing capital and expertise for electricity projects in Myanmar and road projects in the Philippines.³⁶ There are many more opportunities to serve as either financier or provider of infrastructure services in Southeast Asia and around the world, but Japan will have to compete for them.³⁷

Disruptive technologies are setting the stage for productivity gains and new product development

Today a host of potentially transformative innovations have already appeared on the horizon, from advanced materials and 3D printing to the Internet of Things.³⁸ Japan is already adopting—and even inventing—some of these breakthroughs. Moving beyond that first wave of experimentation, the next challenge is to apply these tools and accelerate adoption throughout entire industries so that technology moves the needle on productivity performance. If Japan moves quickly, it can seize the initiative to become a global leader in some of these areas.

Advances in artificial intelligence, machine learning, and human-machine interaction are making it possible to automate and augment knowledge work. Embedded sensors and actuators in machines and other physical objects enable remote monitoring of everything from factory equipment to urban infrastructure and medical devices. Google’s autonomous cars have driven more than 700,000 miles (as of April 2014) among conventional manual-driven cars, further illustrating the rollout of the Internet of Things, robotics, and big data. With its strong capabilities in technology R&D and manufacturing, its depth of specialization in robotics and hardware, and its great need for automation due to a shrinking labor force, Japan has a unique combination of “push and pull” factors to become a global leader in these fields, which could represent tremendous growth markets in the decades ahead.

The Internet is also shaking up the competitive landscape for businesses in profound ways, as newcomers can scale up with stunning speed and little capital. As a result, value is shifting between sectors, and entrepreneurs and startups have a new advantage over large, established businesses. These competitive dynamics will force Japan’s most tradition-bound companies to evolve and become more agile if they are to survive in this fast-paced environment.

³⁴ *Infrastructure productivity: How to save \$1 trillion a year*, McKinsey Global Institute, January 2013.

³⁵ *Southeast Asia at the crossroads: Three paths to prosperity*, McKinsey Global Institute, November 2014.

³⁶ “Tokyo Metro offers assistance to Hanoi Metro,” *Voice of Vietnam*, February 18, 2014; Yuka Hayashi, “Japan aids neighbors with ‘high-quality infrastructure,’” *The Wall Street Journal*, November 12, 2014.

³⁷ “Japan, China competing for construction projects in Asia,” *Japan Times*, January 28, 2015.

³⁸ See *Disruptive technologies: Advances that will transform life, business, and the global economy*, McKinsey Global Institute, May 2013, for a full discussion of the 12 technologies with the largest economic potential on a global scale.

The private sector can pursue three major types of strategies to boost productivity

Emerging economies have the ability to capture large productivity gains as they undertake an initial wave of industrialization and modernization. But for a highly advanced economy such as Japan, it takes a sustained commitment to drill down and find new efficiencies and to push the boundaries of innovation beyond the current frontier.

That being said, there is ample scope for Japan to improve productivity. While there is plenty of inefficiency that begs to be addressed in Japan's state sector, most of the economy—and therefore most of the opportunity for improvement—lies within the private sector. The business community will have to provide the leadership for a national productivity project to succeed.

This is a time for business leaders to think big—in terms of creating innovative products, penetrating new markets, and making substantial investments in equipment, technology, and talent—to generate new value added. But they will simultaneously have to put every aspect of their operations under the microscope to find ways to streamline. In many cases, the barriers and bottlenecks are not imposed from above via regulation; they stem from entrenched ways of doing business. Private-sector leaders can dismantle these practices themselves without waiting for policy directives. In fact, doing so is a matter of survival. Productivity drives growth at the macroeconomic level, but it also determines whether individual companies can thrive in a fast-moving, digital, and highly competitive global economy.

This report explores three sets of industry initiatives: adopting existing industry best practices, including those developed in other countries; moving to the frontier of technology; and organizing for discipline and performance. Within each of these areas, companies can adopt multiple strategies to boost productivity.

Overall, Japan can reach some 50 to 70 percent of the productivity goal discussed here if a critical mass of companies adopts practices that are already global standards; technology accounts for most of the remaining potential. Chapter 3 will explore these topics in greater detail as they apply within advanced manufacturing, retail, financial services, and health care, but the following list speaks to Japan's entire private sector more broadly. Chapter 4 will outline the basic enablers that need to be in place to meet the productivity challenge; these issues depend in large part on public policy, but they can also benefit from private-sector support and engagement.

Incorporating global best practices

- **Become more globally integrated.** Rather than relying heavily on the domestic market, Japanese companies have to become more aggressive about entering the fastest-growing overseas markets. But in addition to going global, enterprises have to become more truly global, thinking beyond borders with regard to their operational footprint and talent development. Organizations can retain their Japanese roots while cultivating deeper connections to global value chains.
- **Improve capabilities across the value chain.** Japanese companies have historically excelled in manufacturing and product development, but they often lag behind their global competitors in other corporate functions such as sourcing, supply-chain management, customer relationship management, marketing, and after-sales service, to name just a few. Japanese companies need to invest in building capabilities across their entire organization and the broader value chain.

- **Continue the journey of digitization.** Many Japanese companies continue to operate with legacy IT systems and antiquated architecture. In most companies, an end-to-end review will likely reveal areas that have received little IT investment and process innovation. Replacing outdated systems and equipping employees with mobile tools can enable companies to transform their business processes to become more efficient and effective. It can also open up avenues for creating value, expanding offerings, and improving the customer experience.
- **Determine the optimal physical footprint.** Organizations may need to reconfigure in a more digital world with changing demographics. In retail, for example, smaller urban storefronts (or, conversely, big-box stores) offering innovative customer experiences can help to reduce costs and increase proximity to affluent customers. Health-care providers may need to consider whether their locations, scale, and degree of specialization match the needs of patients by age and geography. Financial institutions may need to close some of their least profitable branches and incorporate new interactive technologies into others.

Adopting next-generation technologies

- **Harness the power of big data and advanced analytics.** Big data can be a powerful tool for pricing, customer segmentation and marketing, sales forecasting, risk management, and R&D. But a recent Nikkei survey showed that almost half of the major Japanese companies surveyed were not using it to transform operations.³⁹
- **Take automation to the next level.** Internet technologies have been automating business processes for years, but now this trend could expand into many additional roles as intelligent software systems become more adept at performing knowledge work. These technologies, along with developments in robotics, could help Japanese companies address critical labor shortages in the years ahead.
- **Deploy advanced technologies in manufacturing processes.** The coming decade will bring an ongoing wave of innovation in manufacturing that reinvents the assembly line yet again. Firms will have to embrace these new technologies to keep pace and capture new sources of value. This could mean adopting low-cost sensors and big data analytics for better accuracy in production or using 3D printing to achieve mass customization. New technologies also make it possible to exert much tighter control over supply chains; the Internet of Things, for example, can help to manage transportation fleets and distribution networks in real time.

Organizing for discipline and performance

- **Restructure as needed to create more competitive and fluid industries.** Competition is the greatest driver of productivity, and in some sectors, the government could spur substantial progress by removing policies that have constrained market forces. Companies will have to adapt to a much more intense level of competition—and new winners would likely emerge in a variety of industries. A more fluid industry structure would allow more up-and-coming startups to enter various markets while removing protections and subsidies for incumbents. In response to these changes, some companies may need to reorganize or exit unprofitable markets, while others may undertake mergers and acquisitions to achieve economies of scale and quickly gain new capabilities. These dynamics would support more effective capital allocation by individual firms and across the broader economy.

³⁹ “Majority of Japanese companies mine big data,” *Nikkei Asian Review*, December 11, 2014.

- **Create a culture of performance and accountability.** Shareholders and top executives have to make it clear that productivity is a top organizational goal. The best way to spur real change is to tie performance goals to an incentive structure. Companies such as Hitachi, Sony, and Panasonic have already begun shifting away from the traditional seniority-based advancement system, and Toyota's recent announcement of a merit-based pay structure is likely to create even broader momentum for this transition.⁴⁰ Promoting younger talent into the management ranks and rewarding results have the potential to create more agile organizations and fresh ideas.
- **Draw on all sources to build talent, leadership, and skills for the future.** At a macroeconomic level, Japan needs to maximize the labor force participation of women and older workers (see Chapter 4 for a deeper discussion). Some of this effort can be addressed by public policy, but much of it depends on the willingness of individual companies to change entrenched norms and attitudes (such as the demands for long hours that make it difficult for new mothers to return to work). It is especially critical for companies to invest in programs that develop and mentor female leaders. McKinsey research indicates that companies with the highest proportions of women in senior management positions report enhanced organizational and financial performance.⁴¹ Companies will also need to find ways to retain valuable skills and experience by reengineering the workplace to accommodate the needs of aging workers. This could include increasing automation to reduce physically demanding activities; implementing flexible hours, part-time arrangements, and work-from-home policies; and redesigning the physical environment with a greater focus on ergonomic issues. Older workers could be also reassigned into mentorship and training roles.
- **Focus on the customer to achieve a better return on R&D investments.** Japan has the sophisticated R&D and manufacturing capabilities to develop new products and services—whether in traditional industries or at the cutting edge of fields such as robotics, advanced materials, and genomics. But instead of focusing on the technology itself, the development process has to focus on understanding what the customer wants and delivering solutions based on that insight. Innovation is no longer just about creating products within a closed and tightly managed R&D process; it involves both teamwork and a more external, customer-centric orientation. A greater willingness to collaborate with customers and suppliers can yield new ideas for product development and process refinement based on real end-user insights. New working models (from social media platforms for collaboration to new arrangements of physical office environments) can break down hierarchies and department silos to encourage more innovation from across the organization. Google and 3M have both been noted for policies that encourage employees to spend some portion of their hours working on personal ideas. Procter & Gamble and GE have both embraced open innovation, starting programs that crowdsource ideas from outside the company for solving design conundrums. Tencent has created an open platform that allows developers to connect with millions of its QQ users to create mobile apps and other products.⁴²

⁴⁰ Kana Inagaki, "Japan Inc shuns seniority in favour of merit-based pay," *Financial Times*, January 27, 2015; Craig Trudell and Yukiko Hagiwara, "Toyota plans overhaul to seniority-based pay," *Bloomberg*, January 26, 2015.

⁴¹ *Women matter: An Asian perspective*, McKinsey & Company, June 2012.

⁴² "Tencent open platform heralds a new era," company press release, October 30, 2014.

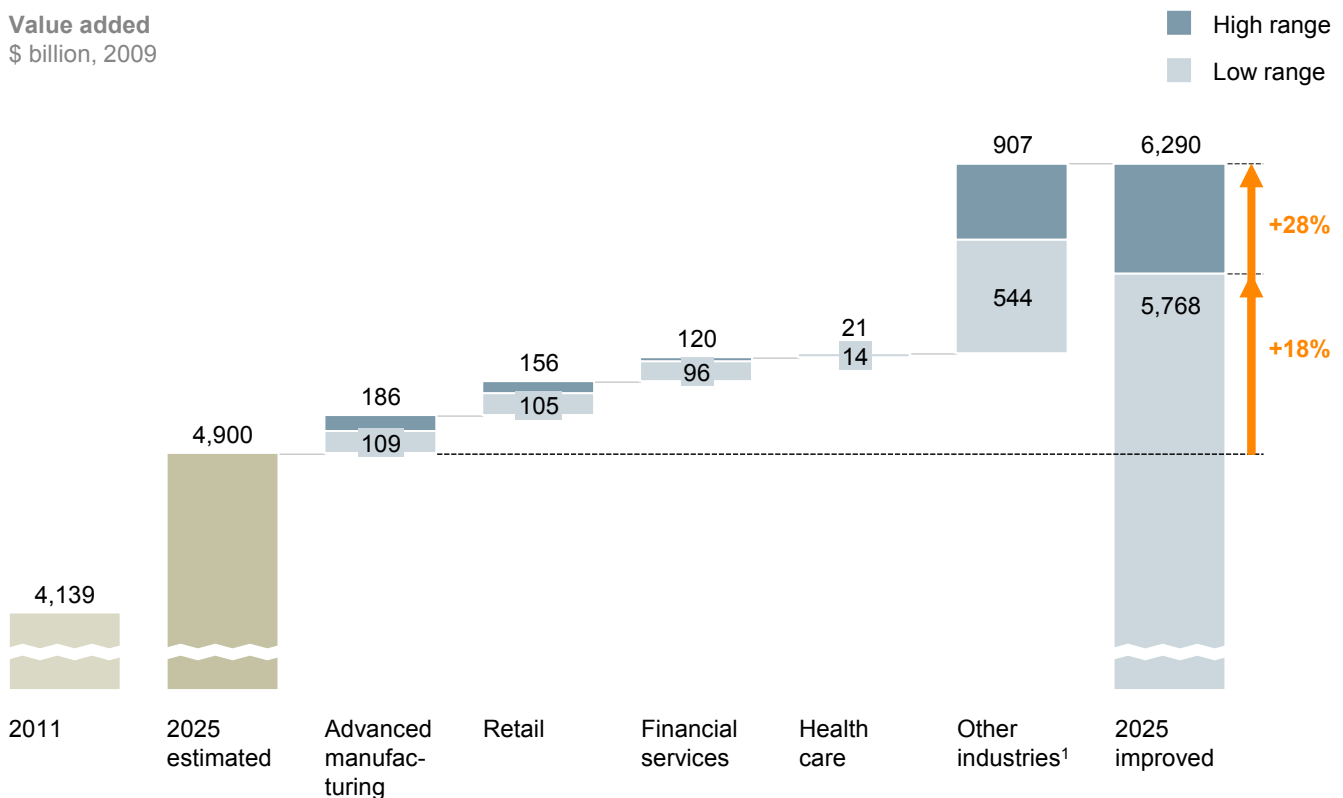
These initiatives can have a remarkable impact on economic growth and productivity

If the private sector undertakes the initiatives described above, it could lead the way in putting the economy on a faster track toward recovery and renewal. Instead of settling for a future with 1.3 percent annual GDP growth, Japan could grow by an average of approximately 3 percent through 2025—in other words, realizing the alternative scenario for a more prosperous future described earlier in this chapter. This would increase Japan's projected GDP in 2025 by up to 30 percent over current trends (Exhibit 5). In fact, the size of the prize is \$1.4 trillion in GDP in that year alone.

Exhibit 5

Productivity initiatives in specific industries can help Japan increase value added by up to 28 percent above the current trajectory

Value added
\$ billion, 2009



¹ Increases in value added and productivity in the sectors examined in detail were used to extrapolate gains in similar industries (e.g., gains in advanced manufacturing were applied to all manufacturing).
NOTE: Numbers may not sum due to rounding.

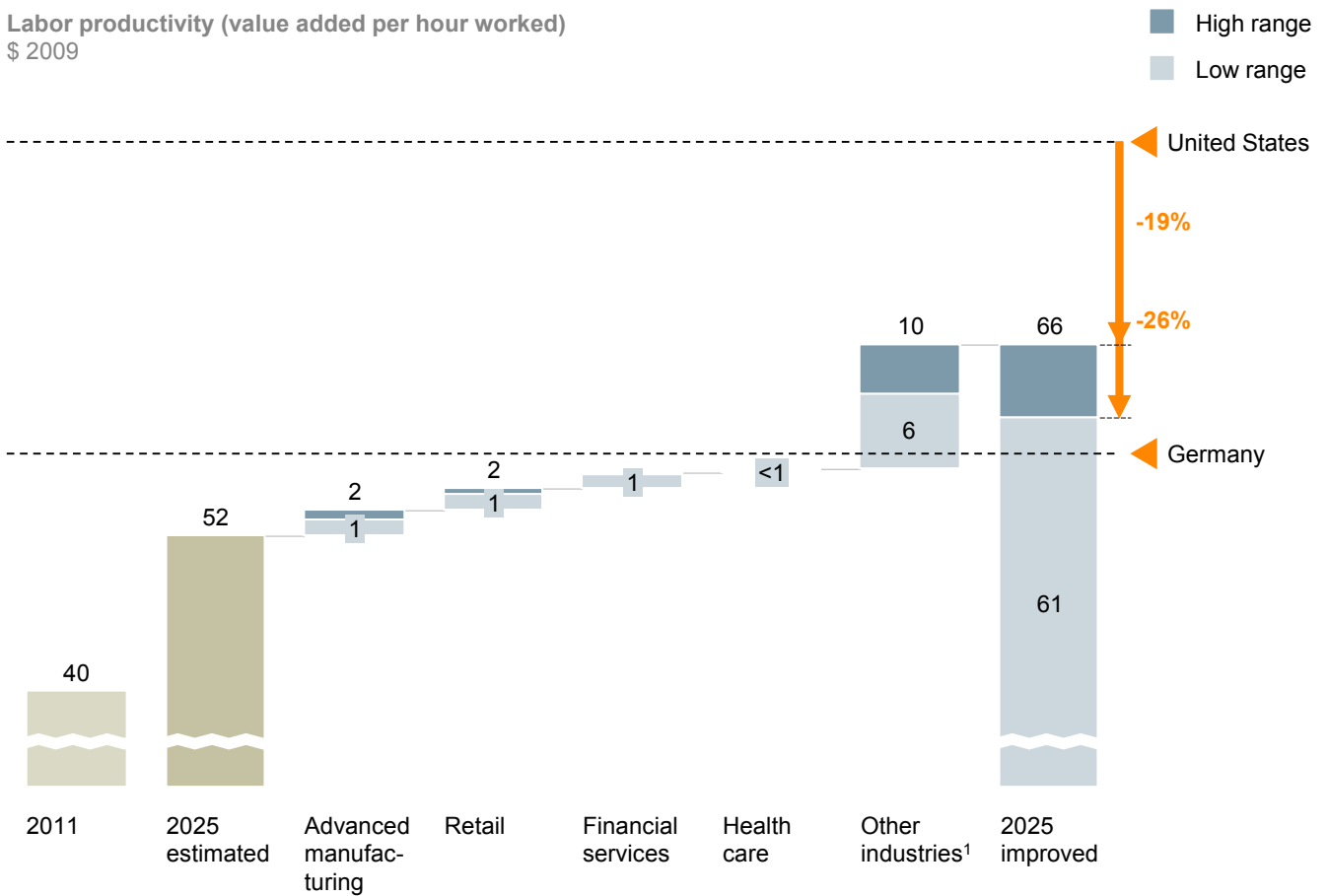
SOURCE: World Input-Output Database; IHS; McKinsey Global Institute analysis

To get there, however, Japan needs to more than double its labor productivity growth rate over this period, boosting it from approximately 2 percent to approximately 4 percent. This is a highly ambitious goal, but with its labor force expected to decline by some 3.7 percent between 2011 and 2025, productivity is Japan's most important means to accelerate growth. If this effort is successful, Japan would surpass Germany in productivity by 2025. Its productivity gap with the United States would persist, but instead of growing from 29 percent in 2011 to 37 percent, it could be reduced to 19 to 26 percent (Exhibit 6).

Exhibit 6

Japan can shrink its labor productivity gap with the United States and surpass Germany by 2025

Labor productivity (value added per hour worked)
\$ 2009



¹ Increases in value added and productivity in the sectors examined in detail were used to extrapolate gains in similar industries (e.g., gains in advanced manufacturing were applied to all manufacturing).
NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; IHS; McKinsey Global Institute analysis

Economic growth, along with better allocation of capital and a focus on optimizing expenditures, could also improve capital productivity in Japan by an average of 25 percent across all industries by 2025 (Exhibit 7).

The innovations pioneered by one leading company can have an outsized impact on the productivity of an entire industry as competitors are forced to raise their game. In the 1950s and 1960s, Toyota introduced more efficient production processes that were soon widely adopted by the entire Japanese auto industry. Decades later, Wal-Mart had a major direct and indirect effect on the productivity of the entire US retail sector by introducing new managerial and supply-chain practices.⁴³

This observation leads to crucial questions: Which Japanese companies will be the ones to spur industry-wide change? And could the ripple effects on their competitors lead to higher levels of corporate churn?

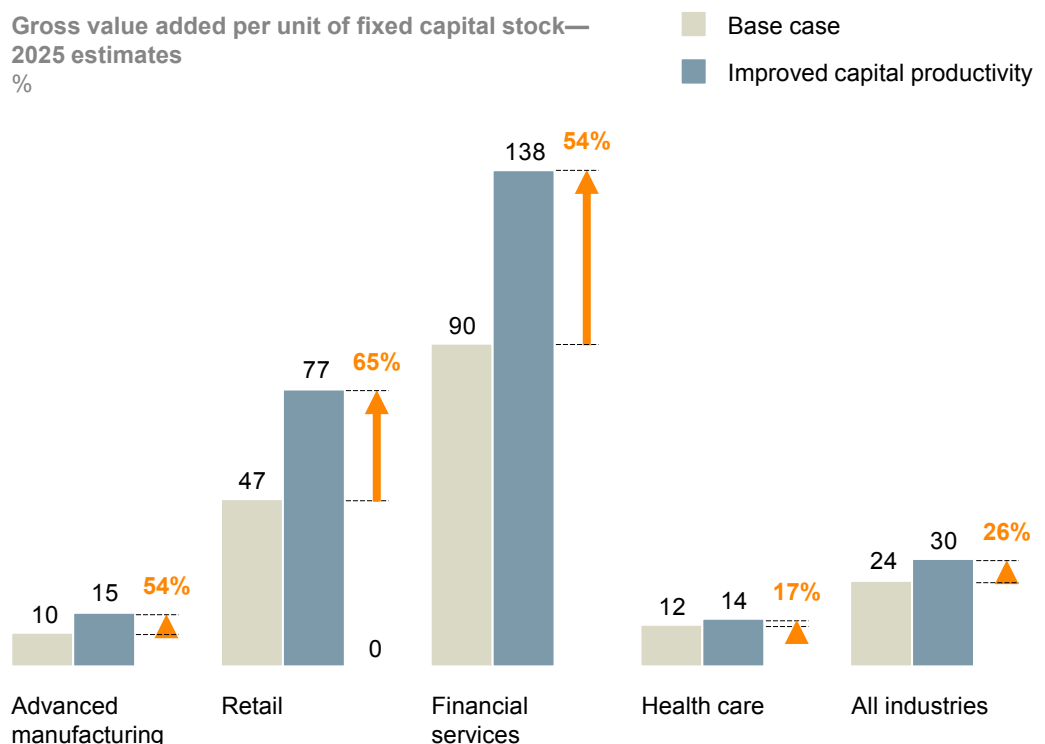
A drive for greater productivity can also raise anxiety about the eventual impact on jobs. Technology often enhances productivity by automating tasks, which can eliminate some jobs or force existing employees to adapt to new roles and responsibilities that require

⁴³ US productivity growth, 1995–2000, McKinsey Global Institute, October 2001.

different skill sets. The effect of automation on overall unemployment is likely to be roughly neutral in Japan, given that the workforce is shrinking. Our estimates suggest that in some sectors, such as advanced manufacturing and financial services, productivity growth from automation may displace 6 to 9 percent of the workforce, while labor inputs (total workers and declining working hours) are on track to decline by 9 percent. Nevertheless, change does not happen at the same pace across the economy. The need for labor may decline sharply in some sectors, while other industries may have sudden spikes in demand for new skills. The public and private sectors will have to be prepared to deal with this issue by ensuring that adequate support is available to ease the pain of transition for affected workers as labor is reallocated across the economy. A key component of this will be providing retraining programs on a large scale so that workers can acquire the new skills employers need.

Exhibit 7

By 2025, Japanese industries can sharply improve their capital productivity



NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; IHS; McKinsey Global Institute analysis



Industrial policy can enable economic growth (as we will explore more fully in Chapter 4), but Japan's productivity imperative will ultimately have to be met by the private sector. Japanese manufacturers famously invented "lean" practices and exported them to the rest of the world. Today businesses throughout Japan's economy—and particularly in service sectors—can reinvent these concepts, applying them to new industries and extending their impact with the help of new digital technologies. Businesses will need a greater willingness to invest and take risks, while managers and workers will have to adapt to fresh ways of doing business. Achieving the rate of productivity growth needed to drive Japan's economy forward will be a long-haul national project that involves every employer and employee.





3. A SECTOR-LEVEL ROAD MAP

With its labor force shrinking, Japan has to focus on productivity as its primary source of growth—and identifying areas that are ripe for improvement is at the heart of our research. Unless Japan cracks the productivity challenge, long-term trends of stagnation, eroding competitiveness, low fertility, and rapid aging will bring about a society with a reduced quality of life and an unprecedented burden on the working-age population. Boosting productivity can head off this outcome and inject new dynamism into the economy.

The preceding chapter described some cross-cutting strategies for the private sector, but here we examine more specific opportunities to accelerate productivity growth in four sectors: advanced manufacturing, retail, financial services, and health care. These were chosen because they represent significant but diverse parts of the Japanese economy.

Some 30 percent of Japan’s productivity potential can be captured within four sectors: advanced manufacturing, retail, financial services, and health care.

If Japan can more than double its annual rate of productivity growth to approximately 4 percent, the size of the prize would be substantial: up to \$1.4 trillion in GDP growth in 2025 alone. Some 30 percent of that potential can be captured within the sectors profiled here, while the remainder can be achieved in other sectors based on benchmarking against international peers that have adopted best practices.⁴⁴ The strategies outlined below are by no means exhaustive, but they do offer a starting point for action and an indicator of the size of Japan’s still-untapped productivity opportunity.

⁴⁴ We have extrapolated the potential impact from the four industries we analyzed in detail to the remainder of the economy, differentiating by type of industry (e.g., private, public, goods, or services) and industry structure (e.g., level of consolidation).

ADVANCED MANUFACTURING

29%

Japan's labor productivity gap with the US in advanced manufacturing

Japanese manufacturing was once viewed as a “two-speed” sector. When MGI examined the Japanese economy back in 2000, domestically focused industries such as textiles and food manufacturing lagged in productivity, but more export-oriented industries posted world-class performance.⁴⁵

Today, however, even some of the flagship industries within the latter group have grown less competitive. This report will focus on a subset that is of particular concern. “Advanced manufacturing” is defined here as the aggregate of three industries: electrical and optical equipment (which includes consumer electronics), industrial machinery, and transport equipment (which includes automotive). These industries have multiple attributes in common: high R&D intensity, high value added, a substantial share of output for export, and a relatively low reliance on labor and energy compared with other manufacturing industries.

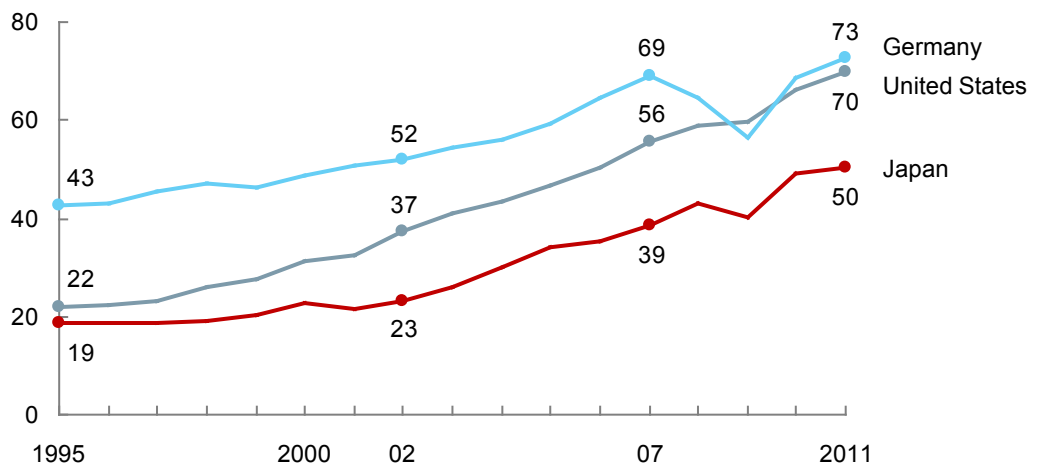
Above all, these industries represent the vanguard of Japan's industrial capabilities and the source of its signature exports. For years, Toyota, Honda, Nissan, and other Japanese automakers set the global standard for reliable, well-made cars at affordable prices. Japanese electronics brands such as Sharp, Sony, and Panasonic were lauded for their quality. They remained consistently at the forefront of technological innovation, introducing products such as the PlayStation, Blu-ray, and the flat-panel, high-definition televisions that are ubiquitous today.

But over the past 15 years, these leading names have seen their market share erode in the face of new global competition. Even more worrisome, Japan's advanced manufacturing sector, which once led the world in productivity, has fallen behind its competitors. Today Japan's labor productivity in this sector is 29 percent below that of the United States and 32 percent below that of Germany (Exhibit 8).

Exhibit 8

Labor productivity in Japan's advanced manufacturing sector lags behind that of the US and German sectors

Advanced manufacturing labor productivity (value added per hour) \$ 2009 at purchasing power parity



SOURCE: IHS; McKinsey Global Institute analysis

⁴⁵ The 2000 report included the steel industry in this category along with automotive, consumer electronics, and machine tools.

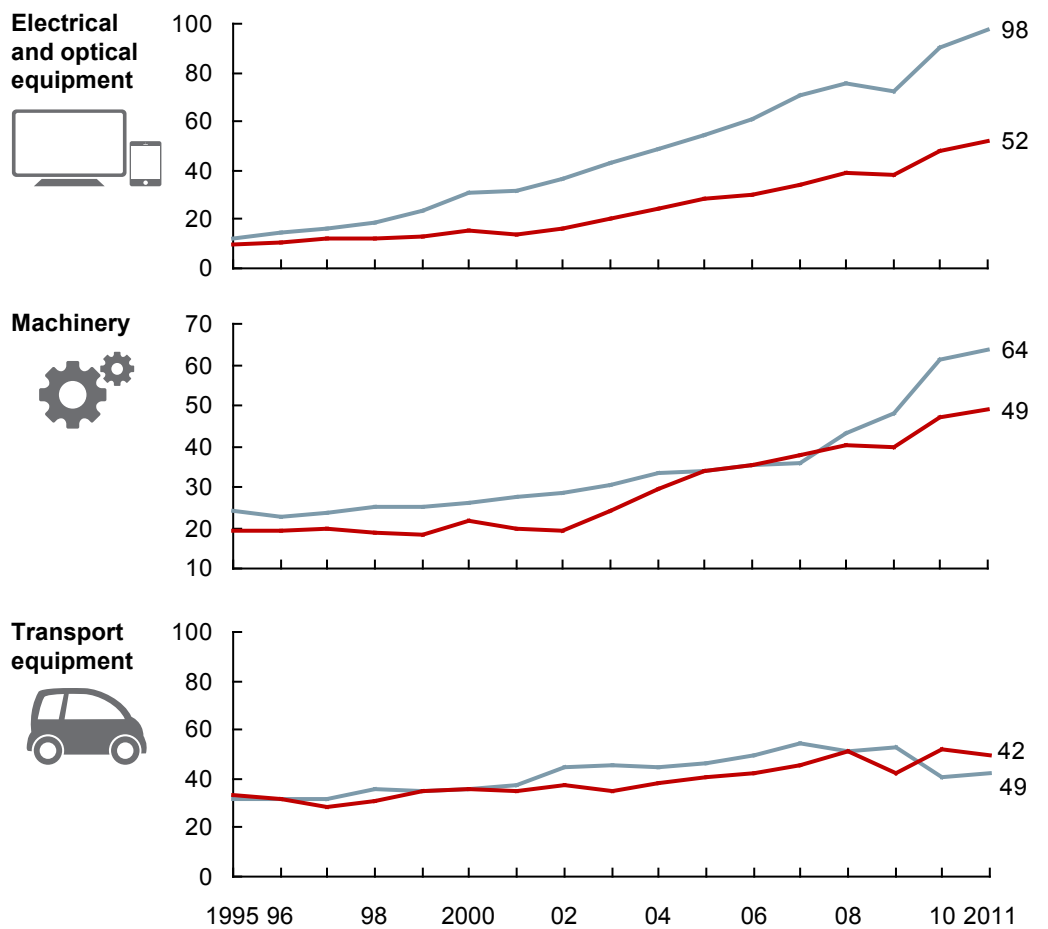
Japan's productivity gap vs. the United States is not only significant—it has been widening (Exhibit 9). Since 1995, US productivity in advanced manufacturing has grown by 218 percent, while Japan's has grown by 163 percent.⁴⁶ Technology advances in the years ahead will naturally continue to improve labor productivity in both nations. But if current trends continue, Japan's improvement would still lag behind the pace in the United States. Unless targeted measures are taken, the productivity gap between the US and Japanese advanced manufacturing sectors is on pace to grow from 29 percent in 2011 to 34 percent by 2025.

Exhibit 9

Japan's productivity gaps with the United States in manufacturing have been widening, especially in electrical and optical equipment

Advanced manufacturing labor productivity
 (value added per hour)
 \$, 2009 at purchasing power parity)

— United States
 — Japan



NOTE: Not to scale.

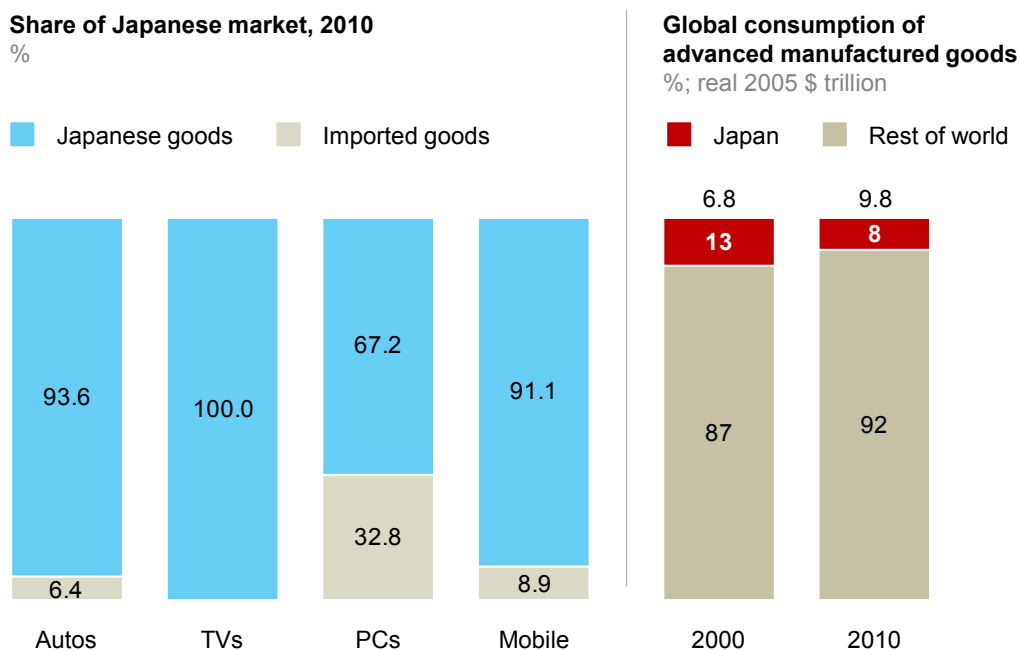
SOURCE: IHS, World Input-Output Database, McKinsey Global Institute analysis

⁴⁶ Adjusted for inflation and price level changes.

Despite these challenges, advanced manufacturing remains one of Japan's core sectors, and its performance is closely tied to the health of the broader economy. These industries account for 7 percent of Japan's employment, 6.7 percent of its GDP, and 60 percent of R&D spending; they also produce more than two-thirds of Japan's exports. The erosion of their global market share is a clear cause for concern (Exhibit 10).

Exhibit 10

Japan's advanced manufacturing industries have relied on the domestic market while losing ground globally



NOTE: Numbers may not sum due to rounding.

SOURCE: IHS World Industry Service; Gartner; iSuppli; IDC; Japan Automobile Importers Association; Japan Automobile Manufacturers Association; IHS AutoInsight; McKinsey Global Institute analysis

At the firm level, Japanese auto companies have remained excellent performers. Nissan rebounded strongly after entering its partnership with Renault, and Toyota successfully pioneered hybrid cars with the Prius, which continues to dominate its category. Toyota's Corolla ranked as the number 2 top-selling model globally in 2013, while the Camry came in sixth; the Honda CRV was the number 9 best seller.⁴⁷ However, Japanese carmakers have shifted much of their production outside of Japan to local markets.

The consumer electronics space has not fared as well. The market has shifted toward a greater emphasis on software and integrated platforms such as Apple's iOS, which creates the ecosystem for all of its devices. Fast-following, lean players such as Samsung, LG, Xiaomi, Huawei, and Lenovo have grabbed market share for products such as TVs, PCs, and smartphones—often at the expense of Japanese firms. The most recognizable Japanese conglomerates (Sony, Sharp, Panasonic, Toshiba, and NEC) have spent the past decade fighting for profitability in the face of stagnant growth. In a number of cases, Japanese companies made some unfortunate bets on technologies that did not ultimately win out in the marketplace; they have not developed blockbuster products that have resonated with global consumers and have largely missed out on the growth of smartphones. Consumer electronics companies need to achieve truly global scale to stay

⁴⁷ LMC Automotive data as quoted in Joann Muller, "The world's most popular cars: Ford Focus and other surprises," *Forbes*, December 23, 2013.

competitive, but Japan's industry has been hampered by fragmentation and an adherence to proprietary standards. Many subscale companies and plants are focused on products with declining margins.

The global market for electronics looks significantly different than it did just 15 years ago. These products were once considered luxury goods destined for consumers in advanced economies, but today there is an explosion of demand from emerging economies. While consumption in Japan is expected to stay flat, consumption throughout all of Asia (including Japan) has doubled in the past ten years, and it is expected to grow by more than 170 percent in the decade ahead.⁴⁸ In Southeast Asia alone, MGI estimates that 81 million households are currently part of the “consuming class,” and this number is forecast to grow to 163 million households by 2030.⁴⁹ Similarly, consumer-facing industries in Africa are expected to grow by more than \$400 billion by 2020.⁵⁰ Emerging economies are not just sources of low-cost labor. They are now lucrative consumer markets—and multinational companies from around the world are competing to establish market share.

Many Japanese exports have been slow to gain traction in emerging economies, and while this is cause for concern, it is also an indicator of opportunity. If Japan's advanced manufacturing sector can unlock new sources of revenue growth, in part by taking advantage of its proximity to many of the world's fastest-growing centers of demand, it can reestablish itself as a global leader.

Productivity challenges

Advanced manufacturing industries have experienced downward pricing pressure over the past decade—and that pressure has been particularly acute in the electronic and optical equipment sector. This downward pressure has been exacerbated by the industry's reliance on cost-based pricing and competition; Japan's traditional *monozukuri* spirit places value on delivering excellent craftsmanship and quality at a “fair price” to the consumer. Some leading global names have changed the rules of the game by introducing innovative products for which consumers are willing to pay premium prices, but by and large, electronics are subject to rapid commoditization and falling prices.

Pricing pressures are a worldwide phenomenon, however, so they do not fully explain the productivity performance of Japan's advanced manufacturing sector relative to that of the United States. The three major challenges described below contributed to today's gap. They concern mismatches between the industry's focus and changing market trends, and they relate to the broader issues around Japan's underlying environment for competitiveness and innovation raised earlier in Chapter 1.

Insufficient focus on fast-growing global markets

Japanese manufacturers have long been able to rely on the spending power of the Japanese consumer. But today domestic demand is stagnating even as more international competitors have entered the Japanese market. By contrast, there is booming demand in emerging economies around the world. Japanese companies face an increasingly urgent imperative to go global.

The typical global strategy for Japanese companies has been “inward-out”—that is, taking products that have performed well in the Japanese market and simply selling them abroad.⁵¹ This has worked, to some extent, when entering other developed markets such as the United States or Western Europe.

⁴⁸ IHS Global Insight, World Industry Service.

⁴⁹ *Southeast Asia at the crossroads: Three paths to prosperity*, McKinsey Global Institute, November 2014.

⁵⁰ “The rise of the African consumer,” *McKinsey Quarterly*, November 2012.

⁵¹ Some automotive companies have taken a different approach, moving production closer to local end-user markets.

But this strategy falls flat when companies attempt to enter emerging markets such as India, China, or Africa. Japanese products are often overly feature-rich and expensive, and as a result, they can fail to resonate in lower-income economies. (Japanese automakers are an exception, however. Toyota, Nissan, and Honda have successfully tailored their vehicles to appeal to the needs of a growing consumer class in emerging markets. In fact, Nissan recently revived its Datsun brand for entry-level buyers in India and elsewhere.⁵² Honda motorcycles are ubiquitous for commuters in markets such as India, Southeast Asia, and Brazil.) Understanding what drives value for consumers in local markets requires local intelligence—and many Japanese firms have not made the necessary investments to develop these insights.⁵³

As a result of insufficient investment and misaligned focus, Japan's advanced manufacturing industries have lost ground in growing international markets, resulting in a decline in net exports since 2010 (Exhibit 11). Japan's exports of electrical and optical equipment have fallen behind those of the United States and Germany in terms of both volume and growth rate.

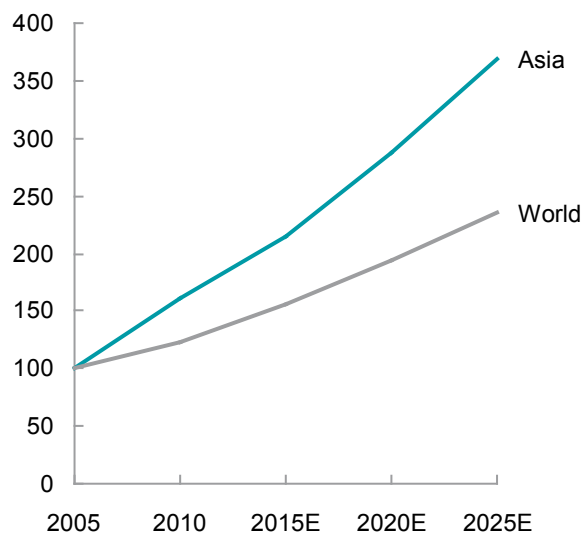
Language barriers, delayed adoption of global standards, and management culture have also combined to slow the pace of internationalization. While there is a great deal to overcome, Japan's proximity to emerging Asian economies means that there is massive growth potential at its doorstep.

Exhibit 11

While the global market continues to grow, Japan's net exports have been on the decline

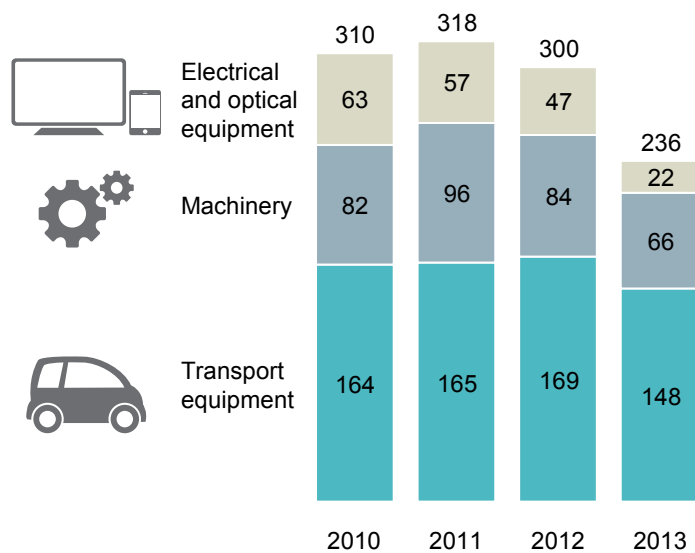
Consumption of advanced manufacturing products

Index: 100 = 2005



Net exports of R&D-intensive manufactured goods

\$ billion



NOTE: Numbers may not sum due to rounding.

SOURCE: World Integrated Trade Solutions Database; McKinsey Global Institute analysis

⁵² Siddharth Vikram Philip, "Datsun leads Nissan's emerging markets push with Go model," *Bloomberg Businessweek*, July 16, 2013.

⁵³ Andrew Dugan, Randy Kyung-rok Han, and Sagar Pagare, *Asia or bust: Why Japanese firms must succeed in Asia to survive*, Knowledge@Wharton, December 2013.

A product mix that is weighted toward lower-value goods

At the industry level, labor productivity is not just affected by how quickly workers can churn out goods. It is highly influenced by the industry's overall product mix. In advanced manufacturing, parts and components tend to generate less value than final goods—a phenomenon that explains why companies such as Apple and Vizio have “unbundled” their value chains across geographies, relying on far-flung suppliers to become “factory-less manufacturers.” By contrast, producers of parts and components are a mainstay of Japan's advanced manufacturing sector. Although these players have been successful, the fact remains that these companies collectively produce less value added per hour of labor than other types of manufacturing.

Japanese firms have to find a way to play to their strengths in these areas. One possibility is to maximize value added through better pricing and marketing; another is to concentrate R&D activity in technology hubs to develop more innovative products.

In the electronics sector, the product mix effect is especially relevant. Japan's electronics sector is still heavily weighted toward hardware; its firms hold large market shares in products such as digital cameras, printers, and TVs. Meanwhile, those same firms have largely missed out on tapping into growth in software, IT services, and smartphones. They have been hindered by an adherence to proprietary standards and a lack of interoperability as well as an environment that does not encourage more fluid innovation. These points are discussed more fully elsewhere in this section.

Difficulties in commercializing new innovations

Japan has a long-standing global reputation for innovation. It is a leader in patent filings, holding 50 percent or more of the world's intellectual property in areas such as lithium-ion batteries, articulated robots, and copy machines. Japan spends more on manufacturing R&D than almost any other country in the world: in 2010, its R&D investment in the advanced manufacturing sector was equivalent to 1.7 percent of GDP, ahead of Germany's 1.6 percent and 1.1 percent in the United States. Nevertheless, in recent years Japan has not seen the payoff in terms of growth or productivity that one would expect from such heavy investment. It performs well below peers in productivity growth relative to R&D investment (Exhibit 12).

This is due in large part to the difficulties entrepreneurs and businesses encounter in commercializing new ideas and cutting-edge technologies. Japan has fewer entrepreneurs than the United States; one study found that they constituted 3.7 percent of the labor force in Japan in 2013, compared with 12.7 percent of the US labor force.⁵⁴ Additionally, their odds of securing early-stage funding are much lower than they would be in the United States and other developed countries.

Another driver may be the Japanese approach to R&D. Companies tend to keep their research operations tightly contained rather than taking a more open approach that allows ideas to cross-pollinate between different parts of the organization and outside entities (including suppliers and customers). The new norm of collaborative innovation has been embraced more fully by companies in other advanced economies. Outside partnerships are particularly important as companies try to get closer to customers in local markets across the world and tailor products to meet their preferences.

3.7%

Share of
entrepreneurs in
the Japanese
labor force

⁵⁴ José Ernesto Amorós and Niels Bosma, *2013 global report*, Global Entrepreneurship Monitor, January 2014.

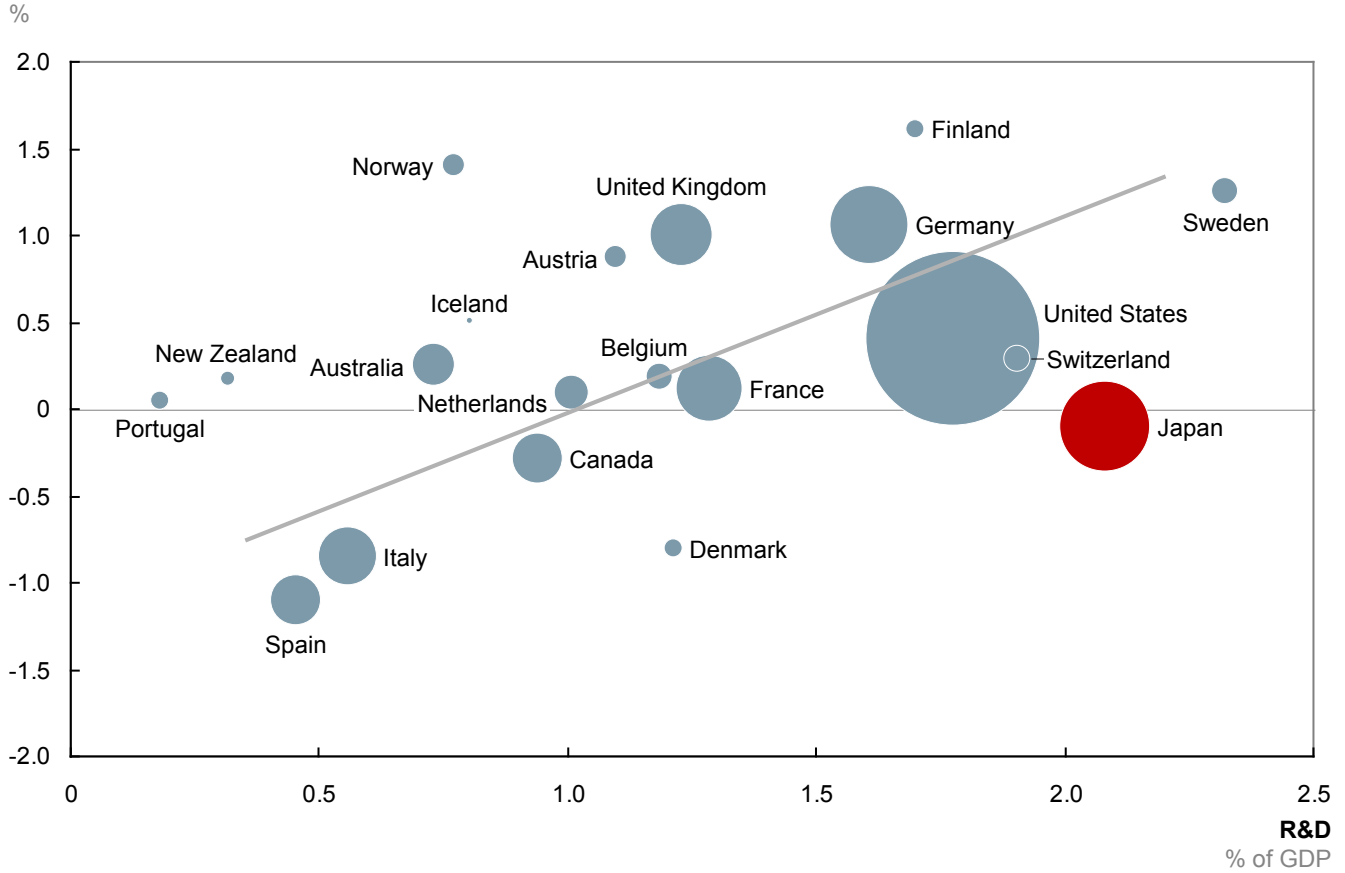
Exhibit 12

Heavy investment in R&D has not produced a large payoff in productivity for Japanese firms

Business investment in R&D vs. total factor productivity, 1986–2008¹

● GDP size, 2013

Total factor productivity annual change



¹ Total factor productivity is a measure of technological progress that measures increases in output after taking labor and capital inputs into account.

SOURCE: Gartner; iSuppli; IDC; Euromonitor; IMF; McKinsey Global Institute analysis

A high cost base

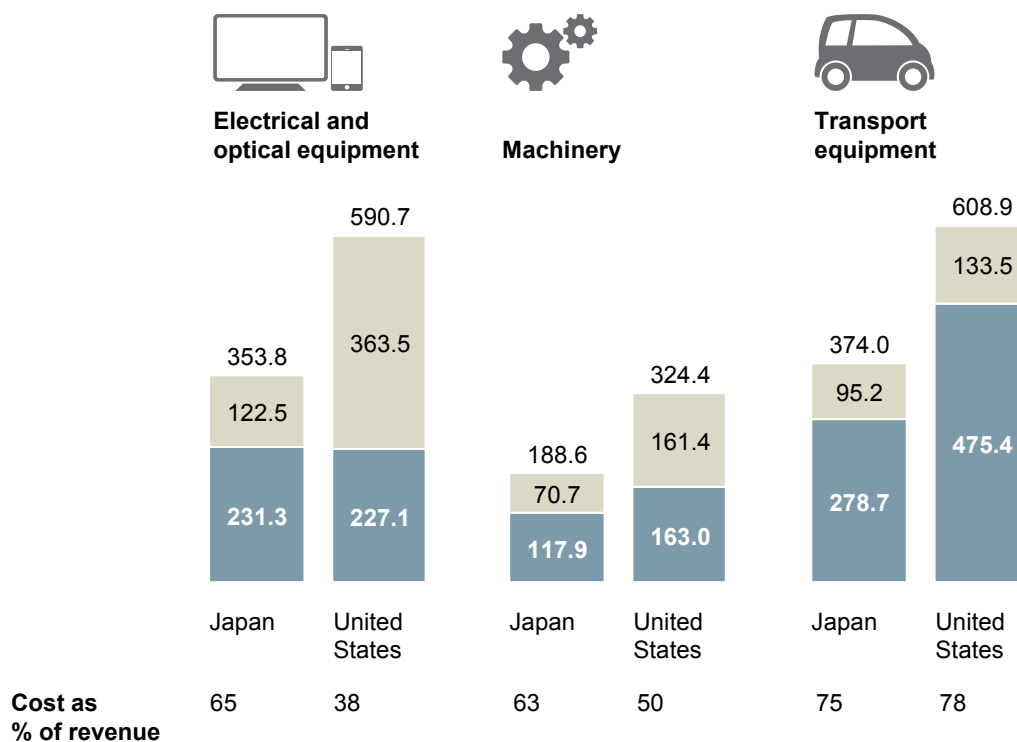
Compared with its international competitors, Japan often has to contend with a higher non-labor cost base, particularly in the electrical and optical equipment industry (Exhibit 13). The cost of intermediate inputs in the comparable US sector is equivalent to only 38 percent of revenue, as opposed to 65 percent in Japan. Examining the performance of key players in both countries reveals that only a small part of this difference is explained by the cost of goods or by R&D expenditures. Japan’s operational expenses are driven higher by inefficiencies in global operations and in corporate functions such as supply-chain management.

Exhibit 13

Japan has a high non-labor cost base, particularly in the electrical and optical equipment industry

Revenue breakdown by subsector, 2011
\$ billion, 2009 at purchasing power parity

Value add (includes labor cost)
Non-labor cost of intermediate inputs



NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; McKinsey Global Institute analysis

Japan's future path: Comparing the current trajectory of advanced manufacturing with a vision for revitalization

If Japanese manufacturing continues on its current trajectory, it will face limited growth, continued loss of share in global markets, and widening labor productivity gaps with the United States. The sector's value added would increase by a mere 1.4 percent annually through 2025. Labor productivity would increase by a total of 41 percent over the entire period from 2011 to 2025. By then, the Japanese sector would generate only \$71 per labor hour vs. \$107 per labor hour in the United States, leaving Japanese productivity at just 66 percent of the US level.

But Japan has an opportunity to change this path if companies aggressively pursue the strategies we outline below, including value optimization, targeted globalization, improved operational excellence in all corporate functions, and the deployment of next-generation technologies. By prioritizing the most lucrative global markets and employing the right pricing strategies, Japan could reestablish a world-leading position in its advanced manufacturing industries—not only in automotive, but also in areas such as optical and electrical components and robotics.

Japan has long realized the beauty of keeping things simple and streamlined. Its advanced manufacturing industries can reap significant productivity gains from adopting international standards and a modular approach—that is, using an increasing number of interoperable

parts and processes to build platforms of components that can be plugged together like Lego bricks. Taking an open-architecture approach and adopting international standards can raise quality and lower costs. Automation will play a significant role in this Japan of the future, with increased use of advanced robotics that are able to work alongside humans and support labor-intensive tasks.

In this vision, Japanese manufacturers reinvent their world-renowned lean thinking approach for a new era by integrating the Internet of Things and other next-generation technology solutions into their processes. These solutions can allow them to add new business lines such as cost-efficient and high-quality after-sales service and maintenance. With the right environment in place, entrepreneurship could grow within the industry, and innovative ideas would more frequently translate into new product lines. This is a time of tremendous evolution—and tremendous churn—in manufacturing, trade, and technology. But the current wave of disruption is presenting Japanese manufacturers with new opportunities.

Challenges and opportunities from global forces

For Japan, a new era of globalization means an opportunity to overcome sluggish demand at home. Emerging economies represent huge new markets, and not only for consumer goods. As these nations rapidly urbanize, they are generating new demand for compact cars and rail technology, which plays directly to Japan's strengths. Exports of machinery can also unlock greater demand for services; workers in economies that are just beginning to industrialize have less experience in operating and maintaining sophisticated equipment.

Japan has the manufacturing, innovation, and export capabilities to make up for lost time and lost market share.

Global connectedness is also allowing manufacturers to separate their headquarters from R&D operations and from actual production. This translates into fierce competition for spots in global value chains—and because Japan has significantly higher labor costs than many other countries in the region, its firms have to compete by developing unique capabilities.

At a global level, the manufacturing industry is experiencing a remarkable wave of innovation—and Japanese firms can capture enormous opportunities by establishing themselves as global leaders. Some of the most promising areas include nanomaterials, new production technologies such as additive manufacturing (3D printing), and integration of the Internet of Things and advanced robotics into production processes.⁵⁵ Innovative software is increasingly being integrated into traditional manufactured goods; Apple, Google, IBM, and Baidu, for example, are developing platforms for “connected cars” and have engaged with major global automakers. This blending of software and hardware represents a new competitive challenge—and a major market opportunity—for Japan's automakers if they can stay at the forefront as they unveil their own connected car offerings.

Japan is importing a larger share of its energy than at any point in the past decade. This makes Japanese producers in energy-intensive manufacturing industries more sensitive to a fluctuating yen. Additionally, consumers are increasingly demanding eco-friendly goods made by companies that operate sustainably. Despite the recent dip in global energy prices, the industry has incentives to minimize its energy consumption—and these efforts would

⁵⁵ *Manufacturing the future: The next area of global growth and innovation*, McKinsey Global Institute, November 2012.

support a push toward more efficient processes overall. There is untapped potential for Japanese firms to use “circular economy” concepts such as recycling and minimizing waste in production processes. In the same way that Toyota anticipated customer desires and led the way in the hybrid car market with the Prius, other firms should be deliberate about the opportunities for growth and efficiency they can achieve by going greener.

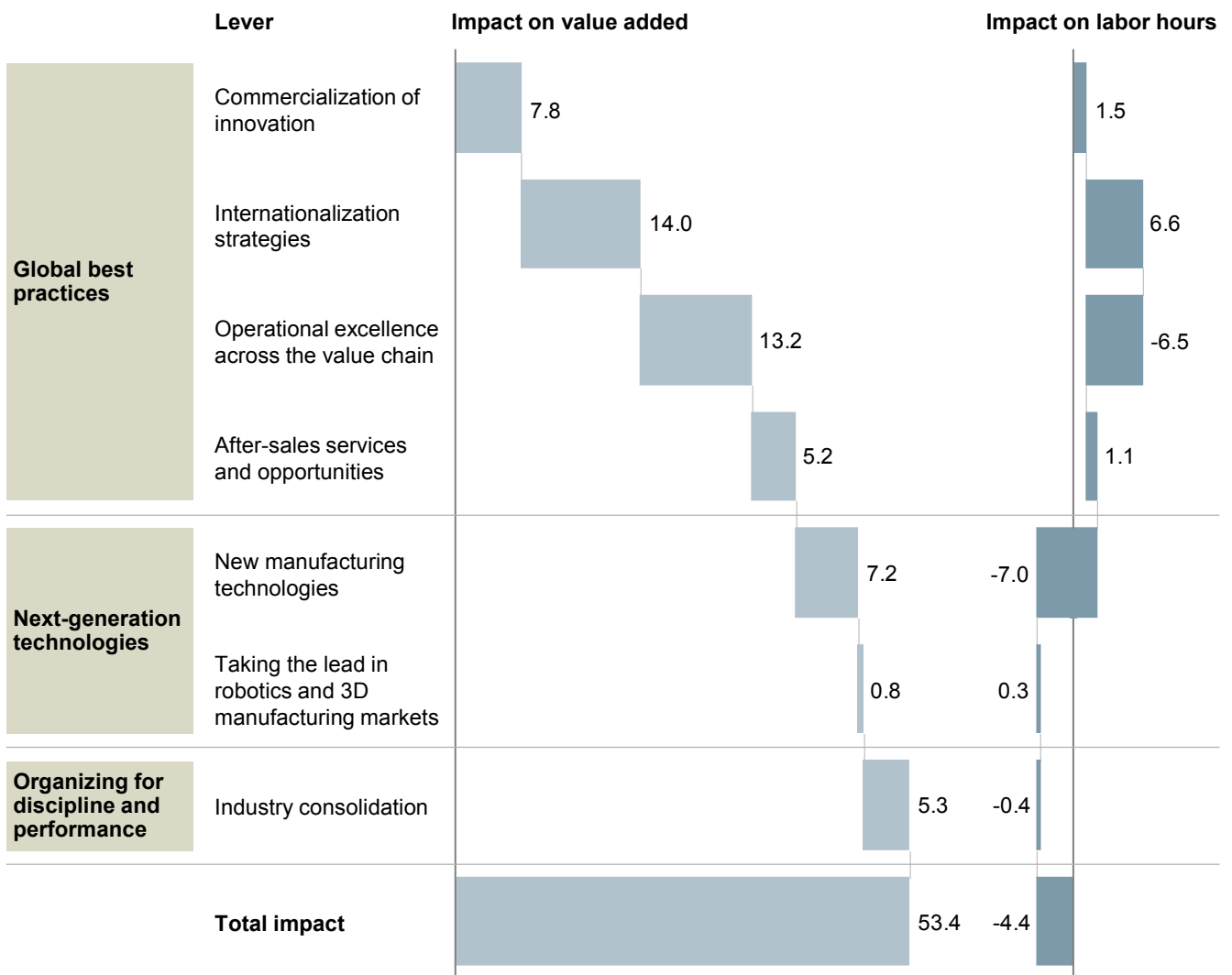
Company strategies for boosting productivity and growth

A new era of innovation is under way, and Japan can take decisive action to revitalize its advanced manufacturing sector. We have identified key strategies that collectively have the potential to boost value added in Japan’s advanced manufacturing industry by up to 53 percent above the current trajectory by 2025 (Exhibit 14). It should be noted, however, that Japan would need to adopt breakthrough technologies on a wide scale to achieve the full potential.

Exhibit 14

Productivity levers can help Japan boost value added in manufacturing by more than 50 percent in 2025

%



NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

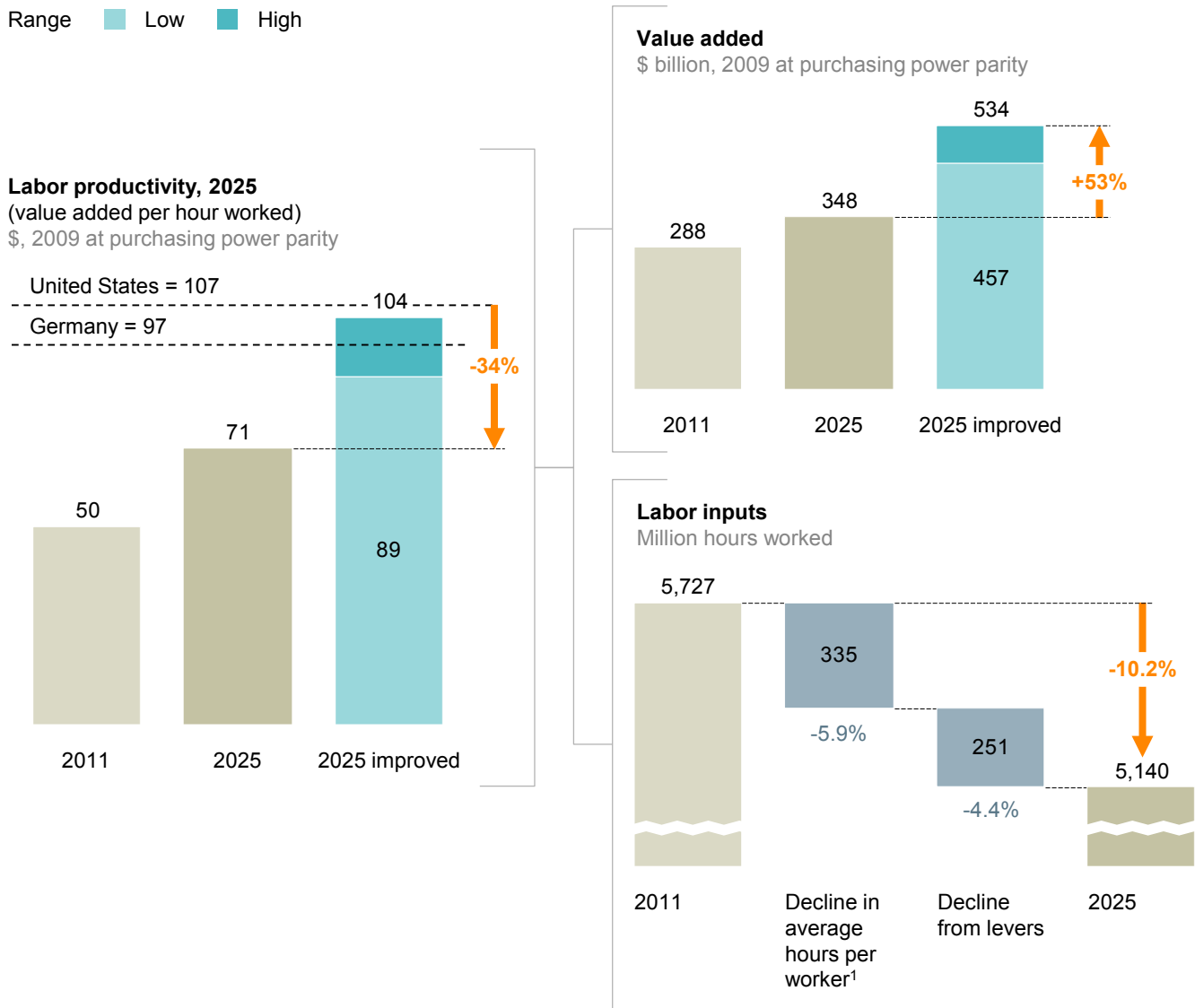
Four of these strategies result in more output and will require additional labor, while the remaining four create value through efficiency gains that will reduce the need for labor. We project that if current trends hold, the sector's employment would fall by 14 percent by 2025. However, our estimates indicate that by fully implementing these initiatives, industry growth could mitigate the expected decline in employment, reducing it to 10 percent.⁵⁶

Combining these strategies would produce a significant improvement in labor productivity. By 2025, this sector's performance could increase by 26 to 47 percent above the current trajectory—almost matching projections for US productivity in this area (Exhibit 15).⁵⁷

Exhibit 15

Japan's advanced manufacturing sector has the potential to almost close the productivity gap with the US sector

Range ■ Low ■ High



1 Average hours per worker gradually decrease over time as general technological progress improves productivity. NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

⁵⁶ The expected decline in employment stems from a combination of a roughly 4 percent reduction in labor hours due to increased productivity and a 6 percent reduction due to the continuing trend in Japan toward shorter workdays and lower average hours per worker. All in all, the 2025 labor hours required are estimated to be about 90 percent of 2011 levels. See the technical appendix for more detail on these assumptions.

⁵⁷ Industry projections from IHS Global Insight, World Industry Service, 2014.

Incorporating global best practices

Shifting R&D to higher-value-added opportunities

Japan, once a world leader in innovation, has seen limited return on its R&D investment in recent years, and its reputation for cutting-edge creativity has lagged. But it may be able to reverse this trend by redirecting its formidable R&D capabilities to higher-value spaces (for example, by shifting away from its traditional focus on hardware and moving more decisively into software and systems). In an era of rapid-fire technology breakthroughs, there is enormous potential to increase revenues from creating entirely new categories of goods and services as well as by creating new value within existing categories—not to mention the potential to increase margins by applying innovation to management and production practices to boost labor productivity. The link between productivity and job creation is particularly strong when efficiencies stem from innovation. Success in high-tech fields could also improve capital productivity, as it may encourage the formation of new companies and business models that are more asset-light than other types of heavy industry.

Japan can boost productivity by redirecting its focus from hardware to software and systems.

Targeted globalization strategies

The need for Japanese firms to expand into international markets has already been well established. This will require increased output and will likely increase the need for labor. Japanese firms need extremely targeted and prioritized strategies to capture this opportunity. It is critical for firms to have a granular understanding of markets and customers—not only at the national level, but at the city level. In Africa, for example, MGI's Cityscope database suggests that 47 cities will account for nearly 50 percent of African GDP growth by 2025. In China, 250 cities are expected to account for 28 percent of global GDP growth by 2025.⁵⁸ The more accurately firms can target city-level pockets of demand and the more precisely they can tailor products to local preferences, the more successful they will be. This is not a matter of simply capturing greater market share, but of making smart decisions about where to compete and in which market segments.⁵⁹ Adopting international standards will be key to helping Japanese firms go global.

Operational excellence along the value chain

Companies will have to strive for new standards of performance in every corporate function—not just in production but also in areas such as sourcing, procurement, pricing, and marketing, to name just a few. For example, only two of the top 100 supply chains in the world are owned by Japanese companies (Honda and Toyota).⁶⁰ But technology is making it possible for companies to gain much tighter control over this part of their operations. E-commerce allows manufacturers to tap suppliers from anywhere across the globe. The Internet of Things can track materials and components as they move through warehouses and transportation hubs. GPS-enabled telematics can manage fleets and distribution networks in real time, while big data-enabled demand forecasting systems can avoid stock-outs and excess inventory. These types of systems can produce significant cost savings.

⁵⁸ *Urban world: Cities and the rise of the consuming class*, McKinsey Global Institute, June 2012.

⁵⁹ Patrick Viguier, Sven Smit, and Mehrdad Baghai, *The granularity of growth*, John Wiley & Sons, 2008.

⁶⁰ *2014 Gartner supply chain top 25: Asia/Pacific*. This ranking evaluates performance in return on assets, inventory turns, and revenue growth.

Manufacturers can also create platforms that make production both flexible and cost-effective. As companies penetrate new markets and consumers grow to expect more personalization, demand is becoming increasingly fragmented. Companies could incur high development, design, and production costs in this type of environment unless there are real synergies between products. But some manufacturers are able to solve this problem by developing product platforms that offer the ability to achieve scale while still offering product diversity (although it imposes some constraints on the ability to individually tailor features). This approach is particularly well developed in the automotive industry.⁶¹

Platforms reuse components, processes, equipment, and even knowledge and teams to make an entire product family. Modular platforms, in particular, allow manufacturers to assemble common subsystems to create distinctive products with varying functionalities, expanding a company's portfolio of products while minimizing complexity. This is achieved by increasing the number of compatible parts and components that can be used across products and applying this up and down the value chain, from quoting through installation and delivery. Using different levels of modules to appeal to different market segments is key, along with pricing discipline that charges a premium for additional customization beyond the standard modular products. This approach dovetails with the adoption of global standards, as the world has been shifting toward a more open-architecture approach.

After-sales services and opportunities

Manufacturers are creating new revenue streams by adding services that tie into their products, such as delivery and installation, operation, maintenance, or systems integration. The market for these types of offerings is growing, especially in emerging economies. Japanese companies are generally known for providing excellent service but have been slow to monetize this part of the value chain. To go this route, companies will need to professionalize their service arms (potentially adding employees) and develop pricing models in which customers pay different amounts for various agreed-upon service levels. Some companies may experiment with business model innovations, in some cases going so far as to transform themselves from product companies to service companies.

Adopting next-generation technologies

New manufacturing technologies

The coming decade will bring an ongoing wave of innovation in manufacturing that reinvents the assembly line yet again—and new technologies can push the boundaries of what can be achieved through lean concepts. Firms will have to embrace these developments to keep pace and capture new sources of value. This could mean adopting ubiquitous sensor networks and big data analytics for more efficient, higher-quality production or using 3D printing to achieve mass customization or more accurate product molds. These and other manufacturing technologies present opportunities for increased revenue from new product and service offerings as well as cost savings, faster time to market, and quality improvements.

By implementing these changes, Japanese manufacturers can achieve a long-term improvement in capital productivity. Since technology continues to evolve at an accelerated pace, adoption is not a one-time investment; companies have to continuously watch for new breakthroughs they can integrate into their own business models.

⁶¹ Olivier L. de Weck, Eun Suk Suh, and David Change, *Product family strategy and platform design optimization*, presented at the 2003 ASME Design Engineering Technical Conference, September 2003; David Robertson and Karl Ulrich, "Planning for product platforms," *MIT Sloan Management Review*, July 1998. See also Claire Bal, "Toyota wants TGNA platform to close gap with VW, Hyundai," *Automotive News Europe*, December 12, 2013.

The use of industrial robots in production could automate up to a quarter of all industrial tasks in developed countries by 2025.⁶² Japan is already leading the way, with the greatest absolute number of industrial robots deployed in the world. It is second in the world in terms of robot density, with 323 robots deployed for every 10,000 workers in 2013 (behind only South Korea, with 437).⁶³ This trend toward automation can smooth the way for adopting the modular production approaches described above. Perhaps most important, it can mitigate the impact of Japan's aging and shrinking workforce, and by reducing the necessary human labor required for certain functions, it can contribute to higher labor productivity.

Gaining global market share in robotics and 3D printing

Japan is in a strong position to capitalize on growth in robotics—not only for automating its own operations but for exporting its technology to the world. In fact, it already owns 50 percent of the global industrial robotics market.⁶⁴ Focusing on exports of additive manufacturing (3D printing) technology could be another area for rapid growth.

Japan could capture significant growth opportunities by boosting its global market share for both of these technologies by 5 to 10 percent. To accomplish this, the industry needs to first target pockets of international demand, such as the rapidly growing market for industrial robotics in China. The industry can also intensify R&D efforts to continue pushing the frontier of innovation in these fields, such as the use of robotics in service industries.

Organizing for discipline and performance

The industry landscape is fragmented in a number of Japan's advanced manufacturing industries, with many small, inefficient players. Pursuing consolidation through mergers and acquisitions would allow companies to reach the critical size necessary to benefit from economies of scale and better optimize their capital and human resources. Larger firms can improve their cost structure and become more competitive in international markets—in some cases even regaining their global leadership.

Companies will have to strive for new standards of performance in every corporate function — not just in production but also in sourcing, procurement, pricing, and marketing.

⁶² "Shaping the future of manufacturing," *McKinsey Quarterly*, issue number 1, 2014.

⁶³ International Federation of Robotics statistics.

⁶⁴ *Trends in the market for the robotics industry in 2012*, Ministry of Economy, Trade and Industry, July 2013.

RETAIL

35%

Japan's
productivity gap
with the US retail
sector

Japan's retail sector represents a significant part of the economy: it accounts for 9 percent of total employment and 5 percent of GDP.⁶⁵ In addition to its large and sophisticated consumer base, Japanese retail benefits from excellent logistics; many companies routinely offer same-day delivery or even a one-hour delivery window. High Internet and mobile penetration has underpinned growth in online shopping.

Despite these strengths, Japanese retail is fraught with challenges and inefficiencies. Forty-seven percent of sales derive from small, often family-owned specialty shops—and because these businesses are less productive, they create a drag on the overall sector (see Box 2, “Japan's retail formats at a glance”). Furthermore, Japan's persistent deflationary environment has put a damper on consumer demand; retailers have struggled to maintain margins and to price products at full value. Finally, in segments such as traditional convenience stores, supermarkets, and drugstores, the market remains highly fragmented. Consolidation has been slow, as many retailers that have been family-owned for generations are hesitant to become part of larger brands. With few large national chains, retailers cannot achieve the full benefits of purchasing at scale.

Japan has not kept pace with the productivity growth posted by the US retail sector—but it can close up to 95 percent of the gap.

Recently Japan's retail sector has begun to change. Since the 2000 repeal of the Large Scale Retail Store Law, Japan has seen a decline in traditional store formats and an increase in drugstores, small modern specialty stores, e-commerce, and mail-order/catalog shopping. This shift has contributed to gains in labor productivity over the past 15 years—even so, Japan has not kept pace with the productivity growth posted by the US retail sector. Even large retail chains have not created best-in-class processes and mechanisms to capture true economies of scale in sourcing and IT systems.

E-commerce is another major source of retail productivity. Japan's e-commerce market is already the third largest in the world, with \$119 billion in 2014 sales. But it is growing more slowly (at 7 percent annually) than the US market (12 percent annual growth) or the Chinese market (which has rocketed ahead to become the largest market in the world, with 51 percent annual growth).⁶⁶ Major players such as Rakuten and Amazon are making strides, but there is still room for brick-and-mortar incumbents to add new channels—and for disruptive new players to emerge in this space.

New developments could help the Japanese sector gain ground. Retailers can adopt new technologies to generate consumer insights, forecast demand, and tighten inventory management; they can also make a more decisive shift to e-commerce and create new market opportunities by actively catering to seniors. By implementing the specific strategies outlined later in this section, the retail sector can add \$105 billion to \$156 billion to its GDP by 2025, an increase of 41 to 61 percent over current 2025 projections.

⁶⁵ World Input-Output Database, 2014.

⁶⁶ Ekos Global statistics.

Box 2. Japan's retail formats at a glance

The retail sector encompasses seven main formats that vary on the basis of the choices, service, and prices offered to consumers.

- Small convenience stores primarily sell food and some general merchandise products such as toiletries and household items. They are typically located near residential areas. Two types of store formats are included in this category.⁶⁷
 - Small, modern convenience stores that are part of larger chains (such as 7-Eleven or Lawson) represent 10 percent of this category. They are typically open 24 hours a day.
 - Small, traditional stores. These are generally family-owned and may employ two or three family members. Since they are not part of larger chains, they are hard-pressed to offer a wide range of products or low prices. This category is dominated by specialty stores with a specific focus on household goods (71 percent of the overall category), food (11 percent), or apparel (9 percent). These traditional stores are some 25 percent less productive than the modern convenience stores.
- Specialty chains focus on a narrow range of products. Some offer a high level of service in small stores, while others (category killers) offer a broader selection of brands within each product and compete on price.
- Supermarkets are large-scale stores selling primarily food items. In the United States, this category is dominated by large chains, but in Japan, supermarkets tend to be part of smaller chains.
- Department stores are large-scale stores offering a broad range of general merchandise. While they have a heavy focus on clothing, accessories, and cosmetics, Japanese department stores sell some food items; they also tend to be very high-end.
- Drugstores sell over-the-counter drugs and general merchandise; they also contain pharmacies.
- The non-stores category includes mail-order businesses, catalog businesses, and e-commerce. The mail-order and catalog business is still strong in Japan, accounting for 43 percent of non-store sales in 2012, while e-commerce accounted for 57 percent.
- Stores that do not fit into the categories above are simply categorized as “other.”

⁶⁷ See other MGI reports for the traditional vs. modern categorization of store formats, such as *A tale of two Mexicos: Growth and prosperity in a two-speed economy*, McKinsey Global Institute, March 2014. MGI's 2000 study of Japan considered the two types of small stores described here as separate categories, but they have been consolidated in this report to better reflect the stores' purpose and access to consumers; this approach is consistent with retail definitions used in other parts of the world.

Productivity challenges

MGI's 2000 report identified the prevalence of traditional stores as a primary driver of the sector's low productivity. Structural barriers slowed the sector's modernization, as larger retailers often encountered zoning restrictions that prevented their expansion, while tax incentives and government subsidies kept traditional stores going. The report noted that removing these barriers would be key to speeding the sector's transition into more productive formats.

Since then, Japan has liberalized the sector by repealing the Large Scale Retail Store Law and making it somewhat easier to open big-box stores and shopping centers in new areas (although some barriers remain). It also adjusted laws concerning property, capital gains, and inheritance taxes that discouraged traditional stores from exiting the market and selling off their land. As a result of these moves, a growing number of large-scale shopping centers have opened in Japan's suburbs. Traditional formats have significantly declined in the past 15 years, but they still account for a large share of the sector's total sales and employment. While supermarkets and department stores continue to decline, more modern specialty chains (such as big-box electronics stores) and drugstores have increased. Thanks in part to these changes, labor productivity in the retail sector grew at a compound annual growth rate of 2.2 percent between 2000 and 2011. Despite this improvement, growth has not kept pace with the US sector.

Traditional store formats have significantly declined, but they still account for a large share of the retail sector's total sales and employment.

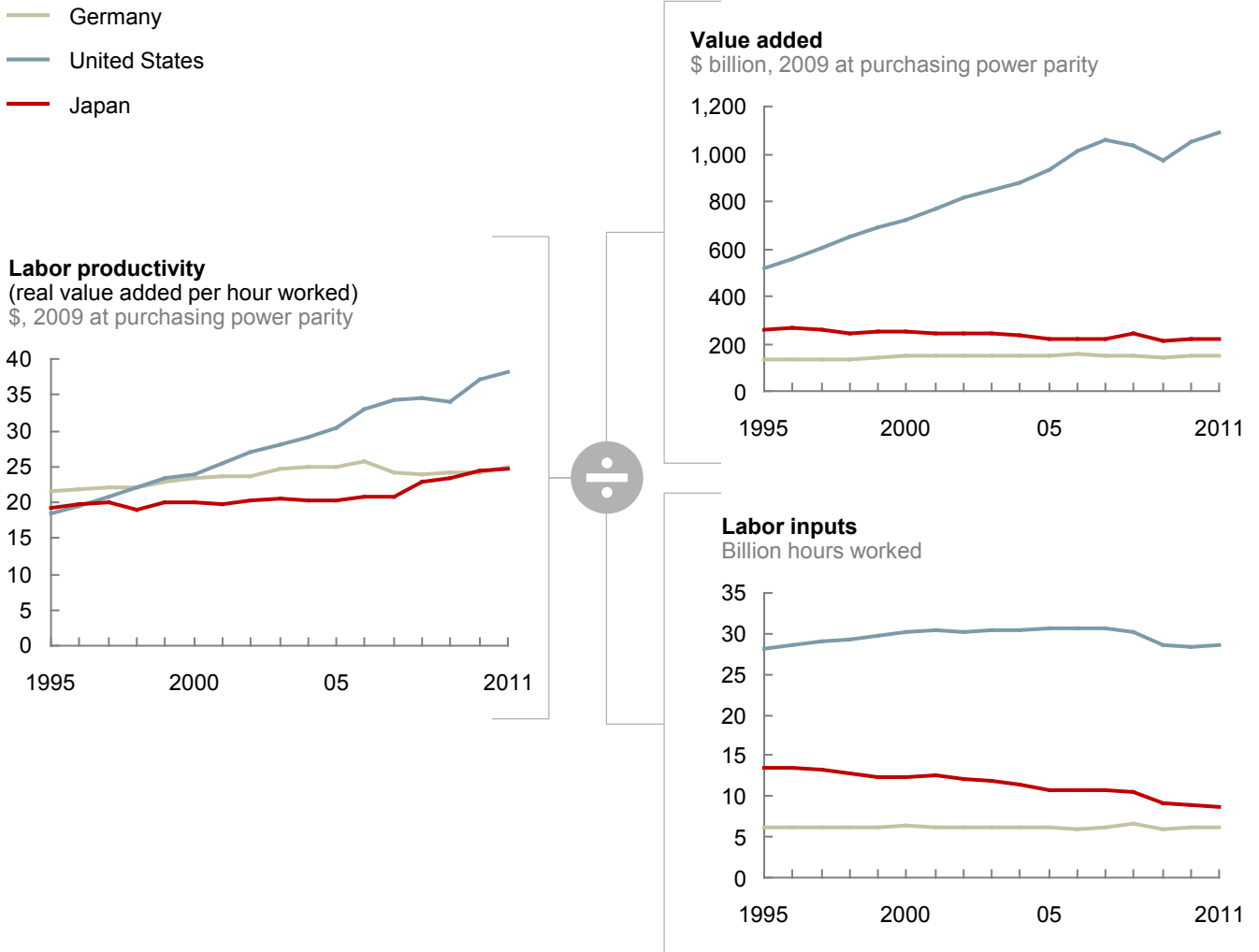
Over the past 15 years, the US sector has put an intense focus on value-added pricing and cost savings. US retailers have become more efficient by introducing innovations in merchandise management, supply-chain management, and store operations. This has also been a period of tremendous churn among US industry leaders. Today's leading big-box retailers (such as Wal-Mart, Target, Costco, and Home Depot) and e-commerce sites (most notably Amazon) have set a high bar for efficiency and competitive pricing. As the Internet has increased price transparency, margins have become razor-thin in many product categories, and many small independent retailers and less efficient chains have shuttered.⁶⁸ The US sector is characterized by low wages, irregular hours, and few benefits for many workers, however. A desire to avoid these outcomes does not mean that Japanese retail should avoid undertaking a push to improve productivity, but rather that it should focus on innovation and growth as the major drivers.

While the total number of labor hours worked has remained relatively flat in the US sector, the real value added generated for each hour worked has risen steadily, which translates into a continuous increase in labor productivity (Exhibit 16). Over the same period, Japanese retail has averaged 2 percent annual labor productivity growth, only half the average annual productivity gains in the United States (4 percent). In 2011, the Japanese sector produced \$24.80 in real value added per hour worked, less than the US sector at \$38.20 (and slightly below Germany's performance). Like Japan, Germany has seen relatively flat labor productivity growth in retail during this period. Its major retailers, such as Aldi and Lidl, compete heavily on price and maintain a limited number of SKUs (stock keeping units); this model has resulted in relatively flat real value added over the years.

⁶⁸ See "How retailers can keep up with consumers," *McKinsey Quarterly*, October 2013, and the case study on retail trade in *US productivity growth 1995–2000*, McKinsey Global Institute, October 2001.

Exhibit 16

Despite its growing share of modern-format stores, Japan's retail sector has not kept pace with the US sector in labor productivity



SOURCE: World Input-Output Database; McKinsey Global Institute analysis

Japan has not fully embraced global best practices in retail, such as focusing on key value items, implementing cutting-edge pricing strategies, benefiting from economies of scale in purchasing and distribution, using big data for targeting marketing, and creating more efficient warehousing operations.⁶⁹ This has led to gaps with the US sector across all store formats. A lean mindset, long a source of pride for Japanese auto manufacturing, is not sufficiently applied in retail. Customer buying habits lead to small average transactions, thus increasing the cost of sales, while wholesalers capture a large share of value through excessive intermediation.

⁶⁹ *Why the Japanese economy is not growing: Micro barriers to productivity growth*, McKinsey Global Institute, July 2000.

Above all, growth and productivity have been dampened in recent years mostly due to the factors described below.

Low consumer spending

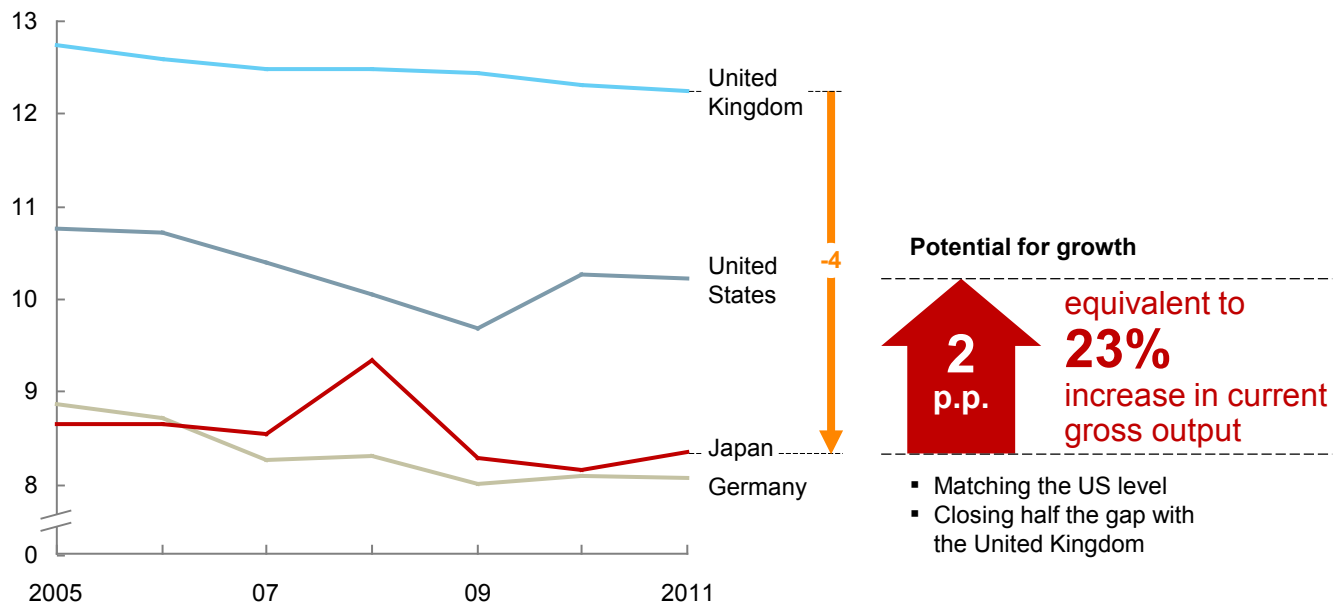
Data suggest that compared with other major developed economies, Japan has significant room for consumer spending to increase. Japan's retail spending is equivalent to 8.3 percent of GDP, which is 32 percent lower than the 12.2 percent share in the United Kingdom (Exhibit 17). If retail spending rises by two percentage points of GDP, it would bring Japan into line with the share in the United States and close half the gap with the United Kingdom. It would produce a 23 percent increase in current gross output, equivalent to unlocking latent demand of just over \$116 billion.

Years of deflation have had a pernicious effect on the retail sector. When consumers expect falling prices and wages, they are more inclined to postpone or even forgo purchases—and to look for bargains when they do shop. Retailers are often forced to resort to discounting to lure shoppers, resulting in price wars and eroded margins. Even in these conditions, however, there is room to spark greater consumer demand through innovation in both offerings and formats.

Exhibit 17

The Japanese consumer has significant room for increased retail spending

Retail spending % of GDP¹



¹ Retail spending measured as gross output from the retail sector in national GDP.

SOURCE: World Input-Output Database; OECD; McKinsey Global Institute

Prevalence of less productive formats

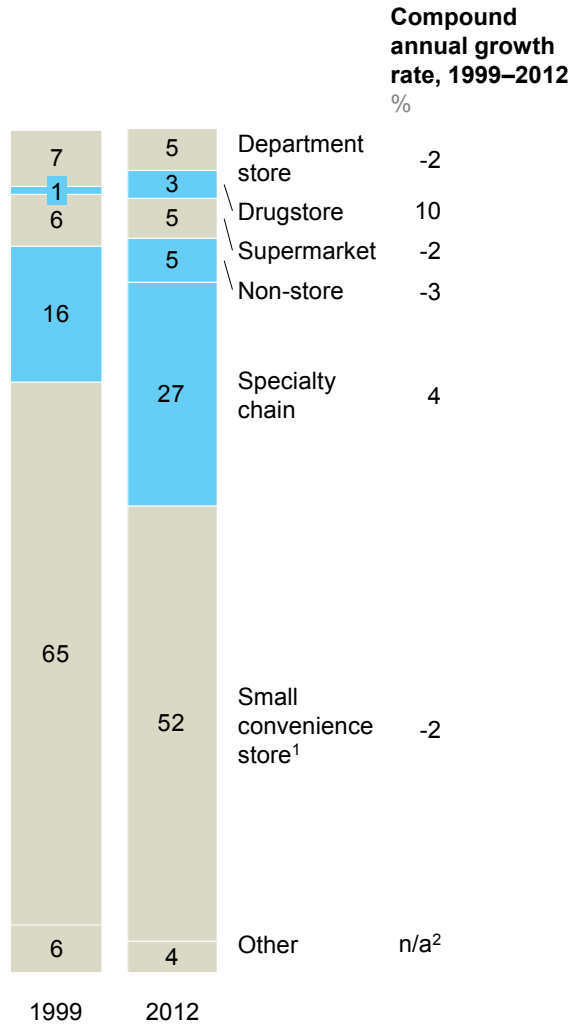
Traditional stores and small convenience stores have historically dominated the Japanese retail sector. Although their share of total retail sales has declined slightly, from 65 percent in 1999 to 52 percent in 2012, they continue to account for the largest share of labor hours and to bring down the sector's overall labor productivity (Exhibit 18).

Exhibit 18

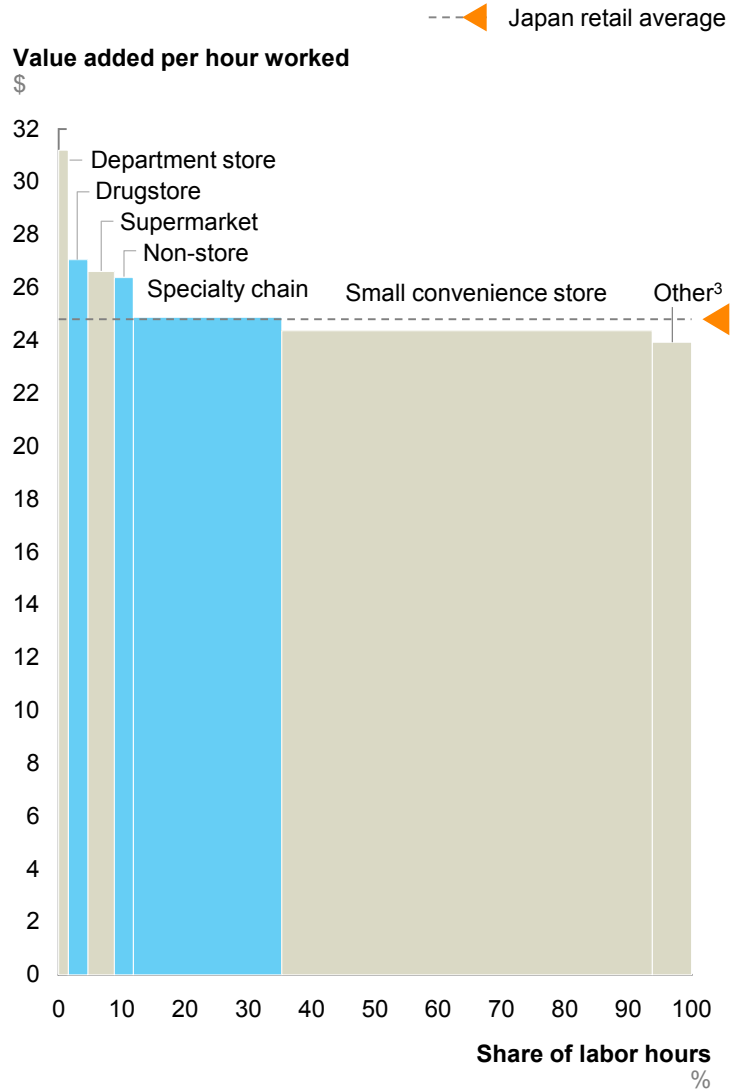
Japan's high proportion of small stores decreases overall labor productivity in the retail sector

Store format ■ Growing ■ Declining

Sales by store format
%



Productivity by format and share of labor hours, 2012



1 This category includes small, modern-format stores that are part of larger chains as well as traditional stores that are owned and run by families.

2 "Non-store" retail revenue not reported in 1999, including e-commerce.

3 Includes sales from gas station stores that sell food and/or convenience items.

NOTE: Numbers may not sum due to rounding.

SOURCE: Ministry of Economy, Trade and Industry commerce census; annual reports; McKinsey Global Institute analysis

Traditional independent stores account for 86 percent of this category. Their average size is 76 square meters, which is roughly 40 percent of the average size of small modern chain stores, and they employ an average of four workers per store (including part-time workers). The productivity of these traditional stores is \$23.50 per hour; by contrast, small modern chain stores post labor productivity of \$30.70 per hour (Exhibit 19). Many small Japanese retailers own their stores' land. Their low property taxes, combined with high capital gains taxes and land exemptions from high inheritance taxes, discourage these traditional retailers from selling.

Exhibit 19

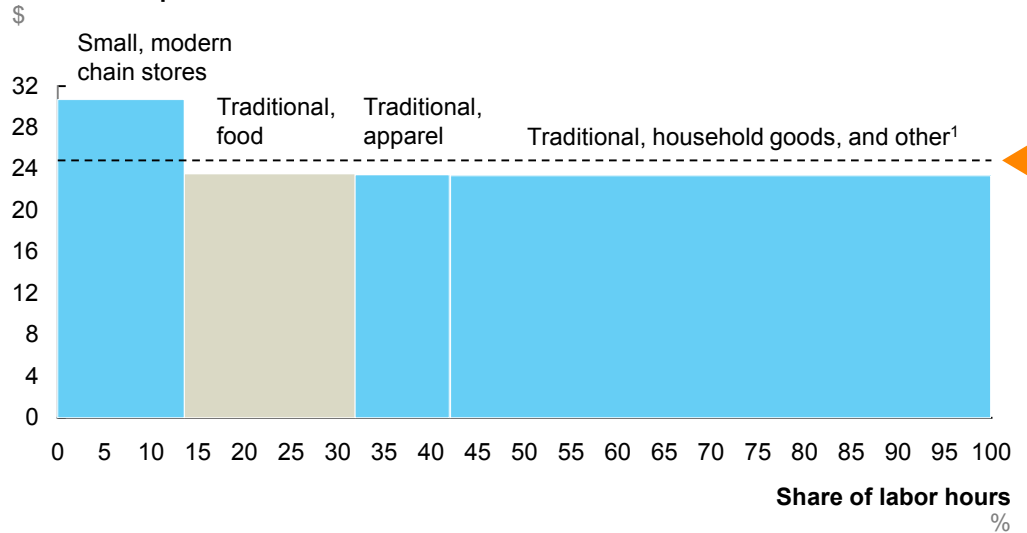
Several store formats within the small convenience store category notably lag behind in labor productivity

Productivity by format and share of labor hours, 2012

Value added/hour worked (\$)

Store format
■ Growing
■ Declining
 ---▲ Japan retail average

Value added per hour worked



1 Includes automotive retail, furniture, fuel, health and beauty goods, leisure goods (including sporting goods). Consistent with our overall definition of the retail sector, sales are for individual/household purposes or, if they are made by businesses, they are small quantities or values.

SOURCE: Ministry of Economy, Trade and Industry commerce census and interviews; McKinsey Global Institute analysis

Fragmented industry structure in some formats

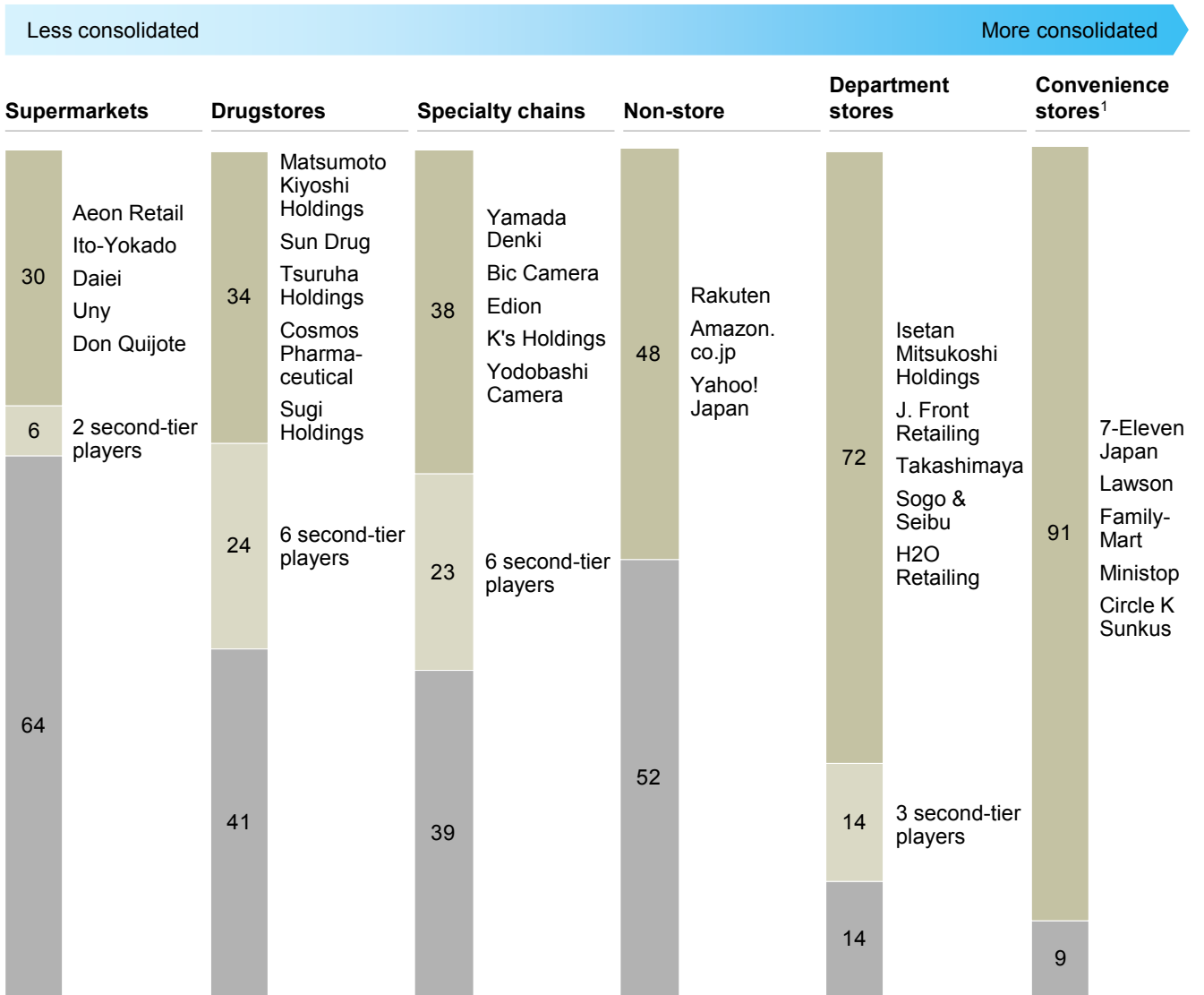
While there is a growing trend of retail consolidation, the industry structure remains highly fragmented in many formats, particularly supermarkets, drugstores, and specialty chains (Exhibit 20). Only 40 percent of Japanese retailers are part of the top ten national players vs. 75 percent in the United Kingdom and 76 percent in Germany. This has prevented investment in automation and technology; larger chains can take fuller advantage of economies of scale that reduce costs and improve operations. A lack of standardization inflates capital and operating expenses for stores.

Exhibit 20

Japan's retail landscape is highly fragmented, with relatively few major national chains

Market share, top players, 2012–13
% of revenue

■ First tier ■ Second tier ■ Other



¹ Small traditional/family-operated stores are excluded from analysis since no major player exists.
NOTE: Numbers may not sum due to rounding.

SOURCE: Nikkei estimates and convenience store survey; Japan Chain Drugstore Association; Japan Department Stores Association; McKinsey Global Institute analysis

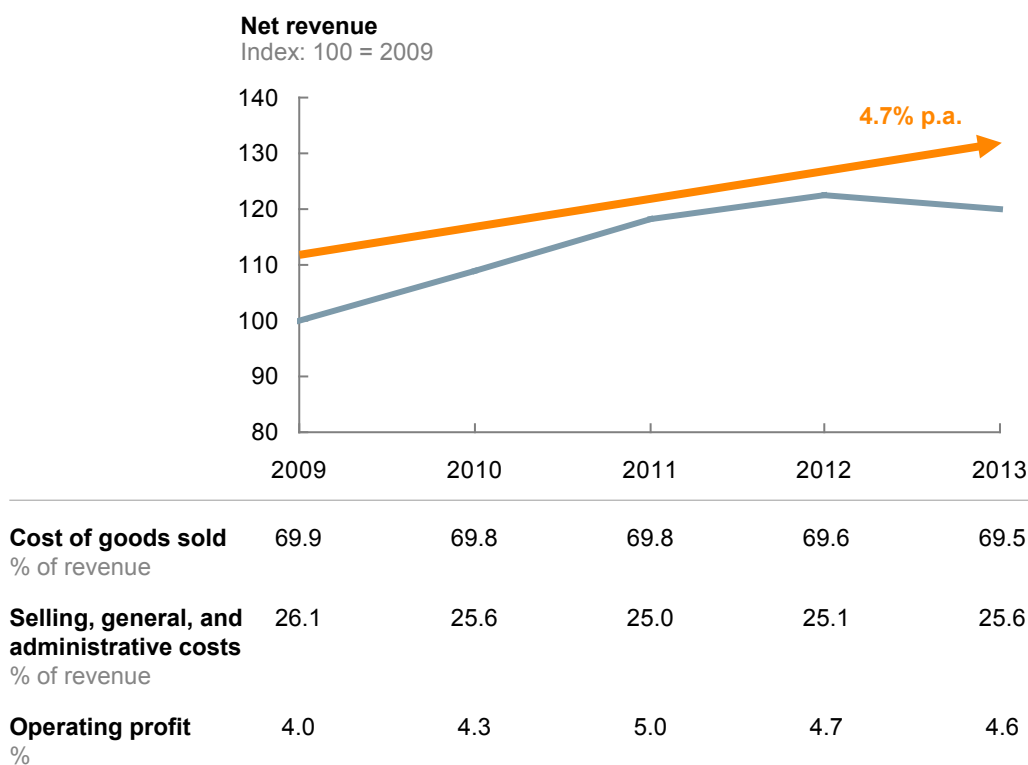
A failure to reap scale benefits even when consolidation has occurred

Although Japan's retail landscape is relatively fragmented, there is a trend toward consolidation—and one would expect to see higher productivity as larger companies achieve economies of scale. But this has not been the case in Japan. Exhibit 21 shows that while revenues have increased from organic growth and industry consolidation across multiple store formats, industry profitability and costs have improved only marginally.

Exhibit 21

Some top retail players have consolidated and increased revenue, but profitability has improved only marginally

Revenue growth and profitability of top retailers¹



¹ Includes the top three to five players from each format (supermarkets, drugstores, specialty chains, department stores, convenience stores, non-store retailers).

SOURCE: Company financial reports; Bloomberg; McKinsey Global Institute analysis

Even those retail formats with higher rates of revenue growth are not necessarily reducing their costs or improving their operating margins. The top specialty chains, for example, posted annual revenue growth of some 5 percent between 2009 and 2013 but were not able to increase profit margins at all. Many retailers have high selling, general, and administrative (SG&A) costs as they struggle to provide customized offerings to Japanese consumers across different regions. Consolidation has also had little impact on the cost of goods sold (Exhibit 22). Retailers with higher revenue growth posted only limited improvement in merchandising costs; their procurement processes have not captured the benefits of scale.

Exhibit 22

Even Japan's more consolidated retail formats are not capturing the benefits of scale

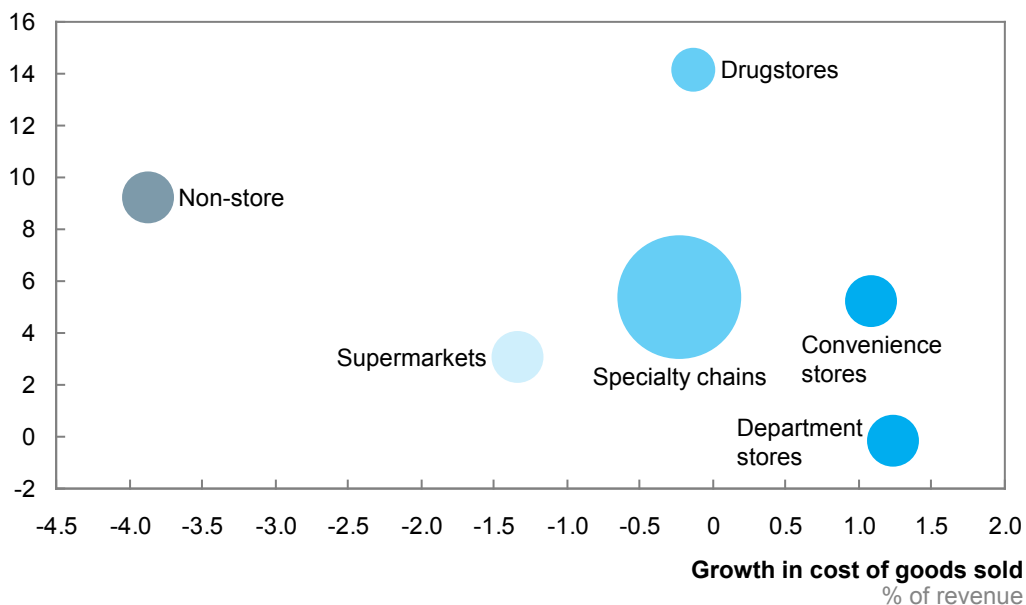
Revenue growth and merchandising synergies of top retailers by store format¹

● Revenue size

● Less consolidation ● Medium consolidation ● Higher consolidation

Revenue growth, 2009–13

Compound annual growth rate (%)



¹ Includes the top three to five players from each format (supermarkets, drugstores, specialty chains, department stores, convenience stores, non-store retailers).

SOURCE: Company financial reports; Bloomberg; McKinsey Global Institute analysis

High cost of legacy IT infrastructure

Legacy IT infrastructure has been a general problem in Japanese corporations, and the situation is no different for the retail industry. One survey indicates that 75 percent of IT spending in Japan goes toward maintenance.⁷⁰ This leaves very little for investing in newer technologies. However, for the retail industry, where there are rapidly changing customer demands, broad product inventory, and complex supply chains to manage, being up to date in IT is critical to maintaining high productivity.

Overinvestment in floor space

The Japanese retail sector has expanded its physical footprint over the past decade; total retail space has increased by 13 percent. The average store size has increased across every format. In particular, from 2007 to 2012, drugstores increased their average floor space by 36 percent, while specialty chains (such as consumer electronics retailers) increased by 25 percent. But revenue growth has not kept pace with this expansion, and as a result, sales per square meter have been declining since 1999. Conversely, US stores have been shrinking their footprints and holding capital expenditures flat.

13%

Increase in retail floor space over the past decade

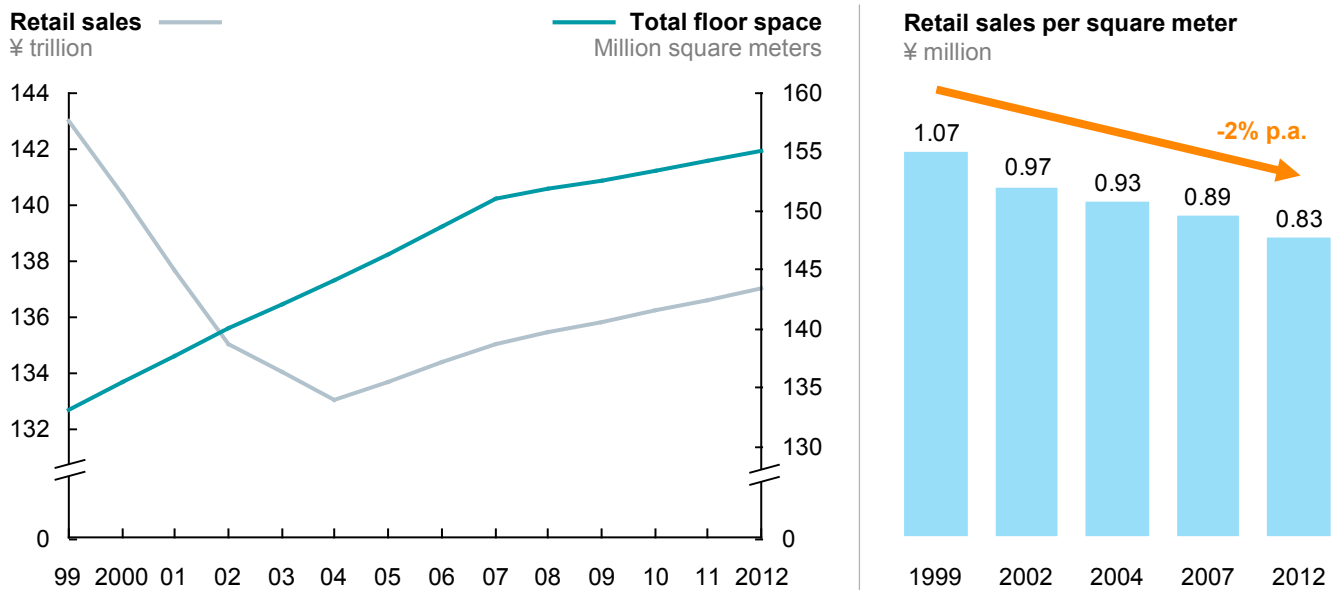
⁷⁰ "METI considers making IT investment disclosure an obligation for corporates," *Nikkei Shimbun*, December 8, 2014.

Japan's future path: Comparing the retail sector's current trajectory with a vision for revitalization

If Japanese retail continues on its current trajectory, the industry will be faced with limited growth and a sustained gap with US labor productivity. The sector's value added would increase by only 1.1 percent annually through 2025. Labor productivity would increase by a total of 60 percent over the entire period from 2011 to 2025. By then, the Japanese sector would generate only \$40 per labor hour vs. \$56 per labor hour in the United States, leaving Japanese productivity at just 71 percent of the US level. In addition, if the industry continues to expand total floor space at its current rate, retail sales per square meter will decline by about 1 percent annually through 2025 (Exhibit 23).

Exhibit 23

Retail revenue has not kept pace with expansion of floor space, which has led to declining sales per square meter



SOURCE: Ministry of Economy, Trade and Industry commerce census; McKinsey Global Institute analysis

But Japan has an opportunity to carve out a different path if retailers focus on the opportunities outlined below. By 2025, the retail sector can make a quantum leap in performance by deploying new technologies, better serving aging consumers, and increasing its efficiency and sustainability. Applying the strategies discussed here could boost labor productivity by up to 39 percent over this period, closing up to 95 percent of the productivity gap with the US sector.

The new world of Japanese retail could conceivably offer a very different experience in the future—one in which consumers may not need to go to stores at all. A weekly supply of groceries, based on their typical shopping patterns, could be delivered straight to their homes, and big data-enabled predictions could tailor promotional offerings to their preferences. Large automated distribution centers could handle fulfillment with precision and at low cost, while automated ground and aerial vehicles make delivery fast and cheap.

When consumers do choose to visit brick-and-mortar stores, location-based technology could be used to send them personalized recommendations and discounts based on their shopping history. “Endless aisles” and “virtual mirrors” could enable shoppers to tap into an online and an offline assortment. Friendly robots using the next generation of artificial intelligence could answer product questions. Retailers can continue to experiment with creating unique in-store experiences (such as those pioneered by Apple in its stores). Store operations could become more efficient, with shoppers gaining the ability to scan items as they go or use mobile self-checkout. Technology will make it possible to adjust prices and promotions and to track inventory (including the temperature and expiration dates of food products) and reorder automatically. Supply chains could be dramatically streamlined by deploying the Internet of Things and using robots to supplement labor in warehouses.

The retail sector’s future potential will be determined in part by whether it is able to respond to the changes posed by new global trends. Brick-and-mortar stores will have to evolve in order to survive in a more digital—and increasingly mobile—retail landscape, developing a more multichannel approach. In general, selling through digital channels can underpin much higher productivity in the sector. Previous MGI research estimated that selling through digital channels rather than a traditional store could produce productivity gains of 6 to 15 percent, based on reduced labor requirements, inventory efficiencies, and lower real estate costs.⁷¹ The shift to e-commerce can have other spillover benefits as well: a 2013 MGI study on China noted that e-tailing spurred growth in supporting industries such as online advertising and marketing, payment systems, warehousing, express delivery, and IT services. It also unlocked additional consumer demand by making a wider product set available to households. Additionally, e-tailing accelerated consolidation and modernization of store formats.⁷²

It will be critical for Japanese retailers to become fluent in big data and advanced analytics. These new capabilities will allow retailers to better understand and segment their customers and to make both front- and back-end operations (such as sales forecasting, employee scheduling, and merchandising) more efficient and effective. The Internet of Things, too, can help retailers manage complex shipments from vendors, while sensors and tags in stores can avoid stock-outs and signal when reorders are necessary.

Demographic trends will have a significant impact both on consumer demand and on the retail labor force. The elderly population will be an engine of consumption, and retailers that can meet the needs and preferences of this segment could be poised for growth. Retailers have already begun shifting their strategies to meet this new reality. Aeon has begun putting medical clinics inside its locations, while modern chain convenience stores are shifting to healthier products and offering delivery services that are particularly valuable to shoppers who cannot carry heavy packages home. Shifting the product mix and offering new services to cater to the needs of a population that is growing older will be key.

Urban residents tend to shop frequently, value ready-to-eat selections and portability, and demand more deliveries with a higher level of complexity (although they are increasingly unwilling to pay more for convenience or expedited delivery). In response to this trend, retailers will need to rethink their footprints and invest in smaller, more nimble urban operations and innovative digital strategies as opposed to sprawling suburban shopping malls. Furthermore, they will need to develop best-in-class logistics and supply-chain management to manage the costs of complex networks and increased deliveries.

⁷¹ *Disruptive technologies: Advances that will transform life, business, and the global economy*, McKinsey Global Institute, May 2013.

⁷² *China’s e-tail revolution: Online shopping as a catalyst for growth*, McKinsey Global Institute, March 2013.

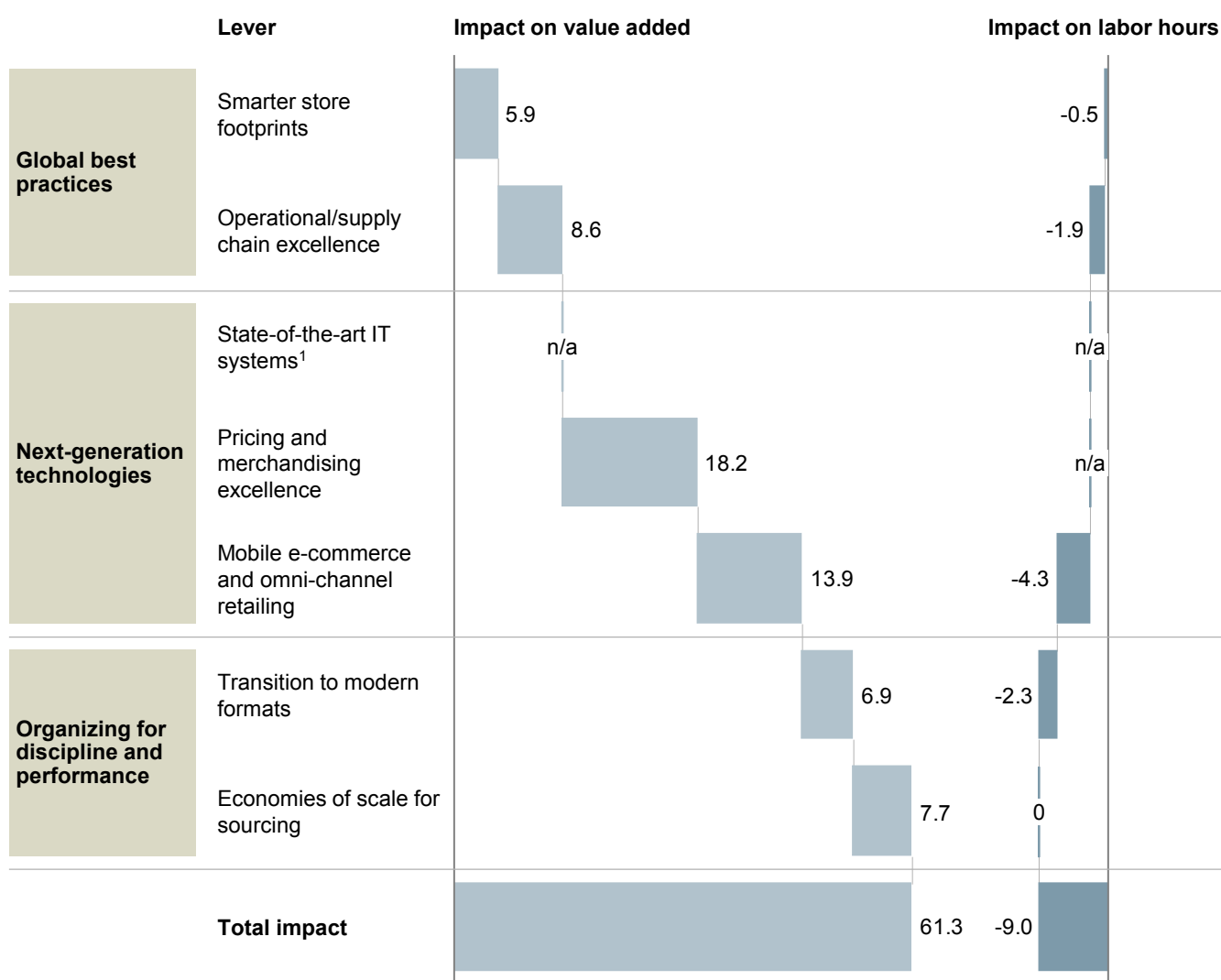
Industry initiatives for jumpstarting productivity and growth in retail

We have identified seven strategies that could boost growth for Japanese retailers by 2025 (Exhibit 24). Together they can produce a significant improvement in labor productivity of anywhere from 22 to 39 percent (Exhibit 25). This is derived from an increase in value added (ranging from 41 to 61 percent) plus a 15 percent decrease in labor hours thanks to increased efficiency. Deploying all of these could help Japan potentially close the productivity gap with the US sector by 52 to 95 percent by 2025.

Exhibit 24

Productivity levers can help Japan's retail sector boost value added and make more efficient use of labor by 2025

%



¹ This allows retailers to capture additional value added from scale and operational efficiencies. It can improve operations, supply chains, pricing and marketing strategies, e-commerce, and purchasing.

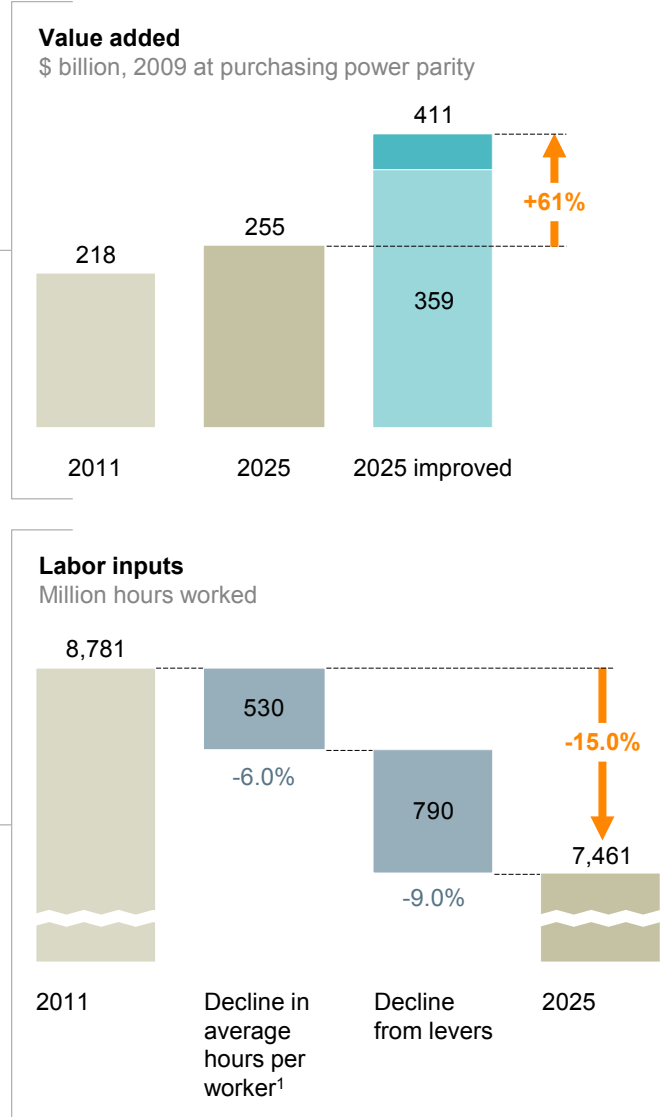
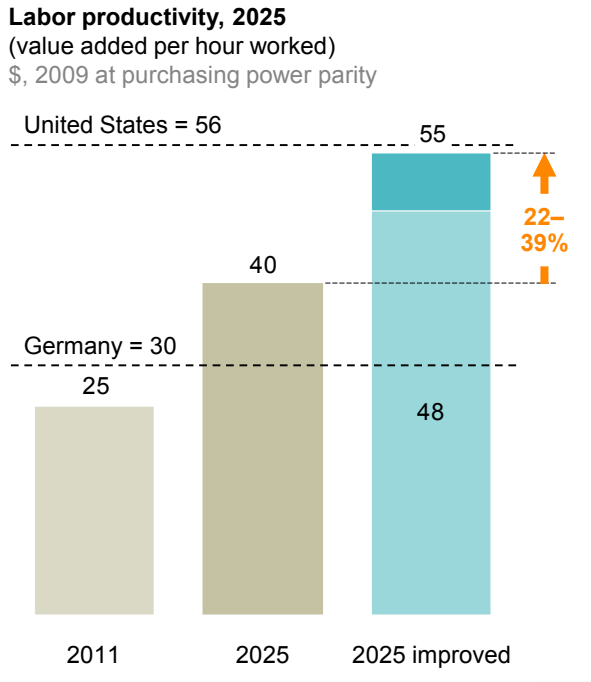
NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

Exhibit 25

Japanese retailers have the potential to increase labor productivity by almost 40 percent over the current trajectory by 2025

Range ■ Low ■ High



1 Average hours per worker gradually decrease over time as general technological progress improves productivity.
NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

Incorporating global best practices

Smarter store footprints

Increasing urban density combined with decreasing sales per square meter should serve as an impetus for Japanese retailers to rethink their current store footprints. By introducing all-new types of customer experiences and multiple channels, retailers can rationalize floor space, saving costs and boosting revenues. Store rationalization and consolidation will likely result in a decrease in required labor, reducing the total retail workforce by approximately 1 percent.

Operational and supply-chain excellence

As networks become more complex and deliveries increase, retailers must keep tighter control over their supply chains and distribution to manage costs. They also need to fine-tune store operations, from displays and merchandising to energy usage and employee scheduling. New technology tools—from the Internet of Things and big data to automated self-checkout systems—can make major inroads on these fronts. Increasing automation and efficiency in these areas will reduce the retail workforce by approximately 2 percent.

Big data analytics will allow Japanese retailers to understand and segment their customers and to make front- and back-end operations more efficient.

Adopting next-generation technologies

State-of-the-art IT systems

As the industry consolidates, replacing inefficient legacy IT systems with fully integrated, state-of-the-art IT architecture will be a critical part of capturing synergies and realizing economies of scale. Technology can now allow retailers to tighten their management of multiple channels, complex supply chains, and store operations; it also makes them much more agile in responding to changing market trends. It will take substantial investment (in both systems and talent) to build big data capabilities that are on a par with the leading global players. A recent survey of large enterprises in 13 countries found that 48 percent of Japanese companies had adopted big data, compared with 82 percent in the United States.⁷³

Pricing and merchandising excellence

Japanese retailers struggled with pricing during the years of persistent deflation, but with the return of some limited inflation, they may finally have an opening to raise prices. Companies can capture new value added by implementing new pricing strategies that combine global best practices with a much deeper level of marketing insight from big data and advanced analytics. Drawing on a variety of data sources, sophisticated models can examine historical sales data to determine pricing at the SKU level, including markdown pricing and scheduling. E-commerce sites can make individual suggestions for cross-selling, while physical stores can use location-based marketing and analyze customers' in-store behavior. Big data tools can also scan social media to glean new insights that lead to products and promotions that are better targeted to what customers want. With this new level of segmentation and customer relationship management, sophisticated demand models can be designed to guide decisions on which products can command a premium and when promotions would be most effective.

⁷³ *Global tech hot spots: A country-level look at big data & analytics, cloud, mobile, and social*, IBM Center for Applied Insights, November 3, 2014.

Big data can also guide the process of determining the right assortment of products to carry based on factors such as demographics, buyer perceptions, and economic modeling. It can even help with optimizing the placement of goods and visual design, analyzing down to the SKU level to maximize sales per square meter (or sales per online visit).⁷⁴

Mobile e-commerce and omni-channel retailing

Japan is a wired and affluent society, and these are the necessary ingredients for e-commerce to flourish. With \$119 billion in 2014 sales, Japan ranked as the third-largest e-commerce market in the world. Perhaps the best-known name in this space is Rakuten, which hosts more than 40,000 small vendors on its marketplace platform. The company states that 95 percent of Japanese Internet users have registered with it, and now it is expanding globally.⁷⁵ But while e-commerce is already well developed in Japan, there is still room for growth.

Traditional retailers can continue to expand into the digital space, with a particular focus on mobile e-commerce. To increase their distinctiveness and relevance, they may need to reconsider their branding and customer engagement strategies, using social media, customer loyalty data, and remote touch points to create an omni-channel experience that leads to “stickier” customer relationships.

Because e-commerce is less labor-intensive than other formats, this shift will likely reduce the overall retail sector labor hours by 4 percent by 2025. It may also allow retailers to avoid zoning battles altogether.

Organizing for discipline and performance

Modern-format stores

MGI research has found that one of the most powerful ways to improve productivity in advanced economies is to close the gap between low-productivity companies and their more efficient counterparts within the same industry. This is particularly relevant in Japanese retail, where small traditional-format stores still account for 47 percent of sales. Modern-format stores capture more value per employee, and a greater weighting of these will thus increase productivity. It will also lower the need for labor by 2 percent. Beyond a straightforward shift to modern-format stores, Japan also has the potential for “leapfrogging” directly to more innovative formats (such as “showrooms” where customers can try out goods that are purchased digitally, for example) and for the entry of disruptive new players in e-commerce.

Economies of scale for sourcing

One of the most powerful strategies to improve retail margins is to purchase in large volumes to reduce costs. Small Japanese retailers often struggle with this issue; further consolidation would enable them to benefit from purchasing at scale. Even large retailers, however, could benefit from revamping their procurement processes to leverage their size in negotiations with suppliers and wholesalers.

⁷⁴ *Big data: The next frontier for innovation, competition, and productivity*, McKinsey Global Institute, May 2011.

⁷⁵ Rakuten corporate website.

FINANCIAL SERVICES

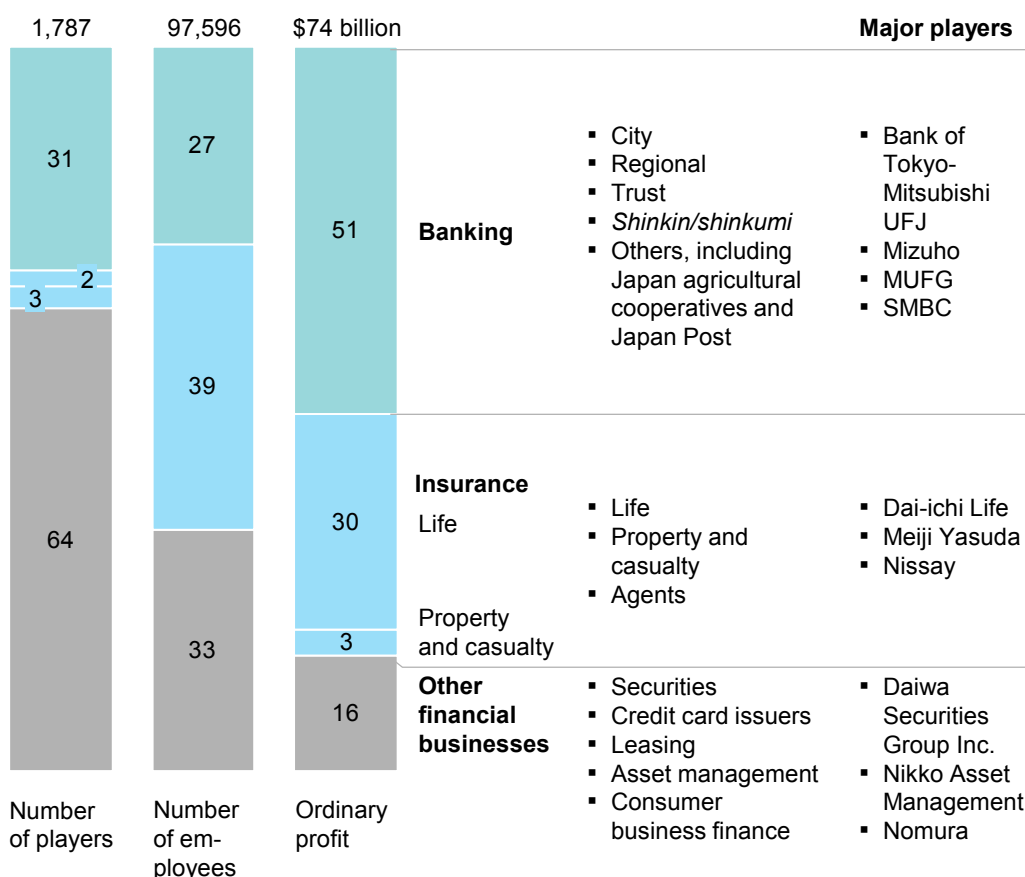
A healthy financial services sector is a crucial foundation for any economy. The sector represents 5.3 percent of Japan's GDP (well above the G20 average of 3.9 percent) but employs only 2.4 percent of its labor force. By contrast, 4.2 percent of the US labor force and 3.1 percent of the German labor force work in financial services.

The sector can be split into three major components: banks, insurers, and other financial firms and institutions (a category that includes asset managers, credit card issuers, leasing companies, consumer/business lending operations, and the Japan Agricultural Cooperatives group, a cooperative society offering banking and mutual fund services). Our discussion of specific mechanisms for boosting productivity will focus solely on the banking and insurance industries since these two segments represent some 70 percent of employment and 84 percent of profits generated in the Japanese financial services sector (Exhibit 26).⁷⁶

Exhibit 26

Banking and insurance account for the vast majority of employment and profits in Japan's financial services sector

Current industry breakdown, 2014
%



NOTE: Numbers may not sum due to rounding.

SOURCE: *Basic survey on wage structure*, Ministry of Health, Labour and Welfare; industry associations; McKinsey Global Institute analysis

⁷⁶ McKinsey Global Banking Profit Pools database.

Japan has a unique banking structure. The industry includes three giant “megabanks” that operate nationally, more than 100 regional banks that operate mainly within their home prefecture, four trust banks that perform both banking and fiduciary functions, and 400-plus *shinkin* banks and credit unions (non-commercial banks that serve union members). The insurance sector consists of life and property/casualty, as well as a small industry share of mutual insurance.

Japan’s financial sector was the third largest in the world in 2012, with 12 percent of total worldwide assets (\$11 trillion). Thanks to a large base of affluent customers, Japan’s personal financial assets were equivalent to 309 percent of GDP, also ranking third in the world—but ironically, this has dampened productivity, since more than half of these personal assets are held in cash or cash deposits.⁷⁷

The conditions may be coming together for the financial services sector to achieve higher margins, increase value added, and support new momentum in the broader economy.

Although Japan is one of the top players in global financial markets, the sector has seen limited revenue growth due to its low-risk operating model, which keeps margins below those in Western Europe, North America, and emerging markets. During Japan’s long period of muted demand, banks tended to funnel excess cash into low-risk, low-return government debt. From 2000 to 2012, government bonds outstanding increased from \$3.3 trillion to \$8.2 trillion.⁷⁸ The government’s most recent and most aggressive program of quantitative easing is meant to reverse this trend and spark new lending and investment. During 2013, for instance, commercial banks reduced their \$1.8 trillion bond holdings by \$267 billion, while business lending increased by around 5 percent on an annual basis.⁷⁹

Jumpstarting the flow of financing and investment is an Abenomics priority, and the conditions may be coming together for the financial services sector to achieve higher margins, increase its value added, and support new momentum in the broader economy.

Productivity challenges

For years, Japan’s industry landscape has been marked by ultralow interest rates and fierce price competition—and as a result, a significant labor productivity gap has formed between the Japanese financial services sector and its US and German counterparts.⁸⁰ Between 2005 and 2011, annual labor productivity growth was 4.5 percent in the US sector and 7.6 percent in the German sector, but the Japanese sector actually experienced a decrease of 2 percent (Exhibit 27). By 2011, Japan’s overall labor productivity in the financial services sector was only about two-thirds of the US level.

⁷⁷ Ibid.

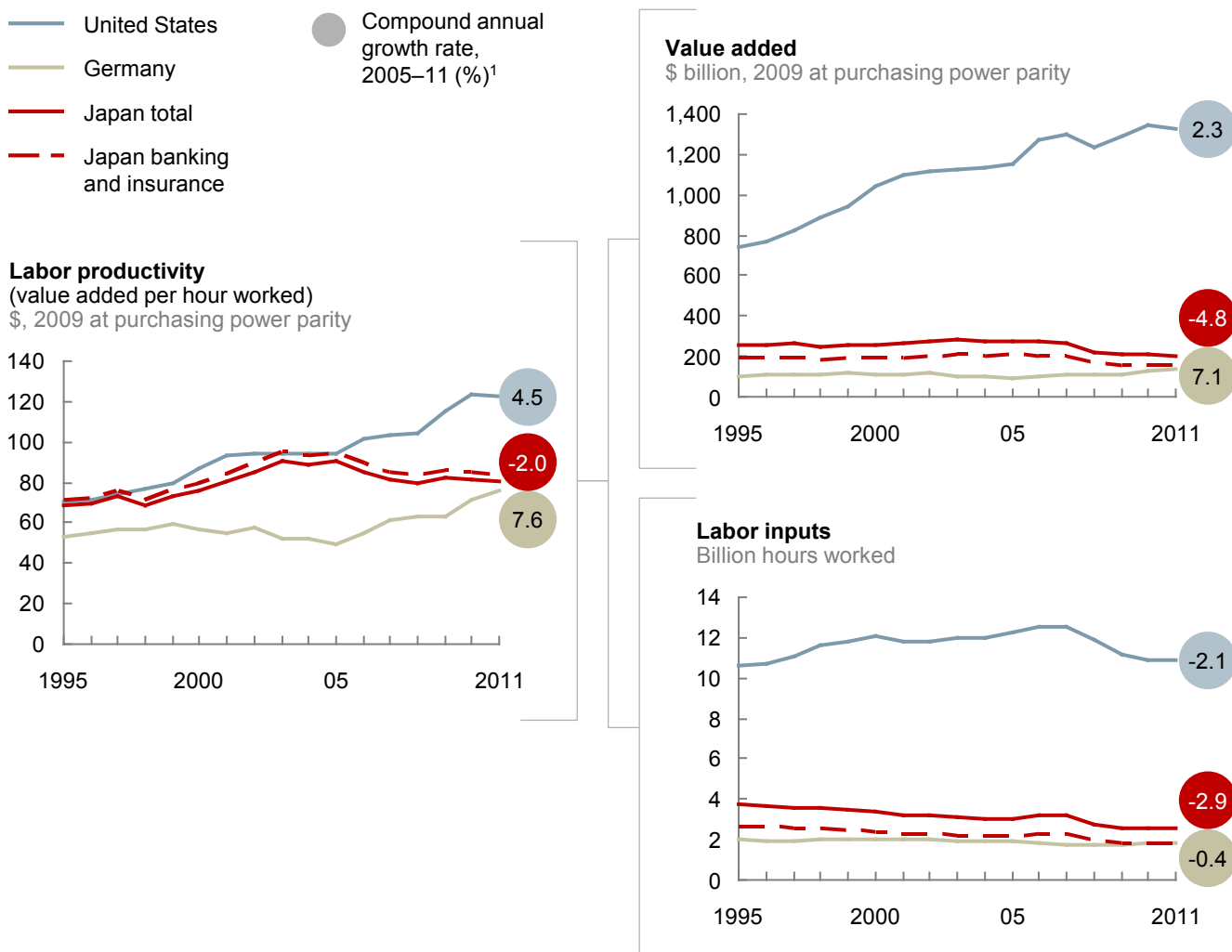
⁷⁸ Japan Ministry of Finance.

⁷⁹ Masashi Saito and Yoshihiko Hogen, *Portfolio rebalancing following the Bank of Japan’s government bond purchases: Empirical analysis using data on bank loans and investment flows*, Bank of Japan, June 2014.

⁸⁰ These figures compare the entire financial sector in each country, including banks, insurers, and others.

Exhibit 27

Labor productivity has risen in the US and German financial services sectors but declined in the Japanese sector



¹ The compound annual growth rates are equivalent for Japan's total and for its banking and insurance industries only (with the exception of value added, where Japan's total is -4.8% and the rate for banking and insurance is -4.9%).

SOURCE: World Input-Output Database; McKinsey Global Institute analysis

The period of 2005–11 was, of course, no ordinary moment in the history of finance. It was marked by an immense bubble and a deep crisis in the global financial system, with the United States at the center. However, US banks have bounced back from the depths of 2008–09.

Looking at a longer time horizon, the US sector has experienced a gradual but consistent trend of labor productivity improvements, achieved by creating higher value added while reducing its workforce. Banks and insurers have responded to shareholder and management pressure to keep margins high. In addition, as traditional pension plans disappear, consumers have assumed responsibility for managing their own retirement assets; banks and insurers alike compete with brokerages and other types of asset managers in offering retirement products to individuals and employers.⁸¹ The US sector has introduced new digital and mobile channels and has heavily automated back-office operations, creating substantial cost savings. Once they are in place, these platforms

⁸¹ *Retirement plan products and services*, US Office of the Comptroller of the Currency, February 2014.

can process an unlimited number of transactions at virtually no cost—and the United States has been a particular beneficiary of this industry trend because of its sheer volume of transactions.

Germany's sector has experienced even stronger growth, given that it started from a relatively less saturated market. Between 2005 and 2011, its labor productivity grew by 7.6 percent annually. Most of this was due to a 7.1 percent increase in value added, which was achieved while keeping labor inputs essentially flat. Not only is the German market relatively affluent, but there is also a growing market for personal retirement plans to supplement public pensions. These trends have had a positive effect on labor productivity, as have automation and industry consolidation.⁸² As in the United States, the German sector managed to streamline its use of labor.

The Japanese sector, by contrast, has lagged behind. While firms reduced their headcount by 3.5 percent per year from 2005 to 2011, their value added declined by almost 5 percent per year over the same period. The financial services sector as a whole has struggled to increase revenues—not only because of the challenging macroeconomic environment but also because of its own difficulties in responding to a changing landscape. To fully understand the factors behind this erosion, it helps to examine the banking and insurance industries separately.

Japan's persistently low interest rates have limited spreads and depressed returns on investments.

Productivity in the Japanese banking sector

The Japanese banking sector grew more consolidated than the US industry during the late 1990s and into the early 2000s, which confers an advantage in labor productivity. Japanese banks serve their customers with fewer branches and fewer employees than US banks, partially due to Japan's higher population density.

Despite this advantage, labor productivity was 22 percent lower for Japanese banks than for US banks by 2011 (Exhibit 28). The major factors driving this gap include the difficulty of obtaining significant return on assets, a limited appetite for risk, simpler product offerings, and intense competition that has driven down pricing.

While US banks have increased their value added through more diverse trading and investment strategies, Japanese banks have largely confined themselves to low-risk loans and government bonds. Japan's persistently low interest rate environment has limited spreads and depressed returns on investments—and because loan demand has stagnated over time, banks have been unable to compensate for declining interest margins by boosting volumes.

Although customer satisfaction with their primary bank has slightly improved over the course of McKinsey surveys taken in 2011 and 2014, Japan had the lowest levels of customer loyalty in Asian banking.⁸³ A failure to build deeper relationships harms banks' ability to increase advisory revenues and opens up a considerable opportunity for competitors that are able to design effective marketing strategies. Banks have not been able to fully capture opportunities in retirement and estate plans, two of the largest concerns for an aging

⁸² Eurostat and Deutsche Bundesbank (German central bank).

⁸³ As measured by the preference for customers to go back to their banks for new services and for their willingness to recommend their bank to others. 2011 McKinsey Personal Financial Services Survey and 2014 McKinsey Personal Financial Services Survey, McKinsey & Company.

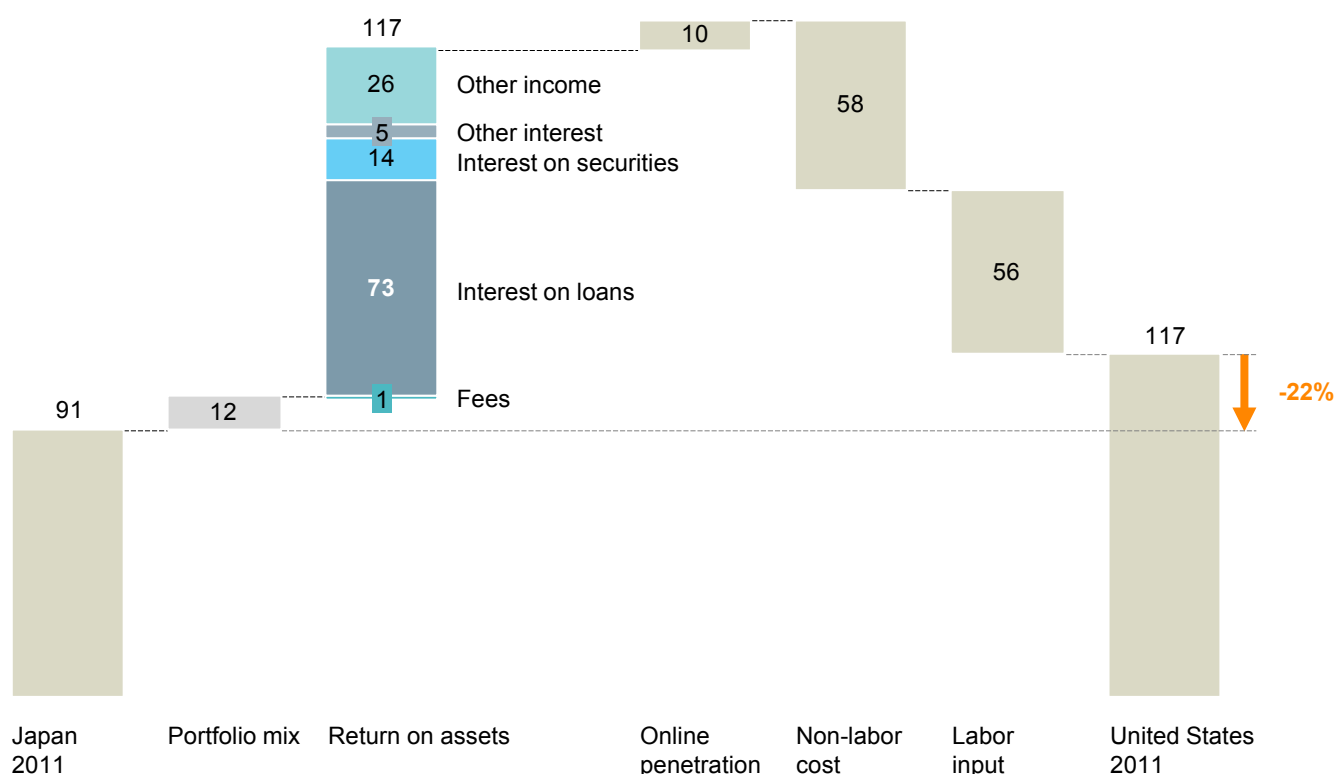
population. In addition, they have not sufficiently targeted younger customers as they build wealth for retirement.

Furthermore, although Japanese banks have digitized many of their operations, online banking services tend to be more extensive in the United States than in Japan (where they are mostly limited to checking balances and making remittances). This type of approach to online banking has limited the opportunity to reduce labor intensity.

Exhibit 28

Lower revenue is the major factor driving Japan's productivity gap in banking

Labor productivity, 2011 (real value added/hours worked)
\$, 2009 at purchasing power parity



NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; Japanese Bankers Association; US Federal Deposit Insurance Corporation; IHS; McKinsey Global Banking Pools database; McKinsey Global Institute analysis

Productivity in the Japanese insurance sector

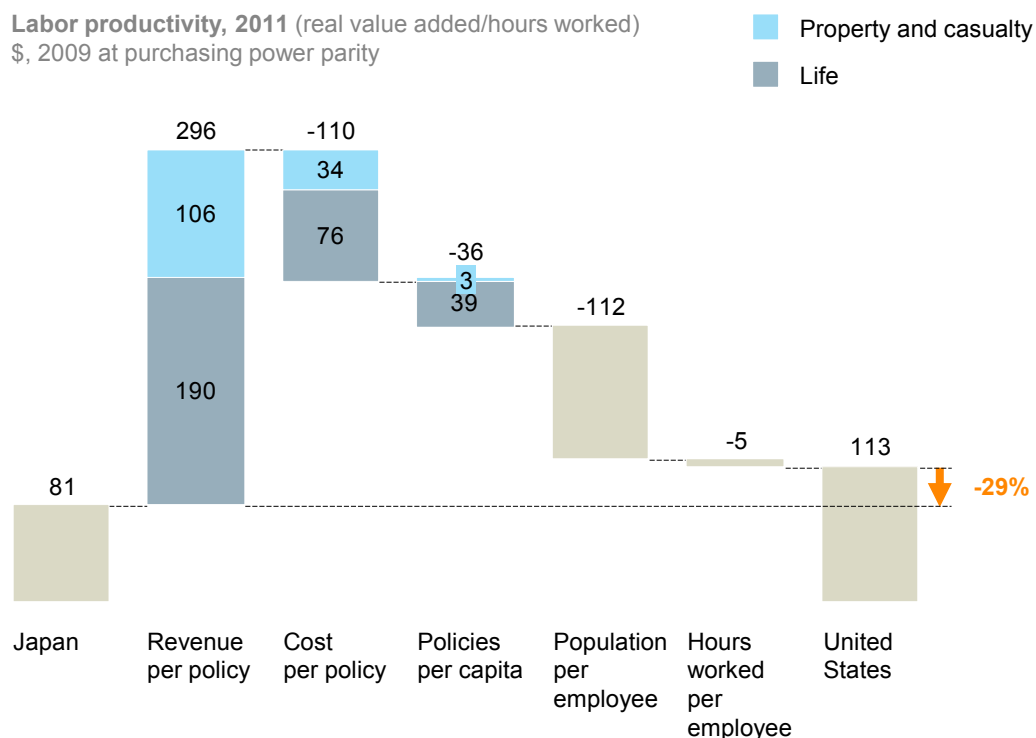
Japan's insurance sector trailed the US sector in labor productivity by 29 percent in 2011 (Exhibit 29). There is high market penetration in Japan for life insurance products, but lower revenues per policy. This applies to both life insurance and property and casualty (P&C); product offerings and pricing strategies tend to be relatively basic. In addition, the stagnant economy has constrained consumption of durable goods, creating little growth in demand for property and casualty coverage.

Insurers, like banks, have struggled with low returns on their investments. Some firms have partially offset this issue by serving a larger volume of customers per employee, but this is difficult to sustain given the already high penetration of life insurance, limited product offerings, and limited consumer demand.

Exhibit 29

The productivity gap in Japan's insurance industry stems from low revenue per policy for both life and property and casualty coverage

Labor productivity, 2011 (real value added/hours worked)
\$, 2009 at purchasing power parity



NOTE: Numbers may not sum due to rounding.

SOURCE: World Input-Output Database; Japanese Insurance Association; SNL Financial; Business Intelligence Services; Ministry of Health, Labour and Welfare; McKinsey Global Institute analysis

Japan's future path: Comparing the current trajectory of financial services with a vision for revitalization

Japan's financial sector is on a path of limited growth. Current trends point to a labor decline of up to 22 percent by 2025, but the revenue gap with the US and German sectors would likely widen if margins do not improve. Most important, the sector's performance would reflect a lack of productive investment across the wider economy.

But the sector could take a different direction by capitalizing on broad trends. An aging population requires new types of products and services tailored to its changing needs; retirement and inheritance products can create new sources of revenue. As the depopulation of rural areas accelerates, banks will have a greater incentive to reconfigure their physical footprints, leading to more effective capital allocation. Increased global connectivity provides an opportunity to expand Japan's current role as a financier of international infrastructure projects and businesses in emerging economies. Technology will lead to even more sophisticated and customer-centric digital models.

In this alternative scenario, customers will have the flexibility to purchase a wider array of financial products through the channels that are most convenient for them. Younger clients will primarily be self-serving, conducting all their transactions from their smartphones or tablets and conversing with customer service through instant chats when necessary. Older customers will have trusted financial advisers they consult on a regular basis for asset management and retirement planning. A more competitive market could offer innovative products that benefit consumers—and it could provide a lift to the entire economy by putting cash reserves to work.

Industry initiatives for realizing productivity and growth

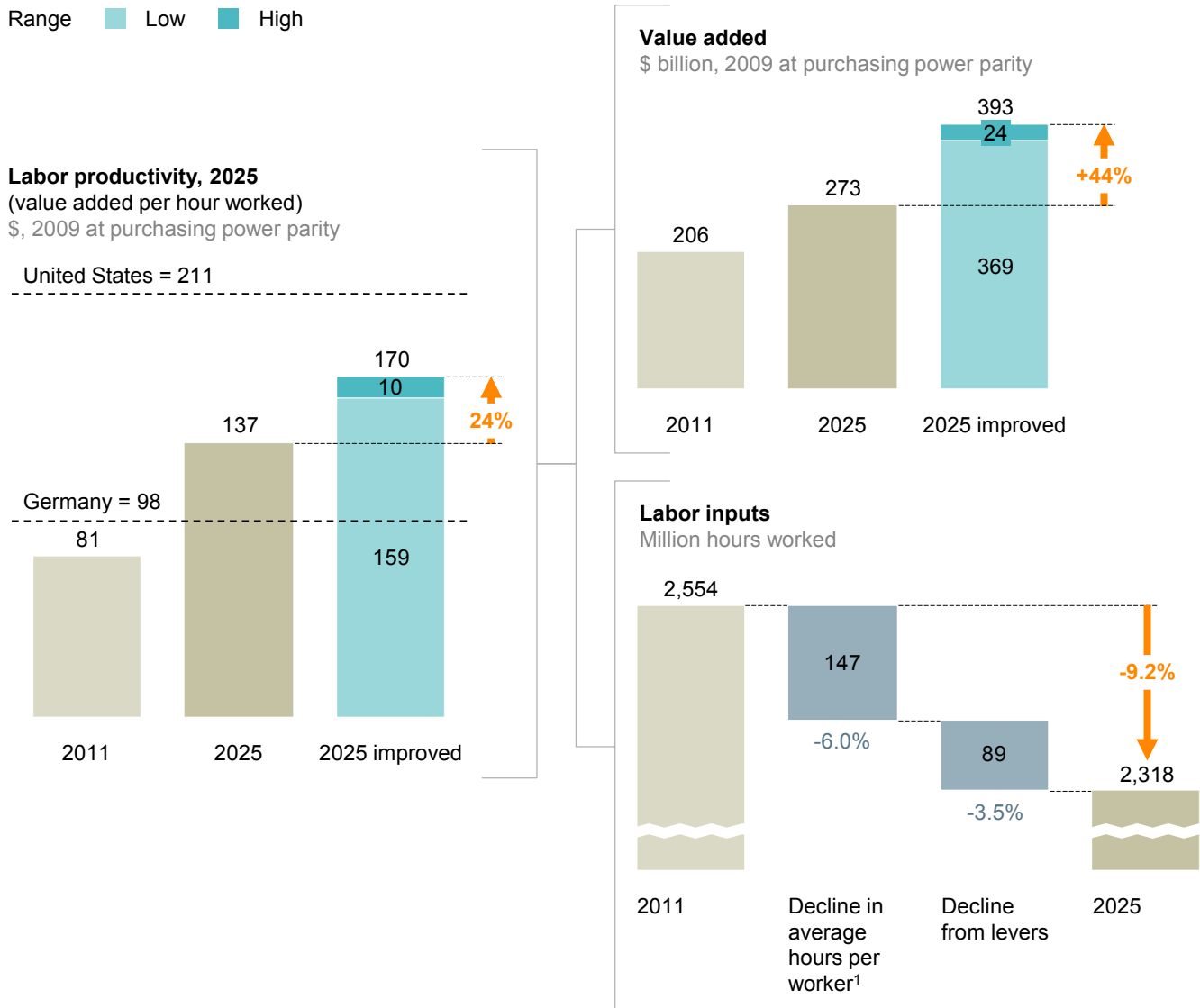
Whatever Japan's macroeconomic conditions, individual financial firms still have scope to improve productivity and capture new growth opportunities. We have identified key strategies within banking and insurance.

Together these strategies could increase value added up to 44 percent while reducing the labor required by 9 percent (Exhibit 30). On its current trajectory, the sector's labor productivity would grow to only \$137 per hour worked in 2025. But we project that the industry could boost this to anywhere from \$159 to \$170 in 2025 by undertaking all of these initiatives. This would represent an increase of up to 24 percent over the baseline.

Exhibit 30

Japan's overall financial services sector can improve labor productivity by almost 25 percent over the current trajectory by 2025

Range ■ Low ■ High



¹ Average hours per worker gradually decrease over time as general technological progress improves productivity.
NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

Incorporating global best practices

Customer insights and customized value propositions, driven by big data

Financial firms collect a vast amount of customer, transaction, and market data, so it is no surprise that the financial sector has been one of the first to adopt big data analytics on a large scale. New analytics tools can allow firms to combine disparate data sets, such as online transactions, observations on how customers behave in branches, data from partner companies, and retail purchase histories. Obtaining a more comprehensive view of a customer's financial picture can be a valuable tool for deepening relationships (provided, of course, that appropriate privacy standards and safeguards are in place).⁸⁴ Japanese banks and insurers are still at the beginning of this journey, but big data could revolutionize how they identify and interact with customers.

Many banks already segment their customers by wealth and life stage and develop offerings tailored to various groups. But technology can now take this to the individual customer level. This capability will allow firms to focus their efforts on the most promising relationships and fine-tune their value propositions. Big data analytics tools can help firms accomplish this on a larger scale and at a level of detail that was not possible just a few short years ago (by, for example, noting when customers are approaching major life events).

An aging population represents a market opportunity for offering new retirement products and advisory services.

On the insurance side, it is rare for customers to switch property and casualty carriers, and insurers have to seize those opportunities. The same kind of data analytics approaches can target those elusive consumers at exactly the right moment (for example, when they are about to buy a car or move) with differentiated and targeted offerings. Insurers can also analyze their existing policy holders to look for opportunities to up-sell. Big data can offer much more sophisticated and detailed analysis of the risk behind each policy.⁸⁵

New pricing strategies

Japanese banks, which lag behind many of their international counterparts in interest revenue, have a significant opportunity to launch a wider variety of products with differentiated pricing (for example, risk-adjusted pricing for subprime mortgages or structured finance products for smaller corporations to expand their options for financing). But introducing more value-adding fee-based products and risk-based interest rates or pricing has to be undertaken with an abundance of planning and caution to ensure that customers will absorb these changes. This process has to involve the frontline sales force to ensure its buy-in; it also has to feature a solid communications plan.

The insurance industry, too, can benefit significantly from using more sophisticated risk models based on big data analysis to arrive at pricing. One area of growth for the future could be low-cost coverage, sold mostly online to younger, more price-sensitive customers.

⁸⁴ *Big data: The next frontier for innovation, competition, and productivity*, McKinsey Global Institute, May 2011.

⁸⁵ *Unleashing the value of advanced analytics in insurance*, McKinsey & Company, August 2014.

Broader product offerings

Seniors represent a potentially lucrative customer segment for the financial services sector. The 55-and-older segment accounts for almost two-thirds of personal financial assets in Japan. But the industry will have to take a new approach to cementing relationships with seniors. Financial firms must quickly develop the expertise and services to specifically target this group, offering tailored advice on retirement and inheritance issues as well as investment products. In Sweden, for example, Swedbank designates a specific daily hour for advisers to dedicate their time to senior customers, and senior-specific products and communications are offered.⁸⁶ Targeted approaches can pay off across other age groups as well. Customers begin to worry about long-term retirement planning as early as their thirties, and almost half of those in their thirties and forties have indicated they will purchase financial products in the future. With the right marketing and follow-through, the industry could win their long-term business and even cultivate new attitudes toward saving and investing.

Japan has a heavy concentration of affluent and high-net-worth customers, but they have historically had a strong preference for cash deposits. The financial services sector has a huge opportunity to design and market new investment products that will coax them out of cash deposits and low-risk certificates of deposit in search of better yields. Financial firms will need to improve frontline capabilities and tools to provide better advisory services to customers.

Regional banks can capitalize on their deep ties to small and medium-sized enterprises and local businesses to provide offerings beyond traditional lending (such as real estate advisory, introduction of management talent, and financing for international expansion). Pursuing this advisory business would require regional banks to develop new scale and capabilities.

Japan can expand its current role as a financier of global infrastructure projects and businesses in emerging economies.

Increased return on assets

Banks are generating lower revenues from low-interest loans, and both banks and insurers rely on low-yield investments such as government bonds. Players can rethink their investment strategies to shift toward higher-yield domestic or international assets, finding a better balance between risk and reward.

Alternatively, banks can boost return on assets through capital optimization and asset-light financing products. Instead of traditional “originate-to-hold” lending, they can move to an “originate-to-distribute” model that involves securitizing loans and selling them to other investors instead of keeping them on the originators’ own balance sheets. However, securitization on a large scale requires appropriate internal and regulatory safeguards (such as requirements for banks to retain a minimum share of the underlying loans or transparency disclosures) to ensure that outsized risks are not dispersed throughout the financial system.

⁸⁶ Swedbank company website.

Globalization strategy

A number of global trends offer potential areas of growth for financial services in Japan—starting with the dramatic rise of emerging economies, many of which still lack well-developed financial systems.

Megabanks in Japan have already been expanding overseas to compensate for declining performance in the domestic market. In 2011, Japanese banks surpassed German banks as the world's largest international lenders. Their share of consolidated international claims among all banks that report to the Bank for International Settlements rose from 8 percent in early 2007 to 13 percent at the end of March 2013.⁸⁷ Japanese cross-border claims in Asia have more than doubled since the global financial crisis; they accounted for about 10 percent of total foreign consolidated claims as of March 2013.⁸⁸ This overseas activity has contributed to revenue growth, although it has not been enough to compensate for the overall negative impact of falling returns in the domestic market. Further emphasis on foreign lending and foreign expansion could be an avenue for Japanese banks to grow, although it presents risks (and indeed, this strategy resulted in heavy losses in the late 1980s and 1990s).

The global trend toward urbanization also presents an opportunity for Japanese banks to utilize their liquidity and expand their role as global financiers of infrastructure projects. Previous MGI research has estimated that cities will need annual physical capital investment of more than \$20 trillion by 2025.⁸⁹ Emerging Asia alone has some \$8 trillion in infrastructure needs, and Japanese banks have found opportunities in financing utility, transportation, and communications projects.⁹⁰ Mitsubishi UFJ Financial Group, SMBC, and Mizuho Financial ranked among the top five banks for infrastructure financing in 2013.⁹¹

Insurers have similarly increased their foreign operations in response to declining revenues at home. Targeted, prioritized expansions (especially into the most promising markets in emerging Asia) will be key to creating value.

Adopting next-generation technologies

Automation of processes

By undertaking an end-to-end review of processes, banks can identify and focus attention on areas that have received little IT investment and digital process transformation. Research has found that the top 20 to 30 processes account for approximately 40 to 50 percent of costs and 80 to 90 percent of activities, suggesting the potential for huge savings still exists in back offices. Gains could be found in functions such as opening accounts, processing mortgage applications, lending, customer inquiries, credit card issuance, annual reviews, customer complaints, and cash handling. Although digitizing additional processes takes setup time and effort, the chances of success improve with well-thought-out training, quality management and testing, and a structured rollout plan.⁹²

The insurance sector also has ample potential for capturing operational savings on processes that remain largely manual, such as processing applications and claims. This will provide more touch points with customers for cross-selling.

⁸⁷ Adrian van Rixtel and Jeff Slee, "The return of Japanese banks," *BIS Quarterly Review*, September 2013. US banks followed Japan as the next largest cross-border lenders, with a market share of about 12 percent at the end of March 2013, followed by German banks at 11 percent.

⁸⁸ Raphael W. Lam, *Cross-border activity of Japanese banks*, IMF working paper number 13/235, November 2013.

⁸⁹ *Urban world: Cities and the rise of the consuming class*, McKinsey Global Institute, June 2012.

⁹⁰ Raphael W. Lam, *Cross-border activity of Japanese banks*, IMF working paper number 13/235, November 2013.

⁹¹ *Project Finance International* ranking, 2013.

⁹² "Accelerating the digitization of business processes," *McKinsey Quarterly*, May 2014.

Superior digital platforms and omni-channel distribution

The initial phase of digitization—including the introduction of online banking and mobile apps—brought greater convenience to customers. But it has required heavy investment in systems and talent without always delivering the profits that banks and insurers expected. Today, however, emerging software solutions can help financial firms continue to push toward digitizing processes and give them greater agility.

Revenues generated by multichannel banking are 110 percent higher than those generated by single-channel users. Multichannel users on average use nine products (vs. six products for customers who use two channels and five for customers with one channel). Accessibility allows customers to explore their product choices more fully, and because they invest time in customizing their digital interfaces, digital customers have “stickier” relationships with their banks. A recent survey targeting “digital high-value” customers in Asia revealed that customers value experience, flexibility, and customization over pricing.⁹³ The shift to multichannel banking promises a combination of faster and more automated operations, cost savings, room to adjust pricing, and customer loyalty—a win-win scenario.

To capture the full benefits of digitization, financial institutions will have to continue their efforts to deliver a truly seamless online and offline experience—while slimming down or reimagining their branch formats. Banks will need to rethink their footprints, closing some of their least profitable branches, transforming others to sales and advisory centers, and incorporating new automated and interactive technologies into others. Self-service platforms can be used to provide a presence at minimal cost, while branches can refocus on advisory services. Taken together, this could result in lower real estate costs and added operational efficiency.

⁹³ *Retail banking in Asia: Actionable insights for new opportunities*, McKinsey & Company, March 2013.

HEALTH CARE

8.1%

Health-care spending as a share of Japan's GDP in 2013

10.7%

Potential share in 2025 if no action is taken

Japan's ability to provide universal access to quality health care is a point of national pride. Indeed, Japan is one of the healthiest societies in the world, with life expectancies that top the global rankings (although this outcome is also likely influenced by the nature of Japan's traditional diet).⁹⁴ The nation manages to deliver good outcomes while holding health-care spending to 8.1 percent of GDP, which is well below the levels in other advanced economies (such as Germany, at 11.3 percent, or the United States, at 17.7 percent).⁹⁵

But there are serious questions about whether the current trajectory is sustainable. Health-care costs are trending sharply upward. In 2012, actual expenditures exceeded projections by some \$40 billion. Government estimates indicate that they could total some \$515 billion by 2025, for an annual growth rate of 3.7 percent.⁹⁶ This would drive expenditures to 10.7 percent of GDP (Exhibit 31). If health care continues to swallow an ever-larger share of national spending, it could crowd out consumption and investment in other parts of the economy and force painful reforms of the tax and social security system.

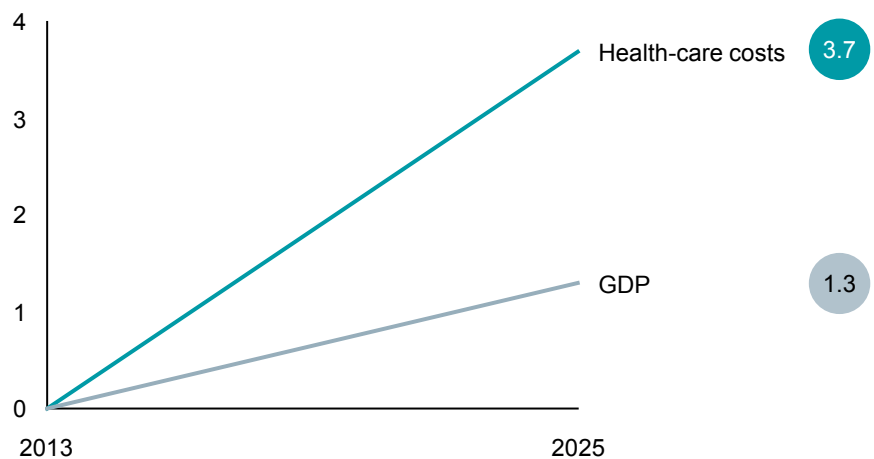
Exhibit 31

If no action is taken, Japan's health-care expenditures are on track to rise from 8 percent of GDP to almost 11 percent of GDP by 2025

Current trajectory of health-care expense growth

Compound annual growth rate (%)

Index: 0 = 2013



Health care % of GDP **8.1** **10.7**

SOURCE: Ministry of Economy, Trade and Industry; Ministry of Health, Labour and Welfare; McKinsey Global Institute analysis

The aging population and the growing incidence of chronic diseases are frequently discussed as the drivers of health-care costs, but in reality, they are only part of the story. In some ways, the system is a victim of its own success. Japanese citizens have developed exceedingly high expectations for their health and longevity. Patients tend to visit doctors frequently and insist on the most sophisticated treatments; there are few caps or gatekeeping controls to limit the number of procedures or consultations they can seek out. The ongoing process of medical innovation also contributes to rising expenditures. The

⁹⁴ OECD data (2012).

⁹⁵ *Health at a glance: OECD indicators*, OECD, November 2013.

⁹⁶ *Council for the next generation healthcare industry*, Ministry of Economy, Trade and Industry, June 2014.

latest drugs, diagnostics, and devices carry high price tags, and patients expect to receive the full benefits of cutting-edge technologies.

Reimbursement models create incentives that reinforce overtreatment. Providers bill for each procedure, and hospitals are paid for longer patient stays. Japan took a solid step with the introduction of a diagnosis procedure combination (DPC) payment system, much like the billing system used by Medicare in the United States (although Japan's version includes a length-of-stay component). It shows promise as a means of controlling costs and standardizing data, but a limited number of institutions participate.⁹⁷

In recent years, Japan has resorted to cutting reimbursement rates to providers to contain costs, and today debate is focused on whether the Japanese economy can withstand the consumption tax increases that were earmarked to shore up the system. But these types of measures provide only partial solutions, and repeated rounds will not be feasible. Cost-containment measures alone are not enough. In fact, they could merely exacerbate existing pressures on the system. Many Japanese public hospitals are unprofitable.⁹⁸ Patients are finding it more difficult to access care, particularly if they need to consult with a specialist.

Japan needs to bend the cost curve in a more fundamental way. With funding and demographic trends on a collision course, there is growing pressure to consider deeper measures such as redefining the role of payors, encouraging consolidation, changing incentive structures, and implementing systems to make performance and outcomes more transparent.

The good news is that other nations facing similar pressures on their health-care systems have managed to implement bold reforms, and Japan can draw on their experiences. Germany, for instance, has a universal multipayor system like Japan's, and it has had remarkable success in containing the growth of health-care spending as a percentage of GDP.⁹⁹ One of the most important lessons demonstrated in other countries is that reimbursement changes drive provider changes. Specialization, too, makes providers more efficient while simultaneously elevating the quality of care.

Health-care costs will likely continue to rise in the years ahead, but there is ample scope to slow the rate of growth simply by implementing strategies that have already proven successful elsewhere. Revamping the health-care system could free up some of the resources that are being put to inefficient use today and reallocate them to meet the growing long-term care needs of the elderly patient population.

Structural challenges

A number of structural issues combine to increase the stresses on Japan's system. While simple measures of labor productivity are not always useful in the health-care sector, it is important to take stock of how the system's general structure influences efficiency, cost-effectiveness, and the quality of care (see Box 3, "The limitations of measuring GDP and productivity in health care").

⁹⁷ Gerard Anderson and Naoki Ikegami, *How can Japan's DPC inpatient hospital payment system be strengthened? Lessons from the US Medicare prospective system*, Center for Strategic and International Studies, October 2011.

⁹⁸ *Central Social Insurance Medical Council report*, Ministry of Health, Labour and Welfare, November 2013.

⁹⁹ OECD Health Statistics database (2014).

Box 3. The limitations of measuring GDP and productivity in health care

Making health-care more efficient and cost-effective can have an outsized impact on the Japanese economy due to the sheer size of the sector and the ripple effects of having a healthier and more productive workforce. But cost savings do not directly translate into GDP gains because of the way GDP is measured for public and quasi-public sectors in the national accounts.

In private sectors of the economy, such as manufacturing, GDP is measured as the value added produced within the sector. But the national accounts approach the government and health-care sectors differently, basing their GDP on expenditures rather than the value of output. Because cost-saving measures reduce spending, they reduce GDP in the sector. The benefits of improved health outcomes for workers across the economy are likewise not measured in health-care GDP.

Because it is directly influenced by efficiency, productivity would seem to be a useful concept for evaluating the health-care sector. But this measurement has its limitations. At its most basic, labor productivity is the output produced for every hour workers put in. This is simple enough in a sector such as manufacturing—but defining exactly what constitutes an “output” in health care is a much trickier proposition.

Many comparative studies define health “outputs” by looking at the consumption, or utilization, of health-care services; they may use measures such as in-patient stays or the number of consultations. But this approach fails to take into account how effective these units of service are in producing the sector’s real value—that is, health outcomes. The outcomes that matter are ensuring access to care, improving the quality of care, and producing the best possible outcomes for patients.

Several national statistics bureaus are engaged in the process of finding a better way to measure these types of outcomes, and therefore productivity, in health care, but this is no easy task. “Value” in health care is a multifaceted concept that might encompass survival rates for various diseases, recovery time after an intervention, or the degree of health that a patient regains. Health care is delivered in a multitude of settings, and patients may receive multiple treatments for the same condition or for conditions that appear simultaneously. Michael Porter has argued for measuring the total costs over a patient’s entire care cycle and weighing them against outcomes rather than measuring costs that are broken down by provider, department, or discrete types of procedures or pharmaceuticals.¹⁰⁰

Capturing improvements in the quality of care over time is a particular challenge. Cutting down on waiting times and shifting nurses from administrative tasks to patient care are obvious improvements that would boost patient satisfaction, but these types of changes are difficult to capture in statistics.¹⁰¹

Despite the challenges of quantifying productivity in the health-care sector, Japan needs a broad and standardized push to collect better data on health outcomes. These data can serve as the basis for clearer metrics on the performance of individual providers, the efficacy of various treatments, and best practices—all of which go into the formula for boosting productivity.

¹⁰⁰ Michael E. Porter, “What is value in health care?” *New England Journal of Medicine*, volume 363, number 26, December 23, 2010.

¹⁰¹ For a fuller discussion of how to measure productivity in health care, see Paul Schreyer, *Toward measuring the volume output of education and health services: A handbook*, OECD Statistics Directorate, working paper number 31, April 2010; P. S. Hussey et al., “Health care efficiency: A systematic review of health care efficiency measures,” *Health Services Research*, volume 44, number 3, June 2009; and Shannon Brownlee, Joseph Colucci, and Thom Walsh, *Productivity and the health care workforce*, New America Foundation, October 2013.

13

Japan's annual outpatient visits per capita, a number that is twice the OECD average

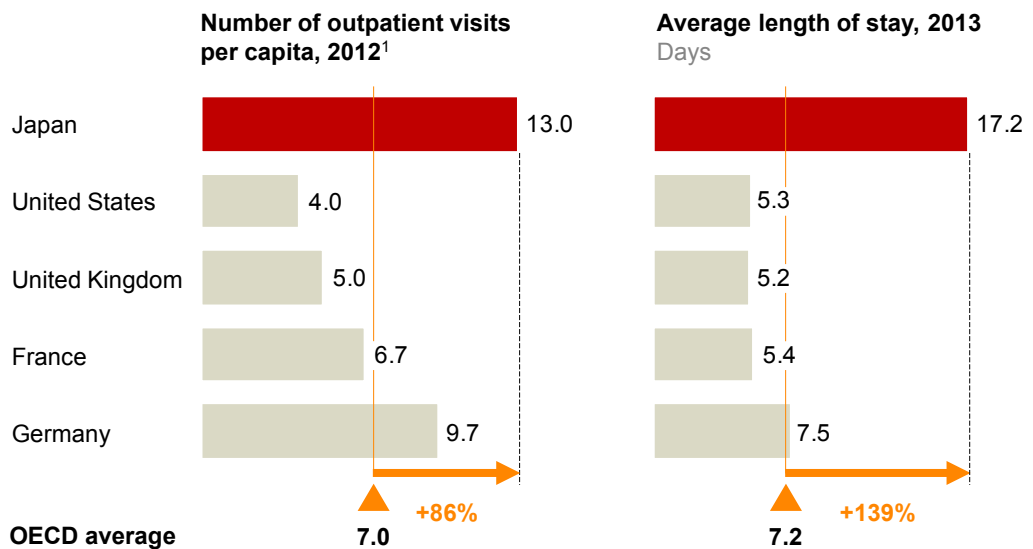
Heavy and growing demands on the system

Japan guarantees universal access to care, and carrying health insurance is mandatory. There is no gatekeeping system; patients may consult any doctor at any time without pre-authorization. Co-payments were established to curtail demand and provide another stream of funding. Most patients must pay 30 percent of the cost of care, although seniors (who are the heaviest users of the system) pay only 10 percent.

Despite these measures, utilization rates remain very high by international standards (Exhibit 32). Japanese patients consult physicians an average of 13 times per year, which is more than twice the OECD average.¹⁰² Many crowd into hospitals whenever they need to see a doctor due to the widespread perception that hospitals provide the best care. But even then, a certain level of trust is absent; some patients seek out second and third opinions (sometimes with repetitive diagnostic testing) before deciding on a course of treatment. Low co-payments for additional visits provide little deterrent to this approach.

Exhibit 32

Japan's health-care system has very high utilization rates by international standards



¹ 2011 data for Japan; 2010 data for United States; 2009 data for United Kingdom.

SOURCE: OECD health data; Business Monitor International; McKinsey Global Institute analysis

Furthermore, the average hospital stay is three times longer in Japan than in other advanced economies for two main reasons. First, hospitals have incentives to keep patients longer as they are reimbursed by the day. The government moved to address this issue in 2014 by reducing the reimbursement rates for long-term hospitalization of more than 90 days.¹⁰³ But this change does not affect the many in-patient stays of shorter duration, and it is a much more limited measure than implementing an outcomes-based reimbursement system. Second, hospitals often continue to care for patients who might be better served in rehabilitation centers or nursing homes, as these specialized care facilities have long waiting lists.¹⁰⁴ Creating an adequate number of so-called “step-down” facilities for convalescing and elderly patients would free up hospital capacity for acute cases. The shortage of

¹⁰² OECD data (2012).

¹⁰³ *The revision of the reimbursement 2014 summary*, Ministry of Health, Labour and Welfare, April 2014.

¹⁰⁴ See, for example, Kiichiro Onishi, “Reduction in the number of hospital beds in a super-aging society: An upsurge in isolation deaths,” *Japan Hospitals, Journal of the Japan Hospital Association*, number 33, July 2014, which finds that there are currently more than half a million patients on waiting lists for specialized nursing homes in Japan, and they must typically wait more than three years after applying to obtain a spot.

long-term care options means that patients often receive treatment in settings that are not specifically geared to their needs.

Because the long-term care sector remains underdeveloped in Japan, growing demand is straining other parts of the system. As mentioned earlier in this report, a quarter of the population has already passed age 65, and by 2060, this share is projected to rise to 40 percent.¹⁰⁵ This points to an increasing burden of care for age-related diseases such as Alzheimer's. In addition, as Japan adopts a more Western diet, there is a growing incidence of diabetes and cardiovascular disease. Traditionally, adult children have cared for their elderly relatives at home, but this custom is breaking down. The government has taken steps to expand home- and community-based services and to support new nursing home developments, but there is still an acute undersupply of specialized care facilities (including assisted living options that could help seniors with more minimal needs enjoy a greater degree of independence and quality of life). Resources will need to be reallocated in order to meet these growing needs and create a long-term care sector with the scale and reach to serve Japan's population.

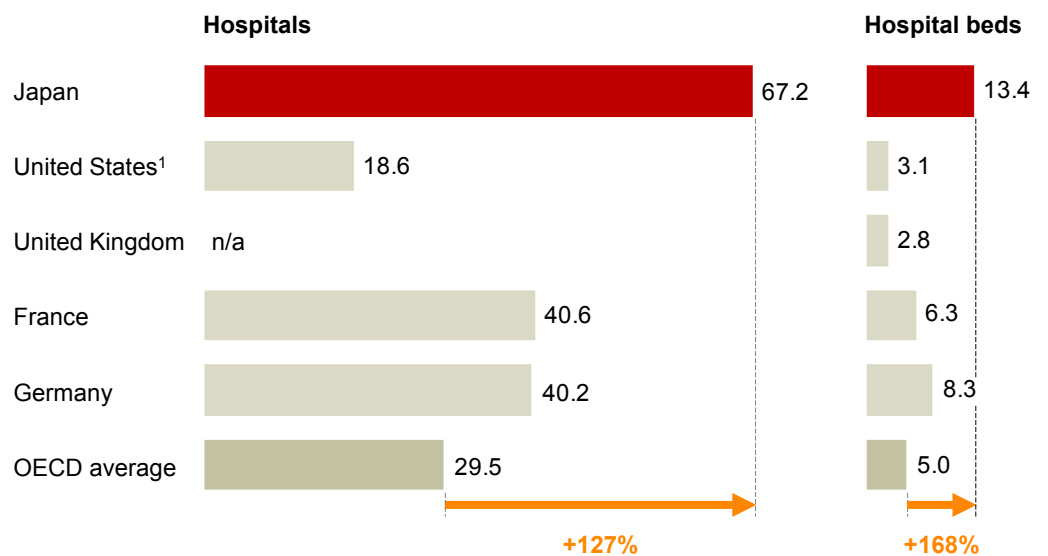
A fragmented provider landscape with imbalances, a lack of specialization, and inadequate quality controls

On a per capita basis, Japan has more than twice as many hospitals and almost three times as many hospital beds as the OECD average (Exhibit 33). But the system may actually have *too* many beds—and this fact, combined with financial incentives to treat on an in-patient basis, leads to longer lengths of stay. Japan's reimbursement model is not currently equipped to deal with this oversupply and drive a reallocation of resources.

Exhibit 33

Japan has an oversupply of generalist hospitals

Number per million population, 2012



¹ 2010 data for United States.
NOTE: Numbers may not sum due to rounding.

SOURCE: OECD health data; McKinsey Global Institute analysis

¹⁰⁵ *Population projections for Japan: 2011 to 2060*, National Institute of Population and Social Security Research, January 2012.

Many Japanese hospitals operate at a loss.¹⁰⁶ This situation is frequently chalked up to low reimbursement rates, but there is another factor at work: the sheer number of independent small-scale providers. There are few integrated providers that operate multiple facilities. This industry structure reduces hospitals' purchasing power and limits their opportunities to capture administrative efficiencies.

This fragmentation also makes it more difficult to share diagnostic information across the system, so that patients may not receive coordinated care. Small, generalist hospitals may lack intensive-care units and other specialized facilities. Surprisingly few institutions specialize in specific therapeutic areas—and this has repercussions for the quality of care. Research has shown that outcomes tend to improve with the number of times that certain procedures are repeated, allowing medical professionals to gain experience.¹⁰⁷

Japan has no mechanisms for addressing gaps in the system by encouraging physicians to practice in certain locations or determine which area of medicine they choose. Specialists are employed by hospitals, usually receiving salaries that are lower than what they could earn in a primary care practice. As a result, Japan has an acute shortage of specialists, and these doctors typically carry heavy patient loads to keep up with demand. The system has also developed geographic imbalances.

Compared with peer countries, Japan also has a relatively weak system for accreditation.¹⁰⁸ Medical licenses are granted for life, and no continuing education or recertification is required. No central body oversees the quality of physician training. Additionally, data on treatments and outcomes are not collected systematically, so there is no high-level mechanism for monitoring the performance of individual providers. This information gap makes it impossible for patients to evaluate providers based on performance—or to create a compensation structure based on quality. It can also erode confidence, potentially leading patients to seek out multiple opinions.

A reimbursement model that creates incentives for a higher volume of procedures

Japan uses a highly standardized fee-for-service model rather than paying for performance (the United States has long had a similar, if less standardized, model, although it is now attempting to make the transition to value-based payments). The current Japanese system rewards providers for generating a high volume of procedures, and it can even encourage medically unnecessary treatment and testing. A physician may bill separately for examining a patient, writing a prescription for that patient, and then filling the prescription in his own small pharmacy. In fact, as reimbursement fees are cut, providers face even greater pressures to increase the number of patients they see or the number of procedures they perform—a trend that leads to shorter, more impersonal patient interactions that erode the quality of care.

Low use of generic drugs

Japan has made clear progress in expanding the use of generic drugs. In 2008, for example, prescription forms were redesigned so that physician authorization of generic substitution became the default; incentive payments were also established for dispensing pharmacies.¹⁰⁹

¹⁰⁶ Tesun Oh and Shingo Kawamoto, "Battle for survival among Japan hospitals lures health funds," *Bloomberg Business*, October 21, 2014.

¹⁰⁷ John D. Birkmeyer et al., "Hospital volume and surgical mortality in the United States," *New England Journal of Medicine*, volume 346, number 15, April 2002. Also see, for example, a study in the November 2013 issue of *The Annals of Thoracic Surgery* that found high-risk patients had better outcomes when undergoing aortic valve replacement at hospitals that performed the procedure more frequently. Another study published in the November 2013 issue of *Medical Care* found similar results for patients undergoing complex endoscopic procedures, as did a five-year US study on coronary stents published in 2014 by the journal *Circulation*.

¹⁰⁸ Nicolaus Henke, Sonosuke Kadonaga, and Ludwig Kanzler, "Reforming Japan's health care system," *McKinsey Quarterly*, March 2009.

¹⁰⁹ Toshiaki Iizuka and Kensuke Kubo, "The generic drug market in Japan: Will it finally take off?" *Health Economics, Policy and Law*, volume 6, issue 3, 2011.

The government has also taken steps to dispel quality concerns about generics among both physicians and the general public. As a result of these efforts, Japan's usage of generics has reached more than half of the total drugs by volume for which there is a generic alternative available (and more than 35 percent of its total pharmaceutical market).¹¹⁰ However, there is room for more aggressive adoption, as Japan still has one of the lowest generic usage rates among OECD countries—and the price of generics is notably higher in Japan than in other countries. In 2013, generics represented 30 percent of total drugs prescribed by volume and 12 percent of total drugs by expense. By comparison, generics account for more than 75 percent of drugs by volume and 20 to 25 percent of drugs by expense in the United States and Germany.¹¹¹

Japan's future path: Comparing the current trajectory with a vision for a more efficient and sustainable health-care system

Given Japan's demographic and fiscal pressures, inertia is actually the risky course of action. Without fundamental structural changes, Japan will be left with few options for containing costs, and additional rounds of co-payment increases or tax increases could be economically damaging. The system could be swamped with a level of demand it simply cannot handle as the population ages. Without an infusion of new specialists, patients could be hard-pressed to obtain the care they need. Heavy demand could degrade the quality of care that Japanese citizens have come to expect, and resources would not be available to take advantage of the latest medical breakthroughs. Providers and payors could sink into deeper financial straits.

But if Japan can make meaningful changes on both the supply and demand sides, it could put the system on much firmer and more sustainable footing. It could go beyond meeting the basic needs of elderly patients and set new global standards for excellent geriatric care that spans a continuum of needs throughout the aging process.

In this scenario, Japan's outpatient sector becomes more fully developed and handles a wider variety of checkups and minor treatments more efficiently. Delivering a greater share of health-care services in outpatient settings would free up hospital capacity to focus on acute cases. Drug prescriptions would be renewed online, the price of generic drugs would fall, and routine checks for many illnesses could be handled remotely. There are more specialized hospitals, clinics, and nursing homes, and because they belong to integrated chains, there are able to take advantage of economies of scale and attract the best management talent. They harness technology to automate non-core tasks, integrate data, and support clinical decisions. Treatments are based on research into efficacy and cost-effectiveness. Payor reform leads to better cost controls. With wasteful incentives removed, fewer unnecessary tests are ordered, and the length of hospital stays goes down. The emphasis shifts from volume to quality. Patients could be empowered with better information about the performance of each provider, which would create new competitive dynamics.

Reforms for boosting efficiency and cost-effectiveness

Today Japan's health-care expenditures are growing faster than GDP—and if the current trajectory continues, they will swell to more than 10 percent of GDP by 2025. But we estimate that the following initiatives can slow the annual rate of growth from the anticipated 3.7 percent to just 1.5 percent. By 2025, expenditures could come in some 22 percent below projections, holding the line at 8.3 percent of GDP, only slightly above the level in 2013. This would free up resources that could be used to develop a more comprehensive long-term care sector.

¹¹⁰ *The latest status of pharmaceutical medical costs*, Ministry of Health, Labour and Welfare, July 2014.

¹¹¹ OECD Health Statistics database (2013); *Generating value in generics: Finding the next five years of growth*, McKinsey & Company, May 2013.

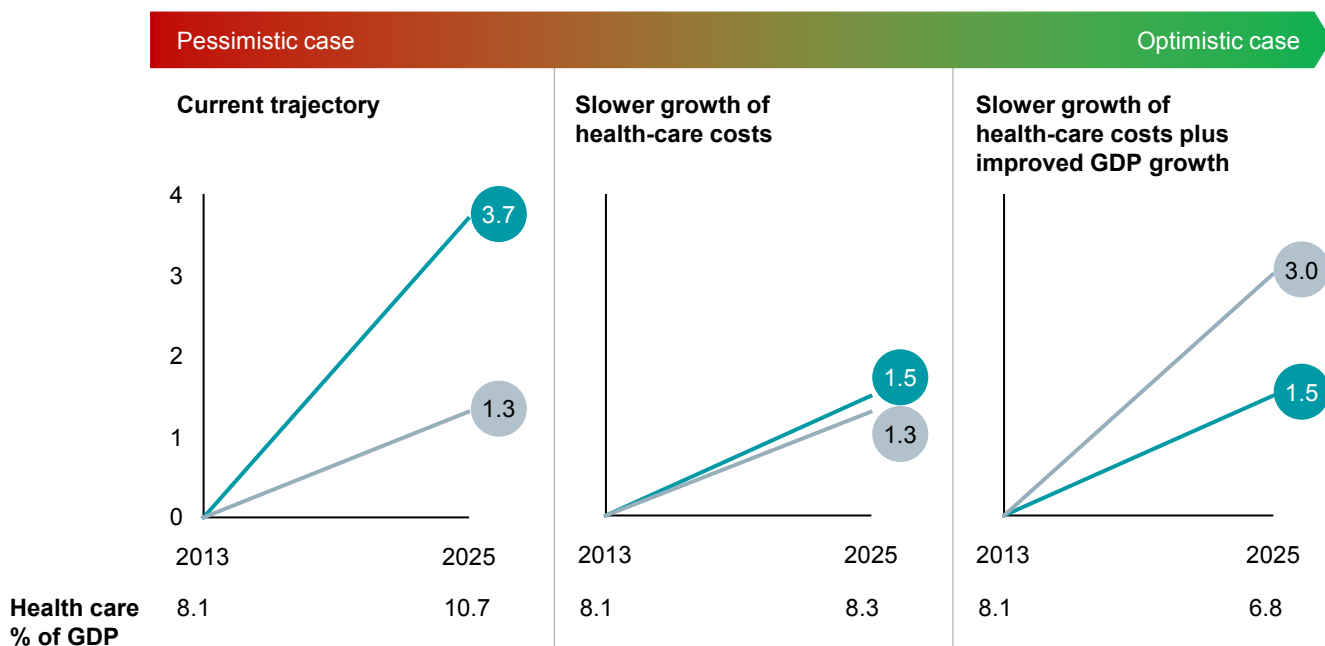
Furthermore, if Japan implements the productivity initiatives outlined in this report and successfully boosts GDP growth from 1.3 percent to 3 percent, the growth rate of health-care expenditures would fall below the rate of GDP growth, putting the system on a much more sustainable trajectory (Exhibit 34). In this scenario, health-care spending would decrease to approximately 7 percent of GDP by 2025.

Exhibit 34

Reforms could help Japan cut the growth rate of health-care expenditures in half, potentially even bringing it below the rate of GDP growth

Compound annual growth rate (%)
Index: 0 = 2013

— Health-care costs ● Growth rate (%)
— GDP



SOURCE: Ministry of Economy, Trade and Industry; Ministry of Health, Labour and Welfare; McKinsey Global Institute analysis

The initiatives below do not represent an exhaustive list of potential reforms. They offer the broad outlines of reform and are meant to indicate the magnitude of what is possible. Collectively, they would provide Japan with the flexibility it needs to adopt new medical technologies in the future and smooth imbalances in the system.

Incorporating global best practices

Changing the reimbursement model

Japan's current fee-for-service model for reimbursement creates a set of distorted incentives. Providers are rewarded for ordering additional tests and procedures (even if they are not considered strictly necessary), prescribing more drugs, and keeping patients in hospitals for additional nights.

A new payment system (the diagnosis procedure combination, or DPC) was introduced in 2003 in an attempt to shift to a pay-for-performance model. This system of standardized codes for billing is similar to the diagnosis-related groups, or DRG, system used by Medicare in the United States. It provides a basic framework for collecting standardized clinical data, making performance analysis possible; it also represents a step away from the fee-for-procedure model. There are positive signs that this system is helping to contain costs (DPC hospitals already post a lower average length of stay than non-participating hospitals, for

example).¹¹² But the system has not been adopted by all hospitals across the country, and it excludes some procedures and drugs.

Policy makers will need to reopen this issue and consider deeper reforms. One option would be mandating DPC adoption across the entire health-care system.

A bolder step would be capitation (which pays providers a set amount for each enrollee, whether or not the individual seeks treatment) or directly linking reimbursement policies to performance and outcomes. This would remove the current incentives for wasteful treatments, and more broadly, it could inject more transparency and competition into the system. Japan could replace across-the-board fee hikes or cuts with pay-for-performance programs that reward physicians for high-quality care and penalize them for poor-quality or inefficient care.

To make this shift, Japan needs to complete the transition to a robust electronic medical records system across all providers and use big data analytics to its fullest potential (see Box 4, “Concepts that are reshaping health care around the globe,” for additional discussion on this point). It is also important to note that Japan will have to build up the long-term care sector in order to achieve a meaningful reduction in the length of hospital stays.

Empowering payors to play a role in containing costs

Japan guarantees universal health care, but its system is not a simple single-payor model. In fact, there are some 3,000 private insurers, although they are legally prevented from competing in a meaningful way. This structure keeps another crucial part of the health-care landscape fragmented.

The government keeps tight control over fees and reimbursement levels but also covers treatments (such as cold medicines) and services that other systems do not. Insurers do not perform a gatekeeping or cost-control function, as they do in other countries. They simply process claims and have very little influence over containing costs. Many of them are unprofitable and have needed government support. Eliminating that financial support and removing barriers to competition could potentially have a bracing impact on the wider sector.

Japan could empower its payors to play a more meaningful role in the system, transforming them from payors to real players. Instead of imposing uniform reimbursement rates, Japan could give insurers greater flexibility to negotiate with their contracted providers and adjust reimbursement formulas (for example, declining to pay for services that are medically unnecessary or do not meet a certain threshold of cost effectiveness). Payors could also begin to use more sophisticated predictive modeling tools to direct patients through the system—steering them toward treatments that are not only more cost-effective but also higher quality. Payors are in a unique position to demand the provider data on outcomes that is needed to support the fee-for-performance model discussed above, and as an added incentive, they could be allowed to benefit financially from successful reforms to the broader system. Once they are given responsibility for real management, there will likely be a wave of consolidation in the industry—and as companies gain scale, their operations can potentially become more efficient.

Japan can draw on Germany’s successful experience in reforming the health insurance landscape by unleashing competition and giving patients a wider choice of health plans. Germany also established the principle of lifelong coverage, which creates incentives for payors to take an integrated and proactive approach to managing a patient’s health for the long term. The German industry has undergone a dramatic consolidation, with the number

¹¹² *The current status in beds for general patients*, Ministry of Health, Labour and Welfare, January 2012.

of payors falling by 89 percent from 1992 to 2013. These changes have contributed to slowing the growth of health-care costs—and they have given publicly insured patients a meaningful choice among different health plans.

Reduce the number of outpatient visits per capita through a combination of co-payments and performance transparency

Reducing the number of visits per capita requires significant changes on both the demand and supply sides. A system that requires continuing medical education and recertification will improve the quality of care and promote a greater culture of trust among patients. Furthermore, the health-care system as a whole can build on the clinical data aggregated by electronic medical records to implement a ratings-based system that allows patients to compare the quality of service and the outcomes achieved by different health-care providers (much like the UK National Health Service's Choices website, which posts detailed performance indicators and allows visitors to leave their own comments). On the other side, steeper co-payments could be implemented to discourage patients from undertaking unnecessary additional visits, and reimbursement could be questioned for repetitive testing.

Increase the use of generic drugs

Another reimbursement change that can help control costs would be limiting prescription coverage to more affordable generic drugs whenever that alternative is available. Japan's Ministry of Health, Labour and Welfare has taken steps to expand the use of generic drugs; meeting its goal of achieving a 60 percent penetration rate by 2017 would save some \$8 billion annually. But even this increase would still leave Japan below international benchmarks, as generics account for up to 80 percent of total drug volume in other countries. Continuing the shift toward generics will involve overcoming perceptions among doctors and patients alike that brand-name pharmaceuticals offer higher quality. Japan also has unique requirements for generics that drive up their cost to approximately 40 percent of the cost of branded drugs, but in other countries, generics can drop to as little as 20 percent of the cost of branded drugs.¹¹³

Professionalize procurement function within individual providers

Japan's renowned "lean" principles, developed in its auto sector, are attracting new attention from health-care providers around the globe. Japan has ample scope to apply more of this approach to its own providers, who will have new incentives to boost efficiency in an environment of increased performance transparency and competition. McKinsey's experience in hospital transformation projects indicates that institutions can achieve up to a 7 percent reduction in non-labor costs through better procurement practices, for example.

Adopting next-generation technologies

Accelerate digitization of medical records and connectivity among providers

There are major efficiency gains still to be captured from electronic medical records and big data tools. Most hospitals already have solid technology systems in place, but the key will be connecting these systems and ensuring interoperability across providers. When the broader system becomes more efficient at sharing information, the number of unnecessary procedures and treatments can be reduced. This not only relieves the burden on the system, but it also increases the quality of care as diagnosis and treatment become better coordinated. Furthermore, health-care providers can eliminate some unnecessary costs, save time, and reduce errors by digitizing manual processes.

¹¹³ "Generic manufacturer of Atorvastatin saves NHS £350 million in first 12 months," British Generic Manufacturers Association, May 14, 2013; *Facts about generic drugs*, US Food and Drug Administration, July 2013.

Become a global leader in emerging areas of medicine

This is an age of medical breakthroughs. Already, 3D printers are being used to produce artificial organs and implants, and robots are being deployed in medical settings—not only to deliver basic daily care but even to assist in complex surgeries. Companies have developed tiny diagnostic devices (such as capsule endoscopes that contain miniature cameras), and further developments in nanotechnology will make more procedures minimally invasive. Genomics researchers are moving the world ever closer to the goal of personalized medicine. Although new technologies are drivers of health-care costs, Japan will want to adopt the latest advances for improved patient care. In addition, Japan has the scientific and manufacturing capabilities to pioneer many of these technologies, developing treatments and devices that can be exported around the world. Choosing the right areas of focus and assisting the process of translating basic science through R&D and commercialization could form an important part of Japan's agenda.

Organizing for discipline and performance

Financial incentives could encourage some hospitals—especially subscale institutions—to merge or specialize. Some may abandon acute care and instead become long-term, rehabilitative, or palliative care providers. Mergers could lead to major savings, allowing institutions to make better use of IT systems, purchase supplies in greater volume, allocate resources between facilities, and coordinate the purchasing and location of expensive medical equipment such as MRI machines. In other words, Japan could aim to reconfigure the health-care industry's footprint and services in order to create specialization plus scale.

Reform of the payment system (such as moving to volume targets) would trigger changes in the industry structure for providers.¹¹⁴ Japan can wield these tools to encourage greater hospital specialization, which would prevent high-risk procedures from being performed at low-volume centers.

A key benefit of greater specialization would be improved housing and treatment options for elderly patients—particularly those with dementia. “Step-down” facilities—whether rehabilitation centers or home care programs—would become available for patients who require further treatment after being discharged from the hospital. This shift would not only improve the quality of the services but would lower costs for the health-care institutions themselves. The Ministry of Health, Labour and Welfare estimates that more than 2 million dementia patients are treated in hospitals or in rehabilitation centers (despite lacking prospects for actual rehabilitation).¹¹⁵ While the patients receive good quality care, the cost can be more than 50 percent higher than in long-term care facilities that specialize in dementia patient care. An independent agency that classifies patients according to the severity of their condition could help ensure the system is providing the right type of care for each patient.

Increased payments to hospitals may be needed to make specialist hospital practice more attractive for physicians and address the current shortage. But this type of shift would need to be undertaken in concert with reform of Japan's accreditation standards, particularly board certification in the specialties, to maintain the quality of care throughout the transition. Japan could also consider exerting more regulatory control over how physicians are trained, as well as offering incentives to enter certain fields or practice in underserved areas.

¹¹⁴ Volume targets involve reimbursing hospitals only if they perform a given procedure a minimum number of times during the year.

¹¹⁵ Survey for elderly care payments, Ministry of Health, Labour and Welfare, August 2014.

Box 4. Concepts that are reshaping health care around the globe

Three interconnected models for delivering health care have been successfully implemented by other countries in recent years—and they could provide some useful templates for Japan.

The concept of **integrated care** involves providing seamless treatment and communication across a patient's entire contact with the health-care system, coordinating among providers that may be treating different conditions or picking up the baton at different points in the patient's treatment journey. This can involve something as simple as providing full and complete patient notes and communication during handovers or a more ambitious model that forms a care team for each patient. This is a more holistic approach that takes the patient's overall health into account—and it is especially relevant to treating elderly patients, who may be coping with multiple ailments. Integrated care can improve the patient experience, and it can also make the broader system more efficient, as it enables better allocation of resources, discourages overtreatment, and eliminates room for medical errors stemming from gaps in communication. Strong integration between payors and providers can help with implementation. Today the system does include some care managers, but their role is generally limited to establishing a common system of record keeping.

Standardized care is another concept that shifts the focus of medical decision making into well-mapped protocols. By studying large clinical data sets, researchers can identify which treatments produce the best outcomes. Connecting patient records through the Internet (with the appropriate privacy and data security safeguards) and analyzing them with the help of big data can enable providers to make use of comparative effective studies; the same Web-based systems can review prescriptions and detect deviations to ensure that best practices are being followed. These types of protocols will help to reduce unnecessary treatments and identify which interventions produce the best outcomes at the lowest cost.

Telemedicine harnesses the power of the Internet to provide clinical services remotely. This approach is gaining acceptance in a number of countries (including the United States and China), and it can be a valuable tool for handling routine checks of patients with chronic conditions and creating a more cost-effective alternative to hospital stays. It can address some of the geographic gaps in the health-care system by connecting rural patients with doctors in urban hospitals; they can consult via videoconference, and doctors can make remote diagnoses using images and pathology reports that are transmitted electronically. Remote intensive care makes the most of available manpower by using cameras, monitors, microphones, and alarms to track the condition of patients in critical condition. Although this technology has been available for some time, the penetration rate of such systems in Japan was estimated at only 5.7 percent.¹¹⁶ This indicates ample room to deploy remote monitoring technology as it grows more sophisticated and to capture the associated efficiency improvements.

These models all depend on having a critical foundation in place: a well-designed **electronic medical records system**. Records must follow a standard digital format that can be used and accessed seamlessly by different providers and payors. Japan has taken initial steps toward implementing electronic health records, but it needs to complete this push with interoperability and consistent standards firmly in mind. Japan will need a clear policy framework to enable data sharing while protecting patient privacy and information security; this can enable big data analytics to produce insights that form the basis of efficacy studies and public health interventions. It can also aggregate outcomes and cost-effectiveness by provider, generating the kind of performance data that can be used to create competition and inform patient decisions. These data sets can also be used by pharmaceutical companies and medical device makers to boost R&D.

¹¹⁶ *Research on socio-economic benefits from ICT in healthcare treatments*, Ministry of Internal Affairs and Communications, 2012.

Creating the right conditions

Revamping an entire health-care system is a complex and contentious process, as the recent US experience bears out. Stakeholders are often resistant to change, and patients are understandably concerned about preserving access to care and containing out-of-pocket costs. There is growing recognition of the magnitude of Japan's future funding problem, but that looming concern has yet to translate into bolder action.

The reforms outlined above are not new ideas. They have been shown to work around the world, including within the German health-care system, which is configured much like Japan's. Germany has rolled out multiple complex reforms during the past decade (including laws to strengthen competition in the sector, a pharmaceutical savings package, financial reform of public payors, the introduction of a specialist outpatient care sector, and long-term care reform). Together these measures have successfully contained health-care expenditures as a share of GDP despite growing pressures on the system.

The good news is that other nations facing similar pressures on their health-care systems have successfully implemented reforms. Japan can draw on their experiences.

To change the system, Japanese policy makers will need to communicate a clear message that reform is the best way to ensure its survival and its ability to deliver an even higher standard of care. But issuing sweeping directives from the top down could reduce the likelihood of buy-in. Stakeholders will be more likely to rise to the challenge if they are involved in a consultative process that values and incorporates their perspectives. Japan could convene leading physicians, nurses, and patient advocates to undertake a comprehensive, well-funded review of the health system with the aim of creating national consensus on what needs to be done and setting clear benchmarks for reform.

Japan has a road map. Now it needs the political will to start the journey. Reform will be a process of "continuous improvement" that will happen in stages and require periodic readjustment. It will take continuity of leadership to create a more sustainable system—one that is based on a vision that looks decades ahead and is insulated from short-term political pressures.



Japan's companies have a wide menu of options for improving productivity and growing revenues. For the most part, pursuing these opportunities depends on their own willingness to invest, innovate, and take new risks. But at a broader level, Japan also needs to make sure that the fundamentals are in place to fuel growth over the long term; these include human capital, an education system geared to the needs of the economy, an ecosystem that supports innovation, and greater competitive dynamics. The next chapter examines how Japan's public and private sectors can work together to shore up these basic enablers.



4. THE ENABLERS OF GROWTH

Japan already has many of the building blocks of future growth at hand: a highly educated labor force, technology prowess, abundant capital, modern and extensive infrastructure, and a legacy of industrial innovation. But the economy's foundations need to be shored up and reconfigured to withstand demographic headwinds as well as the demands of a hyperspeed, hypercompetitive global economy.

Since 2012, much of the focus has been on the first two “arrows” of Abenomics: bold moves in monetary policy and fiscal stimulus. But Japan has been slower to unleash the third arrow of structural reform, which will shake up the status quo and challenge entrenched interests.

Today it has become clear that hard decisions can no longer be postponed. Substantial structural change is still needed to lift Japan out of its malaise and inject real dynamism into the economy. Deregulating and reforming individual sectors will be critical, but Japan also has to create a broader environment that is conducive to growth, starting by putting the right set of enablers in place.

Human capital, education and skills development, labor market frameworks, entrepreneurship, innovation, competition, and infrastructure productivity are among the core issues that will determine whether the Japanese economy has the ability to adapt and grow in the decades ahead. Abenomics speaks to a number of these priorities, but the agenda needs to be extended even further. It will take vision, leadership, and persistence from the public sector to push through fundamental change in these areas. But it is equally up to the private sector to speed and scale up these efforts.

Tapping new talent sources to address labor shortages and cultivate the next generation of business leaders

Economic growth can be generated by expanding the size of the labor force or by increasing productivity. Given Japan's shrinking population, much of this research has focused on the actions individual companies and industries can take to jumpstart productivity growth. But the other side of the equation begs to be addressed as well. Japanese employers already report having more difficulty than their international counterparts in filling job openings.⁹⁶ Japan can take steps to bolster the size of its workforce and minimize its looming labor shortages.

Encourage more women to participate in the workforce and create pathways to success

Japan's female labor force participation rate is only 62.5 percent (compared with 69 percent in Germany and 72.5 percent in Sweden). Many Japanese feel that women should focus on household duties, and this cultural attitude is exacerbated by a sharp gender gap in pay, tax policies that discourage two-income families, and a glass ceiling that limits the number of women in leadership roles. But Japan cannot afford to lose so much potential talent. Fully mobilizing its human capital has to be a national priority (see Box 5, “Women in the workforce: Japan's most underutilized resource”).

⁹⁶ More than 80 percent of Japanese employers reported difficulties filling jobs, far above the 36 percent global average, in the Manpower Group's latest annual survey, *The talent shortage continues: How the ever-changing role of HR can bridge the gap*, May 2014.

Box 5. Women in the workforce: Japan's most underutilized resource

The Japanese workplace remains a man's world. The World Economic Forum's *Global Gender Gap Report 2013* ranked Japan only 105th out of 130 countries for gender parity in the economy. It ranks 79th for female labor force participation—and more than a third of employed women work only part time.

A look behind these numbers reveals multiple policy issues as well as corporate practices and pervasive societal attitudes that are stubbornly slow to change. Tax incentives, for example, favor single-income families, leading many married working women to accept part-time jobs that keep their earnings just under the eligible threshold.

Young mothers, in particular, are likely to drop out of the workforce; just over one-third return to work after having children. Some are discouraged from working by long-held family and societal expectations that women should stay at home to raise their children and care for the household. But equally daunting is the scramble to secure affordable day care. Prime Minister Abe has pledged to dramatically expand the number of child-care slots, but today young families continue to face an acute shortage of options. Yokohama offers a template for change, however. Under the leadership of Mayor Fumiko Hayashi, the city privatized the sector, adding dozens of facilities run by new operators. In just three years, Yokohama went from having the longest day-care wait lists in the country to having no wait list at all.⁹⁷

Japan's salary gap also ranks 79th in the world—not only because of the concentration of women in lower-paying, part-time work but also due to wage discrimination for similar roles. Japanese women account for 49 percent of university graduates and fill nearly half of all professional and technical roles. But they occupy only about one in ten management positions and account for only 2 percent of corporate board membership.

McKinsey's past work on the gender gap identified four critical elements that underpin the success of women in the workplace: public policies and a social fabric that lead to progressive attitudes and pro-family support; personal commitment from top management to make gender diversity a strategic priority; leadership programs that help individual women develop as leaders; and transparent metrics and human resource policies that create equal opportunities for recruitment and promotion.⁹⁸

A recent survey found that a clear majority of Japanese companies offer parental leave, flexible work programs, and other programs to facilitate work-life balance. But the existence of these policies has not yet translated into broad acceptance—and other types of support systems that could propel women into leadership roles are in short supply. The same survey found that only 16 percent of Japanese corporations have mentoring programs for women, and less than a quarter have executive training programs designed for women.⁹⁹ Companies will have to focus on building leadership skills as well as removing other types of barriers in the workplace. Long hours and after-work socializing are key elements of Japan's traditional corporate culture, placing tremendous strains on all employees, but particularly on women who are already struggling to balance work with household responsibilities.

Creating greater workforce opportunity for women in Japan is not only a matter of social equity. It has become an issue that can make or break Japan's future prospects as aging shrinks the workforce, and Prime Minister Abe has emphasized “womenomics” as a core component of his economic agenda.¹⁰⁰ Attitudes and customs will not shift overnight, but Japan can change in this regard, just as other developed countries have done.

Policy makers can lead by example, implementing workplace changes within government institutions. They will also need to continue leading a public dialogue that emphasizes the potential boost to economic growth from mobilizing millions of young, highly educated women.

One study estimated that raising Japan's female labor force participation rate to the G7 average would add a quarter of a percentage point to annual economic growth and increase GDP per capita by 4 percent.¹⁰¹ Another has suggested that fully closing the gender gap in employment would add more than seven million workers to the labor force, boosting Japan's GDP by nearly 13 percent.¹⁰² Japan clearly has much to gain from tapping into what Prime Minister Abe has called the nation's “most underutilized resource.”

⁹⁷ Mami Maruko, “Yokohama day care centers scramble to keep kids off waiting lists,” *Japan Times*, June 18, 2013.

⁹⁸ *Women matter 2013: Gender diversity in top management: Moving corporate culture, moving boundaries*, McKinsey & Company, February 2013.

⁹⁹ *Closing the gender gap in Japan*, World Economic Forum, June 2014.

¹⁰⁰ Shinzo Abe, “Unleashing the power of ‘womenomics,’” *The Wall Street Journal*, September 25, 2013. See also Laura D’Andrea Tyson, “Japan’s women to the rescue,” *The New York Times*, August 23, 2013.

¹⁰¹ Chad Steinberg and Masato Nakane, *Can women save Japan?* IMF working paper WP/12/248, October 2012.

¹⁰² *Womenomics 4.0: Time to walk the talk*, Goldman Sachs Portfolio Strategy Research, May 2014.

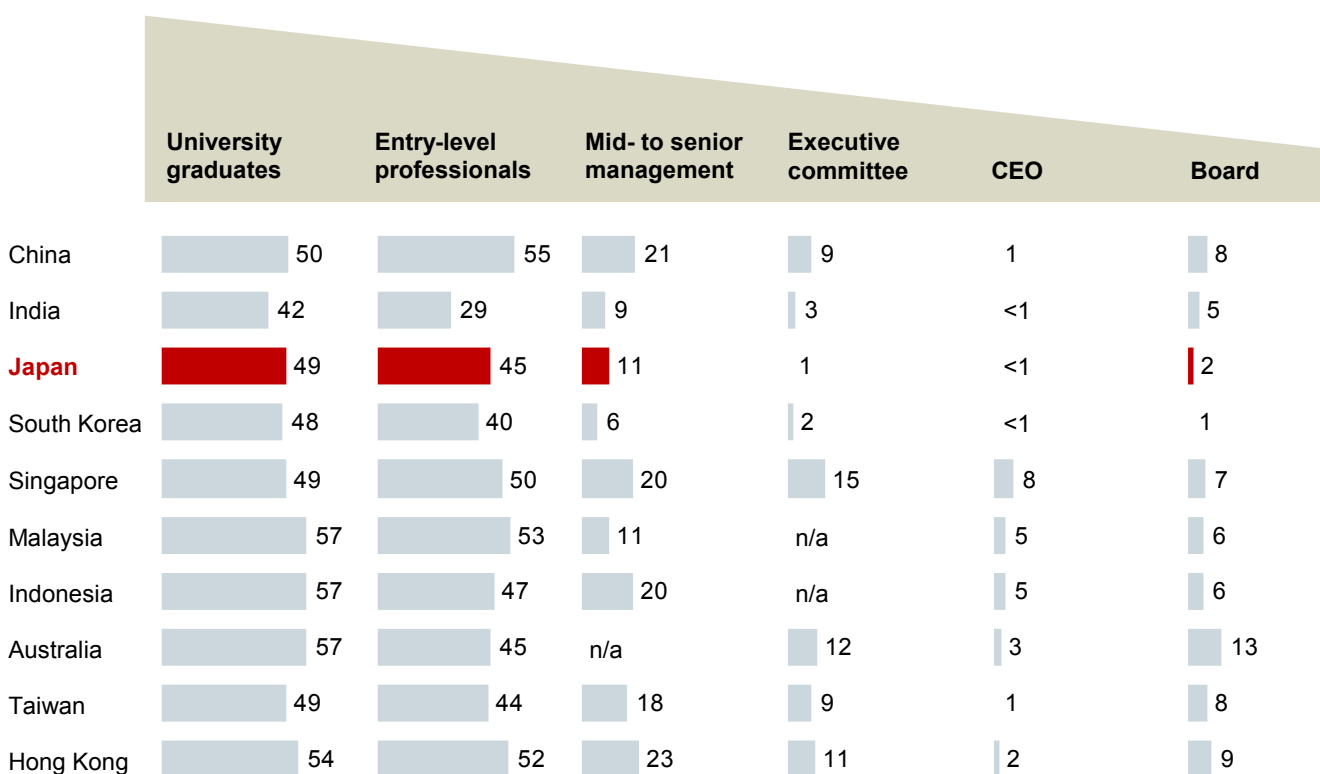
The government has recognized that expanding child care is a critical starting point. The drop-off in participation rates is particularly steep when women reach prime childbearing age—and this has the unfortunate side effect of removing them from the career ladder at the very stage when they might otherwise begin moving up into managerial roles. As Exhibit 35 shows, this problem is not unique to Japan by any means, but it has heightened urgency in light of the country’s aging workforce. Additionally, Japan can remove tax policies that encourage married women to opt of the workforce or to choose low-paying part-time work. For its part, the private sector will need to step up on this issue by changing traditional corporate cultures that have constrained opportunities for women.¹⁰³

Exhibit 35

Japanese women step off the career ladder during their prime child-bearing years and occupy few senior leadership roles

ESTIMATES

%



SOURCE: McKinsey proprietary database, 2011; government publications

Retain experienced workers as they age

Encouraging an aging population to remain engaged in productive work is another way for Japan to increase the size of its labor force—and to ensure that the economy is not drained of valuable experience and skills as a large cohort nears retirement. Individual companies can do a great deal to change their policies, create less physically demanding roles, and adjust the ergonomics of the workplace to accommodate the needs of aging workers. This would be a great opportunity for Japan to pioneer new workplace approaches. BMW, for example, redesigned its assembly line to accommodate older workers in one of its German plants with a host of small changes, including a slightly slower production line, better

¹⁰³ See McKinsey’s ongoing “Women matter” series of research reports, including *Gender diversity in top management: Moving corporate culture, moving boundaries*, November 2013; and *Women matter: An Asian perspective*, June 2012.

lighting, mobile tool carts, ergonomic back supports, and robots to handle some basic tasks.¹⁰⁴

But public policy has to provide the right mandates and incentives to spur these types of changes on a wider scale. In 2013, Japan began phasing in a gradual increase in the mandatory retirement age that companies can impose; it was set at age 60 but will rise to age 65 by 2025. Even before this policy fully takes effect, employers are required to offer continuing employment options to workers who hit retirement age. The government also provides subsidies to employers to hire and retain older workers.

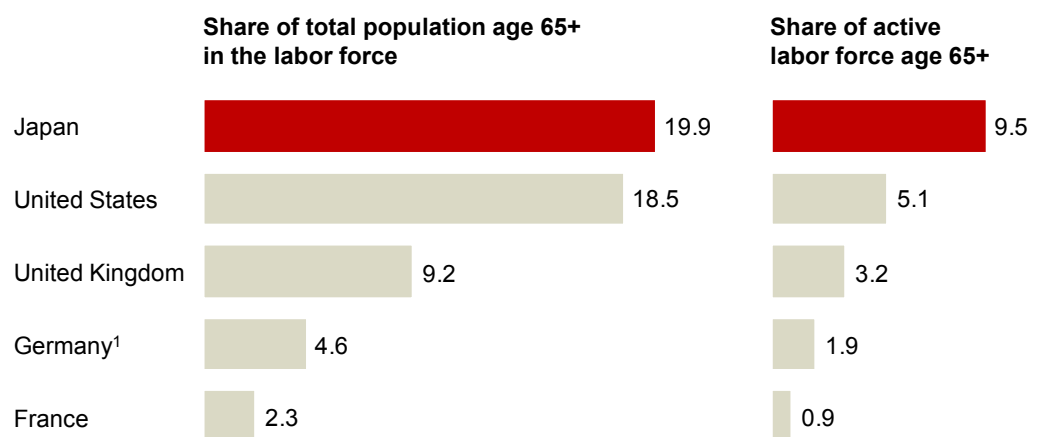
As Exhibit 36 shows, Japan already has one of the highest labor force participation rates in the world for older workers, but since a quarter of the population will be over age 75 by 2055, further policy adjustments and incentives may be needed.¹⁰⁵ Many of the new roles available to older workers after their mandatory retirement age are lower-paid, lower-skilled, or part time. Improving the options available to those who wish to continue working and valuing their contributions is not simply a matter of economics. It is also about providing greater satisfaction, engagement, and autonomy to a large segment of the population approaching one of life's big transitions.

Exhibit 36

Japan already has one of the highest labor force participation rates in the world for seniors

Older workforce, 2012

%



¹ 2011 data for Germany.

SOURCE: OECD; McKinsey Global Institute analysis

¹⁰⁴ Ariel Schwartz, "BMW's new plant built with aging workforce in mind," *Fast Company*, February 11, 2011.

¹⁰⁵ Ministry of Health, Labour and Welfare.

140k

Foreign students
studying in Japan
in 2011

Address supply constraints by rethinking immigration policies

Even if Japan takes the steps described above, there is a strong likelihood of labor shortages. Japan will need to identify critical roles that are being affected by an undersupply of workers (such as the health-care workers needed to care for aging patients, to give just one example) and consider whether foreign workers could provide at least a partial solution. Today foreign workers represent only 1 percent of the Japanese labor force, far below their 16 percent share in the United States and 8 percent share in Germany.¹⁰⁶

A greater presence of foreign workers would not only fill gaps in specific roles; it could also bring an infusion of diverse ideas, new energy, and best practices developed in other countries. One study in the United States, for example, found that every one percentage point rise in the share of immigrant college graduates in the population increases patents per capita by 6 percent.¹⁰⁷ Forty-four percent of the engineering and technology firms founded in Silicon Valley between 2006 and 2012 had at least one key founder who was foreign-born.¹⁰⁸ Similarly in Ireland, Israel, and India, skilled migrants have played a key role in the growth of local software clusters.¹⁰⁹ In addition, research has found that flows of high-skilled migrants between countries and other types of cultural ties facilitate cross-border venture capital deals.¹¹⁰ As of 2011, some 140,000 foreign students were studying in Japan at the tertiary level.¹¹¹ They represent a pool of talent that has already begun the process of integrating into Japanese society. Japan could create programs that build direct connections between these students and potential employers. It could also re-examine the visa requirements for obtaining employment after a degree program is completed so that it derives the full economic benefit from the presence of these students.

While the public sector may need to rethink long-held immigration constraints, Japan's private sector can do much more to recruit global talent and create a more inclusive corporate environment for foreigners. Language barriers, too, would have to be overcome in order to implement this strategy.

Creating a more dynamic labor force with the skills demanded in a fast-changing environment

Japan's long-standing tradition of lifetime employment has contributed to a certain degree of economic stasis. Workers who rarely have to compete for new jobs have fewer incentives to continue acquiring new skills, and an important informal channel of sharing best practices is lost. But the current wave of disruption sweeping through the global economy means that some roles are being quickly rendered obsolete while there are sudden spikes in demand for new skills. Japan can no longer afford to have a rigid labor market; its workforce will have to evolve quickly to keep pace with changes in global markets and technologies.

¹⁰⁶ *IMD world competitiveness yearbook executive survey 1995–2014*, IMD World Competitiveness Center; US Bureau of Labor Statistics.

¹⁰⁷ Jennifer Hunt and Marjolaine Gauthier-Loiselle, *How much does immigration boost innovation?* NBER working paper number 14312, September 2008. See also William R. Kerr, *US high-skilled immigration, innovation, and entrepreneurship: Empirical approaches and evidence*, NBER working paper number 19377, August 2013.

¹⁰⁸ Vivek Wadhwa, AnnaLee Saxenian, and F. Daniel Siciliano, *America's new immigrant entrepreneurs: Then and now*, Ewing Marion Kauffman Foundation, October 2012.

¹⁰⁹ Ashish Arora and Alfonso Gambardella, eds., *From underdogs to tigers: The rise and growth of the software industry in Brazil, China, India, Ireland, and Israel*, Oxford University Press, 2006.

¹¹⁰ Sonal Pandya and David Leblang, *Deal or no deal: The growth of international venture capital investment*, University of Virginia, November 2011.

¹¹¹ *Education at a glance 2014: OECD indicators*, OECD, October 2014.

Make the workforce more equitable

Japan has taken steps to relax rigid labor laws, but this will need to be an ongoing process of reform. The greater flexibility afforded by the use of temporary workers has actually harmed productivity while creating a two-tiered workforce, as discussed earlier in this report. There is a significant wage gap between regular and non-regular workers; the latter must also cover all the costs of their own health insurance and pension.

Faster economic growth should allow companies to hire more regular workers, but it will not be enough in and of itself to create a more equitable system. Policy makers may need to take formal steps to provide better conditions and benefits for temporary workers—both to ensure they are protected and to increase their motivation to become more productive. Public policy can also encourage companies to make the shift to a pay-for-performance model, which can help to reduce the wage gap between regular and non-regular workers.

Japan will need to create well-chosen, well-designed training programs on a large scale so that workers can acquire the skills needed in a fast-changing digital economy.

Create ambitious retraining programs to meet new business requirements

Effective training programs can help employees acquire the new capabilities needed to boost productivity, particularly as technology evolves. Recent McKinsey work in the insurance industry, for example, suggests that a high level of process automation and digitization could improve productivity and boost sales, but this could require significant retraining for up to 50 percent of the labor force across the entire value chain.

Since multiple industries face these kinds of transformations, the public and private sectors will have to work together to ensure that well-chosen, well-designed training programs are available on a large scale. One possible action would be to build on the e-learning systems available at many of Japan's larger companies; with additional funding, these types of platforms could be expanded to cover emerging technologies and to reach a wider target group for training. Companies can also be encouraged to collaborate at the industry level to offer new types of apprenticeships and partner with education providers to design vocational training and certificate programs that develop specific skills.

Reforming the education system to build talent and capabilities

Instill critical thinking skills

Japan is consistently ranked among the top ten countries in PISA (Programme for International Student Assessment) test scores for math, science, and reading.¹¹² The system achieves these outcomes in a relatively cost-efficient manner, with annual costs of \$11,000 per student, which is below the OECD average.¹¹³ However, Japanese students have the lowest level of confidence among their peers throughout the OECD when it comes to solving problems and taking on complex tasks.¹¹⁴ An emphasis on rote memorization can produce strong results on standardized tests, but new teaching methods, curricula, and real-world projects can help students learn to problem solve, innovate, and adapt.

¹¹² *PISA 2012 results: What students know and can do—student performance in mathematics, reading and science* (volume I, revised edition), OECD, February 2014.

¹¹³ *Education at a glance 2013: OECD indicators*, OECD, September 2013.

¹¹⁴ *PISA 2012 results: Ready to learn—students' engagement, drive and self-beliefs* (volume III), OECD, December 2013.

To support Japan's goals of enhanced productivity and innovation, students need to develop industry-specific skills. But critical thinking, an open attitude toward experimentation, and the ability to collaborate are equally important. These attributes will prepare Japan's next generation of workers to adapt to new opportunities and demands throughout their lives.

Promote a global mindset

A global marketplace also demands foreign language fluency. Japan has long required six years of English language instruction, yet it posts the lowest English-proficiency levels among OECD countries (as measured by scores on the Test of English as a Foreign Language).¹¹⁵ More recently, it has introduced English classes in earlier grades and brought in assistant language teachers from English-speaking countries. But it remains to be seen whether these strategies will shift the traditional emphasis away from grammar and written English, producing better ease with practical spoken English. Policy makers will need to monitor progress—and to consider emphasizing other foreign languages in addition to English.

The post-secondary level represents an ideal time to expose students to more global perspectives. But only 34,000 Japanese tertiary students were studying abroad in 2012, down from 64,000 in 2002, indicating a drop in the number of young people actively seeking out international experiences. Japan could benefit from sending more students to study abroad and welcoming more foreign students to its own universities. Student exchanges not only build personal connections and the transfer of skills over time, but they also set the stage for future research collaborations.

The next generation of Japanese workers will need to develop critical thinking skills, a willingness to take risks, and a more global mindset—and the education system has to evolve accordingly.

Create a true education-to-employment pipeline

Previous McKinsey work highlighted the fact that the education-to-employment system in most countries often fails young people and employers alike. But some programs manage to bridge this gap, ensuring that students are working to acquire the tangible skills that employers need. The most effective invite education providers and employers to move more fluidly into each other's worlds. Companies can help to design curricula and lend their employees as "faculty," while education providers can integrate internships on job sites into their programs and work to secure hiring guarantees for graduates.¹¹⁶

Japan is unlikely to experience the high levels of youth unemployment seen in other countries, but the education system still needs to align its curricula to match the economy's needs. Sustaining long-term growth requires careful, ongoing evaluation of evolving shifts in demand for specific skills. One study estimated that service sectors such as health care and construction face a combined shortage of 2.6 million people, while there are almost 1.9 million surplus manufacturing and office workers.¹¹⁷

¹¹⁵ *Test and score data summary for TOEFL iBT tests*, Educational Testing Service, 2013.

¹¹⁶ *Education to employment: Designing a system that works*, McKinsey Center for Government, December 2012.

¹¹⁷ *Japan economic analysis, issue number 44, Estimating potential excess demand for labor*, Credit Suisse, September 2013.

The Australian Workforce and Productivity Agency could provide a useful template. It was established in 2012 to facilitate greater collaboration among industry, educators, and government. The agency administers a National Workforce Development Fund to deliver training for high-priority industries and occupations. It also develops and monitors workforce development plans in conjunction with industry skills councils, researches current and emerging skill requirements across all sectors, and offers independent advice to government and other entities.¹¹⁸

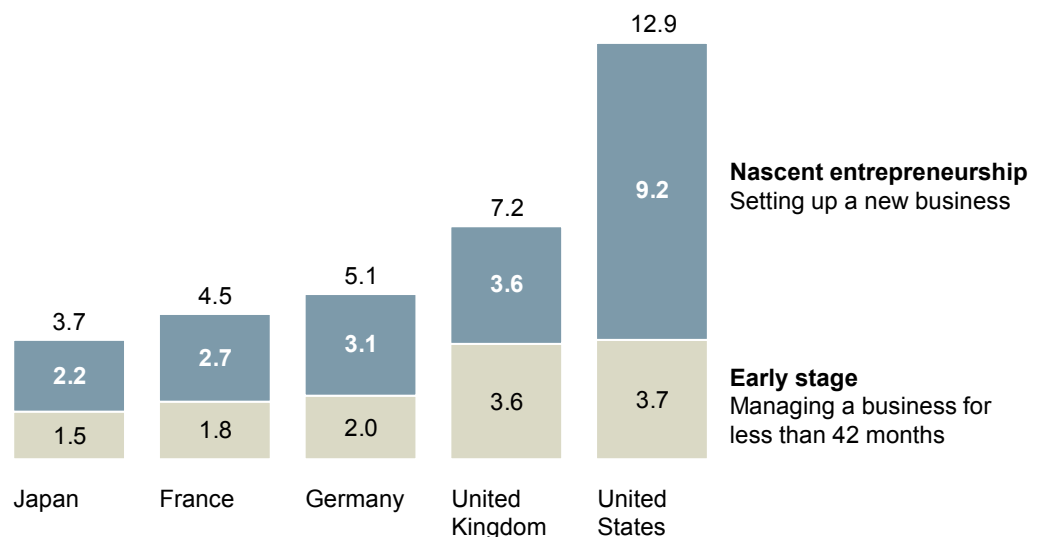
Fostering a startup culture

Japan does not have a strong track record for disruptive entrepreneurship in recent decades; few up-and-coming Japanese companies have broken through on a global scale. Only 3.7 percent of the country's labor force is engaged in entrepreneurial activity, compared with 4.5 percent in France, 5.1 percent in Germany, 7.2 percent in the United Kingdom, and 12.9 percent in the United States (Exhibit 37).¹¹⁹

Exhibit 37

Japan has fallen behind other advanced economies in enterprise creation and growth

Share of labor force engaged in entrepreneurial activity, 2013¹
%



¹ Labor force defined as individuals 18 to 64 years old.
NOTE: Numbers may not sum due to rounding.

SOURCE: Global Entrepreneurship Monitor; World Bank; McKinsey Global Institute analysis

This low level of entrepreneurial activity is perhaps unsurprising in a country that regards cohesion as important and seniority in employment as a sign of success. Individualistic entrepreneurs may be celebrated as cultural heroes in the United States, but in Japan they tend to be countercultural figures—or even regarded as self-serving or greedy. Reversing this perception and igniting Japanese entrepreneurship could enhance job creation, innovation, and economic vitality.

¹¹⁸ Ibid.

¹¹⁹ José Ernesto Amorós and Niels Bosma, *2013 global report*, Global Entrepreneurship Monitor, January 2014.

Increase access to funding

The major hurdle for most startups is access to funding. In the earliest stages, US entrepreneurs can acquire seed capital from an active community of angel investors—one that made more than \$24 billion available to fledgling enterprises in 2013.¹²⁰ But in Japan, angel investing does not exist on the same kind of scale. Regulatory changes undertaken in 1997 were intended to spur growth in this area, but only \$113 million has been invested in the intervening years.¹²¹

Regulators have continued to make changes to try to induce more investment, and Japan certainly has many individual investors with capital on hand. The issues seem to be a culture of risk aversion and a lack of information about specific opportunities. One-third of potential investors in one survey by the Ministry of Economy, Trade and Industry cited not knowing how to make angel investments and a lack of professional advisers in this area. Japan can actively try to build a community of angel investors by creating information platforms, and large corporations could play a role in funding innovative ideas where individual investors currently do not.

Even if entrepreneurs manage to launch a business and reach the point at which they are ready to scale up, they face later-stage funding gaps. One study ranked Japan only 39th in the world for the availability of venture capital, and private equity funding is also minimal compared with the US industry (at \$6 billion in Japan vs. \$159 billion in the United States).¹²² Venture funding grew by 20 percent from 2009 to 2013, with particularly strong momentum in companies that are going global. But this growth is starting from a low base, and less than a third of ventures are able to secure further rounds of investment needed to sustain growth.¹²³

Israel's success story could provide a useful template. Its Yozma program rapidly expanded the country's fledgling VC industry in the 1990s by offering tax incentives to attract foreign VC investment and matching private capital with government funding. Japan has established the Innovation Network Corporation of Japan, a major public-private VC fund that combines government funding and guarantees with private capital from more than two dozen corporate investors. But it may take even bolder steps to unlock private investment and expand Japan's VC industry.

Japan's finance sector can also expand the mechanisms available to entrepreneurs in the exit phase. Although initial public offerings are the preferred choice, Japan's IPO market has not produced the same volume of successful offerings as the United States. Furthermore, Japanese companies rely more heavily on senior debt rather than a strategy of IPO or acquisition, and there is low utilization of options such as mezzanine or project finance. Regulations have paved the way for a greater and more flexible use of stock options, but this, too, has been slow to catch on. (Classified stock options have been permitted since 2008, for instance, but Cyberdyne was the first to use this approach in 2014—and the company was able to succeed in going public as a result.) Promoting a wider variety of funding options, with appropriate education for both investors and investees, could also spur the growth of new ventures.

¹²⁰ Center for Venture Research.

¹²¹ Yoshiaki Ishii, "Support from individuals energizes startups," *Toyo Keizai*, August 2014.

¹²² Beñat Bilbao-Osorio, Soumitra Dutta, and Bruno Lanvin, eds., *The global information technology report 2014*, World Economic Forum, April 2014; Capital IQ; *Asian Venture Capital Journal*; IHS.

¹²³ Venture Enterprise Center.

Promote a supportive legal and regulatory framework for startups

The time and number of procedures that it takes to set up and register a new business in Japan is just above the OECD average, and only 2 percent of entrepreneurs find procedures to be a hurdle during startup. However, aspiring entrepreneurs who have not actually been through the process have a very different perception of how difficult it will be; a significant number have cited seemingly complicated processes as one of the largest reasons for not starting a new business.¹²⁴ Increasing awareness of what is actually involved in starting a business and making the process even more user-friendly could motivate greater numbers of potential entrepreneurs to take a leap with their ideas. Japan can also revisit the framework around intellectual property protection and its incentive structure for commercializing university research to spur more entrepreneurial activity.

Create an ecosystem that allows entrepreneurs and innovation to flourish

Japan lacks a robust network that connects entrepreneurs, financial institutions, investors, the educational system, and business mentors. These connections are the key to turning innovative ideas into startups and startups into successful businesses.

Japan needs to build stronger networks linking entrepreneurs, investors, educators, and business mentors.

Business incubators can help pockets of startup activity reach critical mass, and a number have been launched in Japan. More established entrepreneurs are beginning to see the importance of providing mentorship for those who are following in their footsteps, emulating the model developed in Silicon Valley and practiced in high-tech hubs around the world. In some cases, incubators provide physical communities that offer entrepreneurs the chance to collaborate (such as Tokyo's Samurai Startup Island). However, Japan's current network of business incubators has limited reach. Most young entrepreneurs turn to family and friends for advice; few connect with fellow entrepreneurs and successful pioneers.¹²⁵

The public sector can find ways to mobilize resources and excitement around these kinds of efforts so hubs will grow and other communities will follow suit. In the United States, for example, New York has undertaken an ambitious public-private partnership to build the new Cornell Tech campus, which will offer graduate students an MBA program specifically designed with a digital, entrepreneurial focus and a collaborative ethos centered on making products rather than learning theory.¹²⁶ University-affiliated business incubators (such as the program established by Waseda University and Tokyo University) that engage with established mentors and investors can expose students to the process and excitement of turning ideas into profitable realities. Universities can also grant faculty members stakes in the intellectual property they develop, allow flexible leaves of absence to start companies, and offer support for commercializing research.

¹²⁴ Small and Medium Enterprise Agency, Ministry of Economy, Trade, and Industry.

¹²⁵ Ibid.

¹²⁶ Steve Lohr, "MBA programs start to follow Silicon Valley into the data age," *The New York Times*, December 25, 2014; Ruth Reader, "Here's why Cornell Tech is so important to building NYC's startup ecosystem," *Venture Beat*, December 3, 2014.

Promote an entrepreneurial mindset

A recent survey showed that while Japan has greater confidence that it produces innovative products and services than other OECD countries, a greater share of the labor force that perceives positive opportunities hesitates to pursue them by setting up a business due to the fear of failure.¹²⁷ Countries that pride themselves on having more entrepreneurial DNA, such as the United States or Israel, tend to view business failures as noble attempts or exciting learning experiences to be accepted in stride, but failure is viewed in a dire light by the Japanese.

The Japanese education system equips students with a strong tool kit of hard knowledge, particularly in math and science. But as mentioned above, there is little if any emphasis placed on experimentation. The education system can create a new outlook over the longer term through classroom activities and startup competitions that encourage risk-taking. Presenting the stories of successful entrepreneurs can create new aspirations for students and help them consider starting their own businesses as a promising and desirable career opportunity. Exploring real-life business challenges in the classroom can provide students with a framework for the future.

Implementing market-oriented reforms to unleash competition

Competition, both domestic and foreign, fuels productivity. Japan has a number of market distortions that could be removed, such as barriers to entry for startups, protectionist measures that limit imports, zoning restrictions, and subsidies that keep unproductive firms afloat. Japan is already engaged in an ongoing effort to reform the power sector in hopes that greater competition in the residential electricity market will bring down high prices. Reducing government intervention in other sectors (such as health care and manufacturing) would likely lead to a wave of consolidation, allowing companies to realize economies of scale. Unleashing market forces may lead to greater corporate churn and disruption for incumbent companies (and workers), but it would ultimately provide a bracing effect on the economy's resilience and overall health.

Competition fuels productivity. The birth of new firms and the closure of failing companies are signs of a healthy economy.

Promote competition by allowing companies to enter and exit the market

During the 1990s recession, the Japanese government made it a priority to protect companies and workers during a time of turbulence. Although banks were saddled with an increasing number of bad loans, additional financing was extended to struggling companies, which minimized corporate downsizing. While this stabilized the immediate situation at hand, it has left a legacy of indebted companies that should have folded under normal circumstances but remain in operation to this day. The same tendency to preserve stability even at the expense of competitiveness is also apparent in large conglomerates, which have typically shied away from radical reallocation of resources and from restructuring underperforming business units.

¹²⁷ José Ernesto Amorós and Niels Bosma, *2013 global report*, Global Entrepreneurship Monitor, January 2014.

The birth of new firms and the closure of failing companies is akin to a healthy circulatory system. The continued operation of highly indebted firms (as well as uncompetitive divisions of large conglomerates) represents a disorder that hinders that dynamic, constraining innovation and productivity. Over the past decade, steps have been taken to prevent a repeat of this issue, including new policies on loan information disclosure, but resolving the continuing overhang would improve the overall allocation of capital across the economy.

Deepen global trade ties

New trade agreements with fast-growing economies (especially those across emerging Asia) would open the door for Japanese companies to penetrate new markets and grow revenues. A new trade pact with Australia went into effect at the beginning of 2015. Trilateral talks with China and South Korea are ongoing, while bilateral talks with Turkey were just opened. Negotiations are also ongoing with the European Union. Bringing the Trans-Pacific Partnership negotiations to a successful conclusion has been a top priority of the Abe administration. The TPP has the potential to increase trade volumes (most notably with the United States) and to spur productivity by exposing domestic industries to greater competition from imports. The cabinet office has predicted that a successful agreement would boost real GDP by \$23 billion over the next ten years, with the automotive industry reaping the greatest benefits from the removal of tariffs.¹²⁸

Move toward open standards

Over the years, Japanese industry has often created and maintained its own proprietary technologies and standards. But this approach has undercut global demand for Japanese products; it has also slowed innovation and added risk by necessitating complex in-house development. Shifting to global accepted standards and platforms that allow for interoperability (such as Linux and Android), and even participating in the creation of these standards, would be especially critical in software development. It could allow Japan to draw on an agile open-source community for improved support, bug fixes, updates, and quality enhancements. Productivity could also improve as developers follow structured development practices and documentation.

Promote a culture of performance and accountability, including increased shareholder pressure

Chapter 2 discussed the importance of individual companies changing their incentive structures to promote talent and reward results. But market and regulatory reforms can support a culture of performance at an even broader level. Proposed new regulatory standards call for at least two outside directors on each corporate board, but even stronger measures may be needed to ensure accountability and improved corporate governance. One interesting approach has been the creation of a new stock index, the JPX-Nikkei 400, which includes only the 400 top-performing companies on the Tokyo Stock Exchange as measured by return on equity. With Japan's Government Pension Investment Fund adopting this index as a benchmark, companies now have an incentive to compete on this critical metric. Further empowering shareholders and improving corporate governance can create the necessary pressures for companies to invest excess cash holdings and address profit margins.

Shareholders in Japan have traditionally exercised relatively little pressure for performance, partially due to limited alternative investment opportunities and partially because of a sense that stability takes precedence over profitability. But a more activist approach has the potential to push management to increase revenues and achieve operational efficiencies—ultimately creating more competitive industries and better allocation of capital across the entire economy.

¹²⁸ "Cabinet office estimates TTP agreement will boost \$23 billion," *Nikkei Shimbun*, October 25, 2014.

Improving productivity in infrastructure

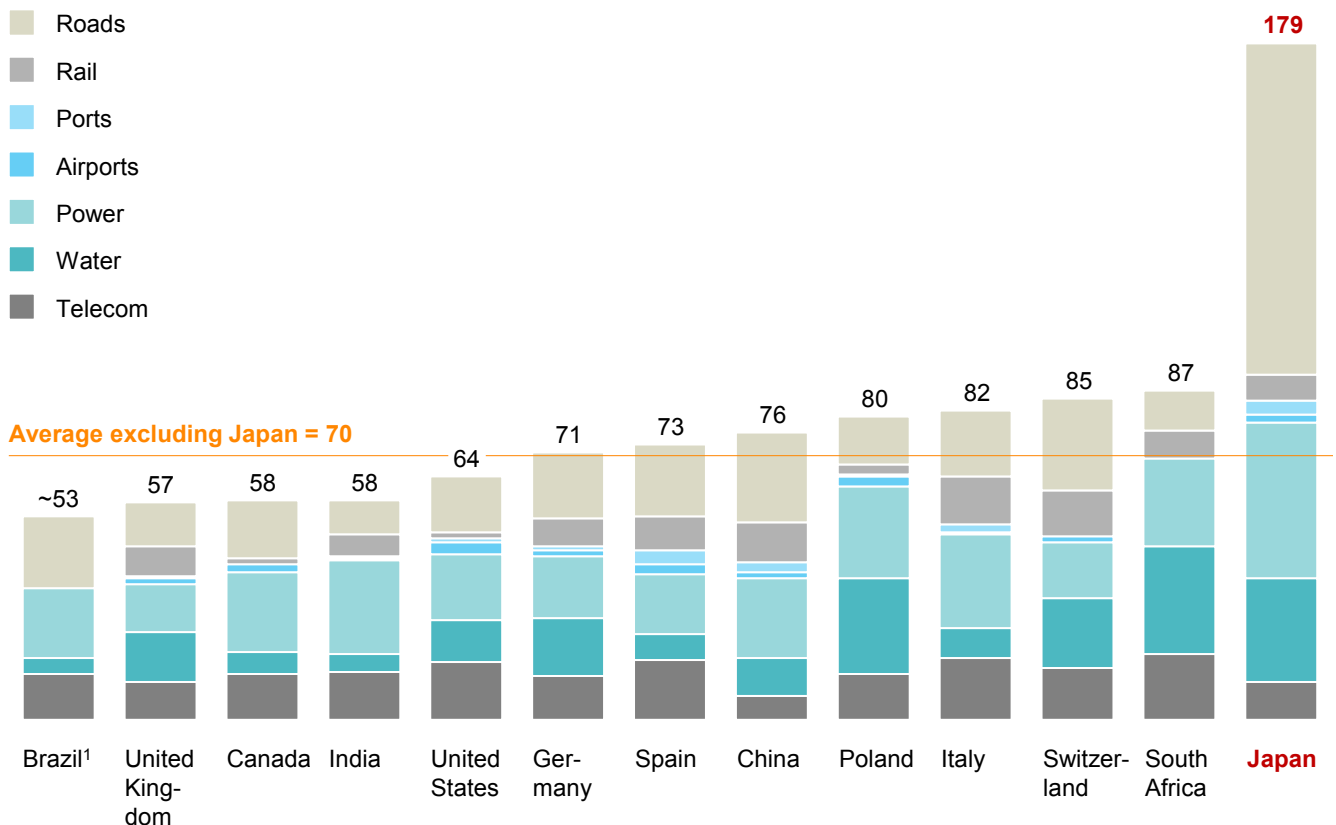
Modern infrastructure underpins Japan's mobility, trade, and connectivity. But world-class infrastructure comes at a high public cost, particularly if projects encounter long delays in planning and delivery or if they are underutilized after their completion. Japan's labor productivity in infrastructure is 32 percent below the level in the United States and 25 percent below the level in Germany.

Maintaining one of the highest levels of infrastructure investment in the world, at approximately 5 percent of GDP, has helped to sustain the Japanese economy.¹²⁹ The infrastructure and construction industry accounts for 9 percent of employment.¹³⁰ Years of heavy investment have resulted in the world's largest infrastructure stock (Exhibit 38). Japan was also confronted with a major rebuilding task in the aftermath of the Great East Japan Earthquake of 2011, and it is pioneering the incorporation of disaster-resilient features into major public works.

Exhibit 38

Japan has accumulated the world's largest infrastructure stock

Total infrastructure stock, 2012
% of GDP



1 For Brazil, road data contain all of transport. Brazil stock revised significantly upward to 46–54% from an earlier published version based on longer time series showing investment rates in the 1970s and 1980s two to three times as high as those in the 1990s and 2000s. The estimate shown is based on data provided courtesy of Armando Castelar.

SOURCE: ITF; GWI; IHS; national statistics; McKinsey Global Institute analysis

¹²⁹ IHS.

¹³⁰ World Input-Output Database, 2014.

This level of funding poses a tremendous challenge for a nation with the world's highest public debt burden. Furthermore, by 2032, more than half of Japan's infrastructure assets will be more than five decades old, and it will require significant expenditure to keep them functioning efficiently and safely.¹³¹ Japan will need to ensure that every dollar is used as productively as possible. Based on previous McKinsey research, we estimate that the strategies described below can help Japan reduce its annual infrastructure spending by almost 40 percent.¹³²

Make project selection and project management as rigorous as possible

In the past, Japan has built projects that turned out to be underutilized, but it is critical to direct investment to where it can underpin economic growth or provide important social infrastructure, resisting the pressure to create “showcase” projects. Proposals should be subject to a sophisticated cost-benefit analysis and prioritized using a transparent, fact-based decision-making process that considers how each project fits into other policy priorities.

Costs can easily spiral on a major infrastructure build, but more timely and efficient project delivery can reduce costs by up to 15 percent. An important source of savings would come from speeding up the approval and land acquisition processes and using big data–related technologies to plan and manage projects. Advanced 5D building information modeling (BIM) systems can cut costs by enabling value engineering and ensuring design accuracy. Actual construction time can be streamlined by monitoring real-time updates on all the complex aspects of a large-scale project in a central command center. Contracts can be structured around cost-saving approaches such as design-to-cost principles and the use of prefabrication and modular techniques.

Use maintenance, optimization, and demand management to extend the life of existing infrastructure assets

In many cases, it is more cost-effective to invest in extending the life span and capacity of existing assets than to build new projects. Japan could save approximately 15 percent on infrastructure investment through the right refurbishment and optimization strategies. A total cost of ownership approach allows for maintenance planning across the entire life of the asset, for instance. Japan already has an extensive system of toll roads, which generate revenue streams and tend to deter heavier usage, but more aggressive and comprehensive demand-management measures may need to be considered. The Internet of Things now makes it possible to take these concepts to a sophisticated new level, using networks of sensors to transmit streams of data regarding maintenance, capacity, and usage. This allows for much tighter management of transit systems, traffic, air control, and water systems.

Export world-class infrastructure capabilities and financing

Japan can export its engineering expertise to the rest of the world. Recent MGI research estimated that Southeast Asia alone has some \$3.3 trillion in infrastructure needs through 2030. There are many opportunities to serve as either financier or provider of infrastructure services in developing economies around the world, but Japan will have to compete for them.

¹³¹ *White paper on land, infrastructure, transport, and tourism in Japan*, Ministry of Land, Infrastructure, Transport and Tourism, 2012.

¹³² For a more in-depth discussion of this issue, see *Infrastructure productivity: How to save \$1 trillion a year*, McKinsey Global Institute, January 2013.

Japan's challenge will be transforming ideas into action

The parallels between the current Japanese economy and the Germany economy of 2000 are striking. The reunification of East and West Germany was heralded as a time of great opportunity, but it was followed by a prolonged slump during the 1990s. Despite its strong technology and industrial base, Germany found itself mired in an extended period of weak GDP growth, worsening productivity performance, and limited capital investment and consumer spending. The nation's ratio of public debt to GDP rose rapidly, a trend that seemed destined to worsen given the demographic challenges of its low fertility rate. But Germany embarked on a pro-growth agenda that included monetary and fiscal policy moves and broad labor market reforms. Its companies also began to globalize, taking advantage of the new trade frameworks created by the formation of the European Union, favorable exchange rates, and low interest rates. These moves paid off in the form of a solid foundation for competitiveness, and they helped Germany weather the global financial crisis and the subsequent Eurozone crisis in better shape than most of its peer economies. Germany has surmounted some of the same challenges facing Japan today, and its success offers some reason for optimism.

Reform is beginning to percolate through Japan's economy, although these efforts need to gain traction, scale, and scope. The "third arrow" has always been the most ambitious—and the most ambiguous—part of Abenomics. The government has proposed a number of structural reforms, but much of the heavy lifting of passing legislation and ensuring implementation still remains to be done. In many areas, even bigger issues have yet to make their way into the public debate.

The government is moving to create an additional 200,000 child-care slots this year, for example. New labor regulations have been proposed, including a move to evaluate employees on their productivity performance rather than the number of hours they put in and a slight increase in the number of foreign workers in certain fields. Tax incentives have been created to improve capital access for startups, and within key areas such as agriculture and the power sector, regulatory reform is being debated or phased in. But the growing inequality created by a two-tiered workforce, the need for large-scale retraining programs, and a realignment of the education system are looming issues that Japan will have to address.

Japan is taking steps in the right direction, but its demographic shift is already under way—and other countries are not sitting still in the battle for global market share and competitive advantage. In addition to reigniting growth in the immediate term, Japan has to prepare for a brave new world of demographic headwinds, fast-paced technological change, and amplified global competition. The global economy is being radically transformed, and it will take big ideas and bold moves to ride this wave of change successfully.

There is a narrow window of opportunity for turning the general drive for structural reform into action. To meet these challenges, Japan has to engage the corporate sector, government, and even the broader public simultaneously. Structural reform of industry cannot work without the right policy frameworks. Nor can it work without a new vision for what it means to be a productive Japanese citizen.

If Japan can successfully mobilize new talent, design effective retraining programs, and retool its education system, its future workforce will have a distinctly different face. Perhaps the most dramatic change would be the addition of millions of working women, whose presence could launch a new wave of female leaders into the ranks of Japan's corporations and government institutions. Seniors would remain engaged in productive work, passing

their skills and experience on to the next generation, while more immigrants would fill critical roles, bringing in new energy and new best practices. Japanese workers will be forced to adapt as the lifetime employment model gives way to a more dynamic and fluid labor market. They will have to rise to the challenge of competing for jobs multiple times during their careers, keeping their skills continually refreshed, and understanding that every job carries a mandate for efficiency and ingenuity. All of this would require a sea change in long-held attitudes and expectations.

There is a narrow window of opportunity for turning the general drive for structural reform into concrete action.

Companies can launch a “fourth arrow” of growth and productivity. Japan’s revitalization depends on their willingness to invest and innovate. But the business community also has an obligation to engage on the broader aspects of transforming the economy. Japan cannot mobilize all of its human capital, for instance, unless individual companies take the lead in hiring more women and seniors or designing training programs. Long-established companies can take a more entrepreneurial approach to their business lines—and refrain from fighting measures to open markets and spur competition in the interest of creating more expansive economic benefits. Last but not least, helping the government become more productive and entering into public-private partnerships to advance some of Japan’s social and economic goals could represent more than just good corporate citizenship; it could be a significant market opportunity.



Japan will have to pursue an ambitious agenda to break free from a protracted period of stagnation while simultaneously preparing for a demographic shift of historic proportions. Focusing on the priorities discussed here can help to address persistent legacy issues and put Japan in a stronger position to meet its looming challenges. They can also help Japan look to the future, capitalizing on immense flows of global trade, the rise of billions of new urban consumers in the emerging world, and technology breakthroughs. With a stronger emphasis on human capital, agility, innovation, and productivity, Japan can turn the current wave of global disruption into opportunity.





APPENDIX: TECHNICAL NOTES

This report analyzes the productivity of Japan with a special focus on four of its main industries. It tracks how their performance has changed over time, how they are likely to perform in the decade ahead if current trends continue, and the potential for improvement if various productivity measures are undertaken. It also measures Japan's performance at both the country and the sector level vs. two benchmark advanced economies: the United States and Germany.

There is a limited amount of comparable data available at the industry level. Therefore, as detailed below, we have based our analysis on global databases whenever possible to ensure data consistency. We filled data gaps by turning to national sources, including government ministries and industry associations. In addition, we used base-case growth projections for 2025 from IHS Global Insight.

This appendix describes the data and methodology we employed for assessing labor productivity at both the national and industry levels and for estimating the potential for productivity improvement by 2025.

1. Analyzing productivity at the country and industry level

We define labor productivity as the value added generated per each hour worked. To estimate labor productivity and to benchmark Japan vs. the United States and Germany, we analyzed data from the World Input-Output Database (WIOD).

At the country level, we first looked at value added from 1995 to 2011, which is reported in nominal prices using local currency by WIOD. We then adjusted all nominal figures to 2009 constant values using annual value added deflators from WIOD. Finally, to make figures comparable across countries, we then converted national currencies to US dollars using the purchasing power parity (PPP) conversion rate from the World Bank (World Development Indicators). Once we obtained figures in 2009 USD PPP values for all three countries for the period 1995 to 2011, we divided the annual value added by the number of hours worked during each of those years as reported by WIOD.

At an industry level, we followed a similar methodology as described above, adjusting nominal value added reported by industry to 2009 US dollars at PPP, using industry-specific deflators for 1995 to 2011 and 2009 PPP conversion rates at the country level, then dividing resulting value added by labor hours reported by industry in each of those years.

For the four industries we analyzed, we used the following data:

- **Advanced manufacturing:** We used WIOD data that corresponds to sector ISIC classifications 30t33 (electrical and optical equipment), 34t35 (transport equipment), and 29 (machinery).
- **Retail:** We used WIOD data that corresponds to sector ISIC classifications 52 (retail trade, except of motor vehicles and motorcycles; repair of household goods) and 50 (sale, maintenance, and repair of motor vehicles and motorcycles; retail sale of fuel).

- **Financial services:** We used WIOD data that corresponds to sector ISIC classification J (financial intermediation) for productivity at the industry level. We further break down the value added as reported by WIOD at an industry level into three subsectors (banking, insurance, and other financial services). For Japan we used the breakdown of value added data as reported by IHS; revenues from the Ministry of Economy, Trade, and Industry's Economic Census; and labor inputs as reported by the Ministry of Health, Labor, and Welfare. To break down data for the United States, we used data from the Bureau of Economic Analysis for value added and data from the Bureau of Labor Statistics for labor inputs.
- **Health care:** We used WIOD data that corresponds to sector ISIC classification N (health and social work).

We also estimated capital productivity, defined as value added generated per unit of gross fixed capital, at both the country and industry level. For this, we divided value added figures (in 2009 US dollars at PPP values), obtained as described above, by the annual gross fixed capital stock of each industry (also in 2009 US dollars at PPP values). These were obtained following a similar methodology as used to derive value added: we adjusted annual reported gross fixed capital in nominal national currency to 2009 constant values (using industry-specific deflators for capital formation as reported by WIOD), and converted all figures into US dollars using each country's 2009 PPP values as reported by the World Bank.

2. Calculating the potential for productivity improvements within specific industries

To estimate the potential for productivity improvements at the industry level, we applied the following methodology.

First, we projected labor productivity in 2025 under current trends:

- We used projections for growth in value added by 2025 at the industry level from IHS.
- We then estimated the likely decline in labor hours within the sector by 2025, taking two factors into consideration: 1) a total decline of approximately 3.7 percent in the workforce by 2025, based on projections from METI that show the labor force falling from 66.3 million in 2010 to 65.0 million in 2020 and then to 62.6 million in 2030; and 2) a total decline of approximately 5.8 percent in hours worked per employee by 2025, following historic trends of declining labor hours as reported by WIOD.
- Combining the projections for both value added and labor hours, we estimated the expected labor productivity of these industries (and for the Japanese economy as a whole) by 2025.
- Similarly, we estimated projected labor productivity at both the country level and at the industry level for the United States and Germany in 2025 for benchmarking purposes. These were calculated using industry growth expectations from IHS and historic trends for labor inputs from WIOD.

Second, we calculated the potential for improved productivity performance if a specific set of levers is deployed within each of the industries analyzed:

- We sized the potential benefit of each one of the individual industry initiatives described in Chapter 3 of this report, focusing on their impact on revenue increases, the reduction of non-labor costs, and/or the reduction of labor inputs resulting from efficiency gains.

- Our estimate for each lever is based on industry benchmarks, global best practices, and case studies from McKinsey’s own industry experience. Because the benchmark usually suggests the performance of the “best-in-class” player within a given industry, we estimated different rates of success and adoption across different players within a given industry based on the characteristics of that industry. For example, in retail, large chain retailers with modern store formats are much more likely than small traditional retailers to be able to take advantage of economies of scale and to have the capabilities to improve operations using next-generation digital tools. Our estimated impact for this lever was therefore adjusted proportionally to reflect the share of the industry that is ripe for adoption of these strategies. Similarly, in banking, megabanks are more likely to be able to expand their globalization strategies than small regional banks.
- We then adjusted the estimated value added by 2025 for each sector based on expected improvements in revenue or reductions in non-labor costs.
- A similar process was performed on the labor side. We estimated a reduction in the labor inputs needed within each sector by 2025, using a combination of two factors: 1) a decline in working hours per employee, based on historic trends of technological progress, as previously described; and 2) a decline in employment numbers as result of efficiency initiatives that require less labor. Although the labor inputs estimated under this methodology closely track the labor decline already projected under current trends, it is worth noting that these outcomes do point to a scenario in which operational efficiencies result in the elimination of some jobs. However, this trend is partially offset by other industry initiatives that involve pursuing higher revenues and creating new markets; capturing this growth will likely require additional labor.

In the case of the health-care industry, the system reforms and industry initiatives described in this report are mostly focused on containing the growth rate of health-care expense while maintaining high-quality services and freeing up resources to develop a more comprehensive long-term care sector:

- We arrived at base-case estimates of growth in health-care expenditures by 2025 by relying on projections from the Ministry of Economy, Trade, and Industry. These were combined from GDP growth forecasts from IHS to estimate health-care expenses as a percentage of GDP by 2025.
- We then sized individual initiatives to control health-care expenditures and create operational efficiencies within providers and payors, based on a combination of international best practices and estimates from Japan’s Ministry of Health, Labour and Welfare.
- As with the other industries, we estimated the labor hours required by 2025 considering both the general trend of decline in hours per worker and more specific declines in labor produced by implementing both demand-control initiatives and operational efficiencies.
- Although this previous step allows us to estimate labor productivity in the health-care sector by 2025, we have opted to consider this outcome as an improvement in controlling health-care costs (and therefore on the ratio of health-care expenditures as a share of GDP). This metric better reflects the effort to continue delivering high-quality services and the fact that Japan may opt to reallocate these resources in other areas, such as the development of a comprehensive long-term care system.

3. Estimating potential productivity improvement at the country level by 2025

Once we produced estimates for potential acceleration in productivity growth at the industry level for the four industries we examined in detail, we extrapolated those improvements to the rest of the economy using the following methodology:

- We began with a base case for value added by 2025 for the remaining industries across the Japanese economy using country-level growth estimates from IHS.
- We then linked each of the remaining industries across the economy to one of the four analyzed in detail based on their similarities. For example, advanced manufacturing was linked to other manufacturing industries such as textiles, food and beverage, wood products, and chemicals; health care was linked to other industries that are heavily influenced by the public sector, such as education, public administration and defense, and water transportation.
- We broke down the potential value added improvement, expressed in percentage terms, of the four industries analyzed into the three categories of initiatives: 1) incorporating global best practices; 2) adoption of next-generation technologies; and 3) organizing for discipline and performance. We assumed that the benefits of the latter category mostly apply to industries with higher levels of consolidation (i.e., those in which the top 10 players account for more than 40 percent of their industry's revenues).
- Having identified the potential improvement for the rest of the industries across the economy in percentage terms, we then used the base case for value added to estimate the potential improvement to value added, and thus to labor productivity, by 2025 for the rest of the economy.
- On the labor input side, we assumed current trends of labor force reduction continue. As mentioned above, the estimates under current trends and the estimates based on industry initiatives that involve pursuing higher growth with more efficient use of labor show very similar declines.
- Adding the estimates for the four industries profiled in this report to estimates for the rest of the economy, we then arrived at estimated value added and labor inputs for Japan under a potential scenario for growth by 2025. This produced an 18 to 28 percent increase in value added over the 2025 base case and an absolute reduction of some 9.5 percent in labor hours between 2011 and 2025.

Finally, our estimates of GDP per capita by 2025 are based on a base case that combines OECD projections of GDP per capita (from \$31,900 in 2011 to \$37,100 in 2025) with estimates on population decline from our proprietary Cityscope 2.55 database (showing a drop from 127 million in 2012 to 123 million in 2025). Assuming that GDP in 2025 improves by a similar rate as value added (i.e., by approximately 28 percent), and that population estimates remain constant at 123 million, GDP per capita has the potential to increase to \$47,700 by 2025 under the best-case scenario for higher growth.

BIBLIOGRAPHY

A

Abe, Shinzo, "Unleashing the power of 'womenomics,'" *The Wall Street Journal*, September 25, 2013.

Amorós, José Ernesto, and Niels Bosma, *2013 global report*, Global Entrepreneurship Monitor, January 2014.

Anderson, Gerard, and Naoki Ikegami, *How can Japan's DPC inpatient hospital payment system be strengthened? Lessons from the US Medicare prospective system*, Center for Strategic and International Studies, October 2011.

Aoyagi, Chie, and Giovanni Ganelli, *The path to higher growth: Does revamping Japan's dual labor market matter?* IMF working paper number 13/202, October 2013.

Arora, Ashish, and Alfonso Gambardella, eds., *From underdogs to tigers: The rise and growth of the software industry in Brazil, China, India, Ireland, and Israel*, Oxford University Press, 2006.

B

Bal, Claire, "Toyota wants TNGA platform to close gap with VW, Hyundai," *Automotive News Europe*, December 12, 2013.

Badheka, Apurva, Nileshkumar Patel, Peevush Grover, Vikas Singh, and Nilay Patel, "Impact of annual operator and institutional volume on percutaneous coronary intervention outcomes: A 5-year United States experience (2005–2009)," *Circulation*, September 2014.

Bilbao-Osorio, Beñat, Soumitra Dutta, and Bruno Lanvin, eds., *The global information technology report 2014: Rewards and risks of big data*, World Economic Forum, INSEAD, and Samuel Curtis Johnson Graduate School of Management at Cornell University, April 2014.

Birkmeyer, John D., Andrea E. Siewers, Emily V. A. Finlayson, Therese A. Stukel, F. Lee Lucas, Ida Batista, et al., "Hospital volume and surgical mortality in the United States," *New England Journal of Medicine*, volume 346, number 15, April 2002.

Brownlee, Shannon, Joseph Colucci, and Thom Walsh, *Productivity and the health care workforce*, New America Foundation, October 2013.

C

Caballero, Ricardo J., Takeo Hoshi, and Anil K. Kashyap, "Zombie lending and depressed restructuring in Japan," *American Economic Review*, volume 98, number 5, December 2008.

Cusumano, Michael A., "Manufacturing innovation: Lessons from the Japanese auto industry," *MIT Sloan Management Review*, October 1988.

D

De Weck, Olivier L., Eun Suk Suh, and David Change, *Product family strategy and platform design optimization*, presented at the 2003 ASME Design Engineering Technical Conference in Chicago, September 2–6, 2003.

Dobbs, Richard, James Manyika, and Jonathan Woetzel, *No ordinary disruption: The four global forces breaking all the trends*, Public Affairs, forthcoming in May 2015.

Dolado, Juan J., and Rodolfo Stucchi, *Do temporary contracts affect TFP? Evidence from Spanish manufacturing firms*, Institute for the Study of Labor (IZA) discussion paper number 3832, November 2008.

Dugan, Andrew, Randy Kyung-rok Han, and Sagar Pagare, *Asia or bust: Why Japanese firms must succeed in Asia to survive*, Knowledge@Wharton, December 2013.

E

Educational Testing Service, *Test and score data summary for TOEFL iBT tests*, 2013.

F

Fukao, Kyoji, and Tsutomu Miyagawa, *Productivity in Japan, the US, and the major EU economies: Is Japan falling behind?* Research Institute of Economy, Trade and Industry, July 2007.

Fukao, Kyoji, Ryo Kambayashi, Daiji Kawaguchi, Hyeog Ug Kwon, Young Gak Kim, and Izumi Yokoyama, *Deferred compensation: Evidenced from employer-employee matched data from Japan*, Hitotsubashi University Research Unit for Statistical Analysis in Social Sciences, October 2006.

G

Goldman Sachs, *Womenomics 4.0: Time to walk the talk*, Portfolio Strategy Research, May 2014.

Group of Twenty and International Monetary Fund, *Japan sustainability report*, November 2011.

H

Hayashi, Yuka, "Japan aids neighbors with 'high-quality infrastructure,'" *The Wall Street Journal*, November 12, 2014.

Henke, Nicolaus, Sonosuke Kadonaga, and Ludwig Kanzler, "Reforming Japan's health care system," *McKinsey Quarterly*, March 2009.

Hunt, Jennifer, and Marjolaine Gauthier-Loiselle, *How much does immigration boost innovation?* NBER working paper number 14312, September 2008.

Hussey, P. S., H. de Vries, J. Romley, M. C. Wang, S. S. Chen, P. G. Shekelle, and E. A. McGlynn, "Health care efficiency: A systematic review of health care efficiency measures," *Health Services Research*, volume 44, number 3, June 2009.

I

IBM Center for Applied Insights, *Global tech hot spots: A country-level look at big data & analytics, cloud, mobile, and social*, November 3, 2014.

Iizuka, Toshiaki, and Kensuke Kubo, "The generic drug market in Japan: Will it finally take off?" *Health Economics, Policy and Law*, volume 6, issue 3, June 2011.

International Monetary Fund, *Japan: 2014 Article IV consultation, concluding statement of the IMF Mission*, May 2014.

Ishii, Yoshiaki, "Support from individuals energizes startups," *Toyo Keizai*, August 2014.

K

Kerr, William R., *US high-skilled immigration, innovation, and entrepreneurship: Empirical approaches and evidence*, NBER working paper number 19377, August 2013.

Koo, Richard C., *The holy grail of macroeconomics: Lessons from Japan's Great Recession*, Wiley, 2009.

Krugman, Paul, *The age of diminished expectations*, MIT Press, 1994.

L

Lam, Raphael W., *Cross-border activity of Japanese banks*, IMF working paper number 13/235, November 2013.

Lotti, Francesca, and Eliana Viviano, *Temporary workers, uncertainty, and productivity*, Bank of Italy, October 2012.

M

MacKenzie, Ian, Chris Meyer, and Steve Noble, "How retailers can keep up with consumers," *McKinsey Quarterly*, October 2013.

Manpower Group, *The talent shortage continues: How the ever-changing role of HR can bridge the gap*, May 2014.

Markovitch, Shahar, and Paul Willmott, "Accelerating the digitization of business processes," *McKinsey Quarterly*, May 2014.

McKinsey & Company, *The challenge of funding Japan's future health care needs*, March 2008.

McKinsey & Company, *Gender diversity in top management: Moving corporate culture, moving boundaries*, November 2013.

McKinsey & Company, *Generating value in generics: Finding the next five years of growth*, May 2013.

McKinsey & Company, *Retail banking in Asia: Actionable insights for new opportunities*, March 2013.

McKinsey & Company, *Unleashing the value of advanced analytics in insurance*, August 2014.

McKinsey & Company, *Women matter: An Asian perspective*, June 2012.

McKinsey Global Institute, *Big data: The next frontier for innovation, competition, and productivity*, May 2011.

McKinsey Global Institute, *China's e-tail revolution: Online shopping as a catalyst for growth*, March 2013.

McKinsey Global Institute, *Debt and (not much) deleveraging*, February 2015.

McKinsey Global Institute, *Disruptive technologies: Advances that will transform life, business, and the global economy*, May 2013.

McKinsey Global Institute, *Global flows in a digital age*, April 2014.

McKinsey Global Institute, *Global growth: Can productivity save the day in an aging world?* January 2015.

McKinsey Global Institute, *Infrastructure productivity: How to save \$1 trillion a year*, January 2013.

McKinsey Global Institute, *Manufacturing the future: The next area of global growth and innovation*, November 2012.

McKinsey Global Institute, *Southeast Asia at the crossroads: Three paths to prosperity*, November 2014.

McKinsey Global Institute, *Urban world: Cities and the rise of the consuming class*, June 2012.

McKinsey Global Institute, *US productivity growth 1995–2000: Understanding the contribution of Information Technology relative to other factors*, October 2001.

McKinsey Global Institute, *Why the Japanese economy is not growing: Micro barriers to productivity growth*, July 2000.

McKinsey Quarterly, “Improving Japan’s health care system,” issue number 2, 2009.

McKinsey Quarterly, “Shaping the future of manufacturing,” issue number 1, 2014.

Ministry of Economy, Trade and Industry, *Report of the Council for the next generation healthcare industry*, June 2014.

Ministry of Health, Labour and Welfare, *Central Social Insurance Medical Council report*, November 2013.

Ministry of Health, Labour and Welfare, *The current status in beds for general patients*, January 2012.

Ministry of Health, Labour and Welfare, *The latest status in pharmaceutical medical costs*, July 2014.

Ministry of Health, Labour and Welfare, National livelihood survey 2012.

Ministry of Health, Labour and Welfare, *The revision of the reimbursement 2014 summary*, April 2014.

Ministry of Health, Labour and Welfare, Survey for elderly care payments, August 2014.

Ministry of Internal Affairs and Communications, *Research on socio-economic benefits from ICT in health-care treatments*, 2012.

Ministry of Land, Infrastructure, Transport and Tourism, *White paper on land, infrastructure, transport, and tourism in Japan, 2012*.

Mourshed, Mona, Diana Farrell, and Dominic Barton, *Education to employment: Designing a system that works*, McKinsey Center for Government, December 2012.

Muller, Joann, “The world’s most popular cars: Ford Focus and other surprises,” *Forbes*, December 23, 2013.

N

National Institute of Population and Social Security Research, *Population projections for Japan: 2011 to 2060*, January 2012.

Nikkei Asian Review, “Majority of Japanese companies mine big data,” December 11, 2014.

Nikkei Shimbun, “Cabinet office estimates TPP agreement will boost \$23 billion,” October 25, 2014.

Nikkei Shimbun, “METI considers making IT investment disclosure an obligation for corporates,” December 8, 2014.

O

OECD, *Education at a glance 2013: OECD indicators*, September 2013.

OECD, *Education at a glance 2014: OECD indicators*, October 2014.

OECD, *Health at a glance 2013: OECD indicators*, November 2013.

OECD, *PISA 2012 results: Ready to learn—students’ engagement, drive and self-beliefs* (volume III), December 2013.

OECD, *PISA 2012 results: What students know and can do—student performance in mathematics, reading and science* (volume I, revised edition), February 2014.

Onishi, Kiichiro, “Reduction in the number of hospital beds in a super-aging society: An upsurge in isolation deaths,” *Japan Hospitals*, number 33, July 2014.

P

Pandya, Sonal, and David Leblang, *Deal or no deal: The growth of international venture capital investment*, University of Virginia, November 2011.

Porter, Michael E., “What is value in health care?” *New England Journal of Medicine*, volume 363, number 26, December 2010.

R

Robertson, David, and Karl Ulrich, “Planning for product platforms,” *MIT Sloan Management Review*, July 1998.

S

Saito, Masashi, and Yoshihiko Hogen, *Portfolio rebalancing following the Bank of Japan's government bond purchases: Empirical analysis using data on bank loans and investment flows*, Bank of Japan, June 2014.

Salsberg, Brian, "The new Japanese consumer," *McKinsey Quarterly*, March 2010.

Schreyer, Paul, *Towards measuring the volume output of education and health services: A handbook*, OECD Statistics Directorate, working paper number 31, April 2010.

Schwartz, Ariel, "BMW's new plant built with aging workforce in mind," *Fast Company*, February 11, 2011.

Shirakawa, Hiromichi, and Takashi Shiono, *Japan economic analysis, issue number 44: Estimating potential excess demand for labor*, Credit Suisse, September 2013.

Statistics Bureau of Japan, *Labour statistics of Japan's workforce: Overview of the system and basic statistics, general welfare and labour*, January 2015.

Steinberg, Chad, and Masato Nakane, *Can women save Japan?* IMF working paper number 12/248, October 2012.

T

Tarafdar, Debashis, Vikas Sarangdhar, and James Lisica, *2014 Gartner supply chain top 25: Asia/Pacific*, Gartner, August 2014.

Tomiura, Eiichi, "Foreign outsourcing, exporting, and FDI: A productivity comparison at the firm level," *Journal of International Economics*, volume 72, number 1, May 2007.

Trudell, Craig, and Yukiko Hagiwara, "Toyota plans overhaul to seniority-based pay," *Bloomberg Business*, January 26, 2015.

Tyson, Laura D'Andrea, "Japan's women to the rescue," *The New York Times*, August 23, 2013.

U

US Food and Drug Administration, *Facts about generic drugs*, July 2013.

V

Van Rixtel, Adrian, and Jeff Slee, "The return of Japanese banks," Bank for International Settlements, *BIS Quarterly Review*, September 2013.

Viguerie, Patrick, Sven Smit, and Mehrdad Baghai, *The granularity of growth: How to identify the sources of growth and drive enduring company performance*, Wiley, 2008.

W

World Economic Forum and McKinsey & Company, *Closing the gender gap in Japan*, June 2014.

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