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OVERVIEW



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Basic Statistics of Japan, 2017

(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE				
Population (million)	126.5		Population density per km ²	347.8 (35.8)
Under 15 (%)	12.2	(17.9)	Life expectancy (years, 2016)	84.1 (80.6)
Over 65 (%)	28.0	(16.8)	Men	81.0 (77.8)
Foreign (%)	1.6		Women	87.1 (83.2)
Latest 5-year average growth (%)	-0.3	(0.6)	Latest general election	October 2017
ECONOMY				
Gross domestic product (GDP)			Value added shares (%)	
In current prices (billion USD)	4 860		Primary sector	1.2 (2.5)
In current prices (trillion YEN)	545		Industry including construction	31.9 (27.0)
Latest 5-year average real growth (%)	1.2	(2.1)	Services	66.9 (70.5)
Latest 5-year per capita average real growth (%)	1.5	(1.5)		
Per capita (000 USD PPP)	43.3	(43.7)		
GENERAL GOVERNMENT				
Per cent of GDP				
Expenditure	38.3	(41.0)	Gross financial debt ^a	223.4 (110.1)
Revenue	35.4	(38.8)	Net financial debt ^a	126.9 (71.1)
EXTERNAL ACCOUNTS				
Exchange rate (YEN per USD)	112		Main exports (% of total merchandise exports)	
PPP exchange rate (USA = 1)	102		Machinery and transport equipment	58.8
In per cent of GDP			Manufactured goods	11.3
Exports of goods and services	17.8	(54.7)	Chemicals and related products, n.e.s	10.2
Imports of goods and services	16.8	(50.3)	Main imports (% of total merchandise imports)	
Current account balance	4.0	(0.4)	Machinery and transport equipment	28.8
Net international investment position	59.9		Mineral fuels, lubricants and related materials	21.1
			Miscellaneous manufactured articles	13.8
LABOUR MARKET, SKILLS AND INNOVATION				
Employment rate for 15-64 year-olds (%)	75.3	(67.8)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	2.8 (5.8)
Men	82.9	(75.5)	Youth (age 15-24, %)	4.7 (11.9)
Women	67.4	(60.1)	Long-term unemployed (1 year and over, %)	1.0 (1.7)
Participation rate for 15-64 year-olds (%)	77.5	(72.1)	Tertiary educational attainment 25-64 year-olds (%)	51.4 (36.9)
Average hours worked per year	1 710	(1 744)	Gross domestic expenditure on R&D (% of GDP)	3.2 (2.4)
ENVIRONMENT				
Total primary energy supply per capita (toe)	3.4	(4.1)	CO ₂ emissions from fuel combustion per capita (tonnes, 2016)	9.1 (9.1)
Renewables (%)	5.5	(10.2)	Water abstractions per capita (1000 m ³ , 2014)	0.6
Exposure to air pollution (more than 10 µg/m ³ of PM2.5, % of population, 2015)	98.1	(75.2)	Municipal waste per capita (tonnes, 2016)	0.4 (0.5)
SOCIETY				
Income inequality (Gini coefficient, 2015)	0.339	(0.313)	Education outcomes (PISA score, 2015)	
Relative poverty rate (% , 2015)	15.7	(11.7)	Reading	516 (493)
Median disposable household income (000 USD PPP, 2015)	22.4	(23.1)	Mathematics	532 (490)
Public and private spending (% of GDP)			Science	538 (493)
Health care	10.7	(8.8)	Share of women in parliament (%)	9.3 (28.7)
Pensions (2015)	9.7	(7.3)	Net official development assistance (% of GNI)	0.23 (0.38)
Education (primary, secondary, post sec. non tertiary, 2015)	2.7	(3.5)		

Better Life Index: www.oecdbetterlifeindex.org

* Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 29 member countries.

'a. 2016 data for the OECD.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

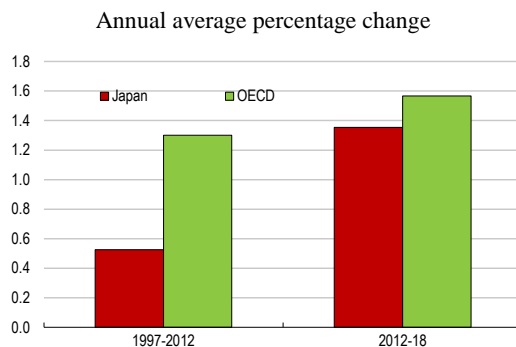
Executive summary

- *Growth has strengthened but Japan faces long-term challenges*
- *Output growth is projected to continue at a moderate pace*
- *Japan needs a detailed and concrete plan to ensure fiscal sustainability*
- *Reducing obstacles to employment*
- *Raising productivity is important to offset the impact of falling labour inputs*
- *Boosting well-being by improving the environment and slowing climate change*

Growth has strengthened but Japan faces long-term challenges

Japan's current economic expansion is its longest of the post-war era. The growth of output per capita has accelerated since 2012 to a rate close to the OECD area (Figure A), supported by the three arrows of Abenomics — a bold monetary policy, flexible fiscal policy and structural reforms. Persistent deflation has ended and the government budget deficit has fallen from 8.3% of GDP in 2012 to 2.4%.

Figure A. Japan's per capita output growth has accelerated



Source: OECD Economic Outlook database.

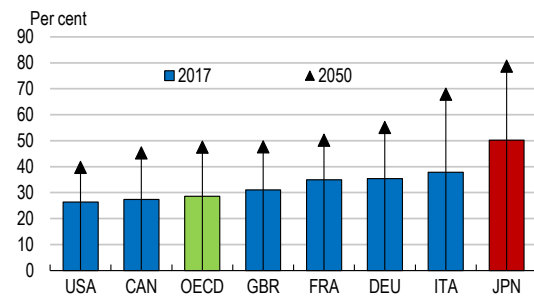
StatLink <http://dx.doi.org/10.1787/888933953069>

Japan faces the intertwined challenges of rapid population ageing and high government debt. Ageing is partly driven by long life expectancy. Half of the children born in Japan in 2007 are expected to live to the age of 107, which has major implications for the labour market. The number of elderly is projected to rise from 50% of the working-age population in 2015 to 79% by 2050, remaining the highest in the OECD (Figure B).

The increasing elderly population has driven a sharp rise in social spending since 1992. Twenty-seven consecutive years of budget deficits have driven gross government debt to 226% of GDP in 2018, the highest ever recorded in the OECD area. The government projects that population ageing will boost spending on health and long-term care by 4.7% of GDP by 2060. Measures to ensure the sustainability of Japan's social insurance

programmes, as spending rises and the number of working-age persons falls from 2.0 per elderly to 1.3 by 2050, is a priority.

Figure B. Japan's population is projected to remain the oldest in the OECD in 2050



Note: Population aged 65 and older as a share of the population aged 20 to 64.

Source: OECD Demography and Population database.

StatLink <http://dx.doi.org/10.1787/888933953088>

Output growth is projected to continue at a moderate pace

Output growth has slowed since 2017, reflecting weaker exports as world trade decelerated (Figure C). Still, output growth is expected to remain close to $\frac{3}{4}$ per cent through 2020, as shortages of labour and capacity, combined with record-high profits, continue to support business investment and wages. The temporary effect of the planned hike in the consumption tax rate from 8% to 10% in October 2019 will be less than after the 2014 tax hike thanks to offsetting fiscal measures.

Figure C. The economy is projected to grow around $\frac{3}{4}$ per cent a year in 2019 and 2020

	2018	2019	2020
Gross domestic product	0.8	0.8	0.7
Private consumption	0.4	0.6	-0.1
Gross fixed capital formation	1.1	1.9	0.6
Exports	3.1	1.6	3.8
Imports	3.3	3.5	2.0
Unemployment rate	2.4	2.4	2.4
Consumer price index ¹	1.0	0.7	1.3
General government fiscal balance (% of GDP)	-2.4	-2.4	-1.9

1. Excluding the impact of the 2019 tax hike.

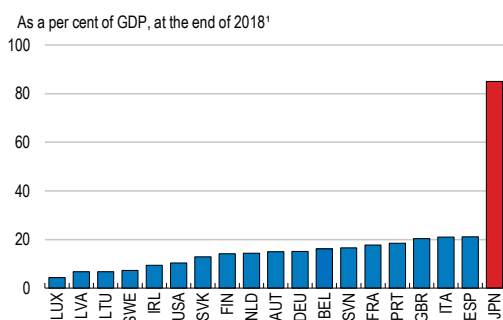
Source: OECD Economic Outlook database.

Global uncertainties weigh on the outlook.

Trade tensions have clouded the outlook for businesses and risk disrupting investment and global value chains. Japan is also vulnerable to a slowdown in China's domestic demand. On the domestic side, wage growth is a major uncertainty. Larger increases in basic wages are important to sustain private consumption.

The Bank of Japan should maintain monetary easing until achieving its inflation target while taking account of risks and problems. Headline consumer price inflation has edged up from negative territory in 2016, but remains well below the 2% target. Under qualitative and quantitative easing, the central bank's holdings of government bonds have reached 85% of GDP (Figure D).

Figure D. Bank of Japan's holdings of government bond have increased sharply



1. March 2019 for Japan, January for the United States and November 2018 for Sweden.

Source: OECD Economic Outlook database.

StatLink  <http://dx.doi.org/10.1787/888933953107>

Japan needs a detailed and concrete plan to ensure fiscal sustainability

The government now aims to achieve a primary surplus by FY 2025. Due to lower-than-expected growth, repeated supplementary budgets and delays in raising the consumption tax from 8% to 10%, the FY 2018 benchmark for the primary deficit was missed. Moreover, it was decided to use some of the additional revenue from the 2019 tax hike for new social spending. In this context, the FY 2020 target, set in 2010, is no longer realistic. Japan needs a comprehensive fiscal consolidation plan

including specific spending cuts and tax increases, as well as an improved fiscal framework to ensure implementation of the plan. To reduce the government debt ratio to 150% of GDP by 2060, OECD estimates suggest a sustained primary surplus of 5% to 8% of GDP would be required.

Containing spending growth requires focusing on health and long-term care by making more efficient use of healthcare resources while providing high-quality care. Priorities for reform include taking long-term care out of hospitals and shifting its focus to home-based care, promoting greater use of generic drugs and improving preventive care. With Japan's population projected to fall by one-fifth to around 100 million by 2050, many parts of the country are facing depopulation. Efficiency would be increased by expanding the joint provision of local public services, including health and long-term care and infrastructure, across jurisdictions and developing compact cities.

Japan should rely primarily on the consumption tax to boost revenue as it is a relatively stable revenue source, is less harmful for growth and improves intergenerational equity. The current 8% rate is one of the lowest in the OECD. Achieving a sufficient primary surplus through the consumption tax alone would require raising the rate to between 20% and 26%, above the 19% OECD average. A hike in environmentally-related taxes from their relatively low level would also be beneficial. In addition, broadening the personal income tax base would raise revenue while reducing inequality and disincentives to work. Policies that encourage employment and output growth are crucial for fiscal sustainability.

Reducing obstacles to employment

The labour force will decline by one-fourth by 2050, assuming constant labour force entry and exit rates. Japan's traditional labour model – lifetime employment, a seniority-based wage system and mandatory retirement – is poorly suited to the era of 100-year lives, as it

discourages the employment of older persons and women, and labour mobility. Abolishing the right of firms to set mandatory retirement at 60 would increase employment and productivity as workers who are re-hired at age 60 are usually shifted to non-regular jobs with lower responsibilities and pay. It would also weaken the role of seniority in setting wages, which would benefit women in particular.

Women face obstacles to employment and are under-represented in leadership roles. For example, they account for only 10% of the members of the lower house of the Diet. Removing barriers to women requires policies to: *i*) improve work-life balance by strictly enforcing the new 360-hour annual limit on overtime; *ii*) further reduce waiting lists for childcare; and *iii*) attack discrimination, which tends to exclude women from fast-track career paths. Breaking down labour market dualism is also essential, as women account for two-thirds of non-regular workers, who are paid substantially less. This would also eliminate a key source of income inequality and poverty.

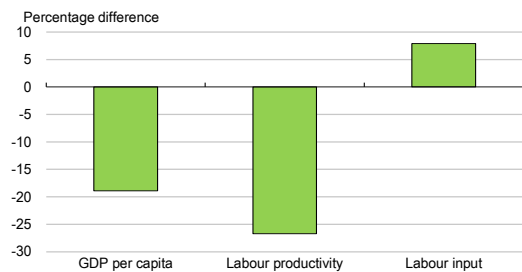
It is essential to increase the role of foreign workers. The new residency status that allows lower-skilled foreigners to work in sectors facing labour shortages is a major step in this direction.

Raising productivity is important to offset the impact of falling labour inputs

Output per hour worked in Japan is more than a quarter below the top half of OECD countries (Figure E). The government set a goal to double productivity growth to 2% by 2020. One key area for reform is corporate governance, which has the potential to encourage firms to use their large cash holdings for fixed investment and wages. In 2015, Japan introduced a Corporate Governance Code, but the changes thus far have been primarily form rather than substance. The government should closely monitor and promote the Code's implementation, notably the measures to reduce cross-shareholding and increase diversity on corporate boards.

Figure E. Labour productivity is low in Japan and labour inputs are high

Japan relative to the top half of OECD countries in 2017



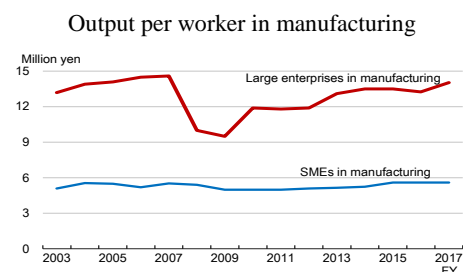
Source: OECD Economic Outlook database.

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Another priority for reform relates to small and medium-sized enterprises (SMEs).

Despite a high level of public support for SMEs, productivity in large firms was 2.5 times higher than in SMEs in FY 2017 in manufacturing, a large gap by international standards (Figure F). Narrowing the gap is essential to achieve inclusive growth. The government has scaled back credit guarantees to SMEs and the proportion of loans that is guaranteed. Further reducing support would strengthen incentives for banks to provide appropriate monitoring and for SMEs to increase productivity. Successfully implementing programmes to promote entrepreneurship and reduce the use of personal guarantees would boost the creation of innovative firms. The large share of older SME owners creates succession issues but also opportunities to achieve economies of scale.

Figure F. The productivity gap between large firms and SMEs is wide in Japan



Source: Ministry of Finance.

StatLink <http://dx.doi.org/10.1787/888933953145>

Boosting well-being by improving the environment and slowing climate change

Japan faces the challenge of reducing CO₂ emissions and air pollution. Japan plans to build new and more efficient coal-fired power plants. These nonetheless produce more CO₂ emissions than other types of power plants. Increasing the use of renewables, which are becoming more competitive, could reduce

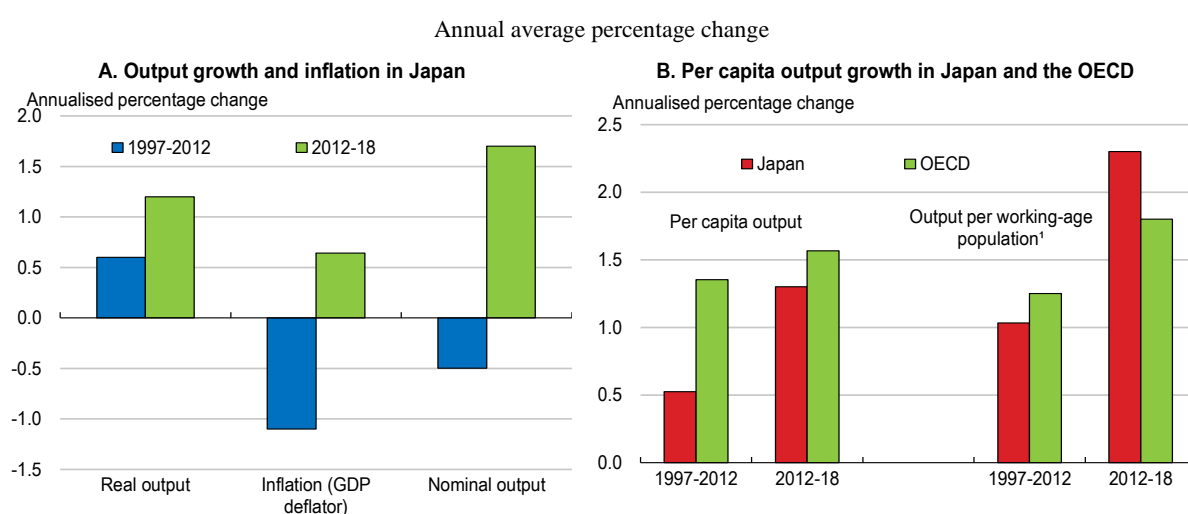
emissions and improve air quality. This requires facilitating their entry in electricity markets. Gradually increasing effective carbon prices, while taking into account the already high price of electricity, as well as the social and economic impacts in Japan, would be an option to achieve emission reductions cost-effectively and further increase Japan's high level of energy efficiency.

MAIN FINDINGS	KEY RECOMMENDATIONS
Monetary policy and the financial sector	
Consumer price inflation is well below the 2% target.	Monetary easing should be maintained as planned until inflation is durably above the 2% target, while closely monitoring costs and risks.
Financial institutions have been more active in risk-taking, expanding their lending to low-return borrowers, real estate, overseas borrowers and investment trusts.	Financial supervisors should encourage financial institutions to improve their risk management in areas where they have increased their risk-taking.
Mitigating the decline in the labour force	
In 2016, 81% of firms set a mandatory retirement age of 60. Those who are re-hired tend to work in non-regular jobs that pay less and do not fully utilise their skills.	Abolish the right of firms to set a mandatory retirement age and reinforce legislation against age discrimination.
The share of employees working long hours in Japan is high, discouraging employment of second earners in households and older persons.	Strictly enforce the new 360-hour annual limit on overtime hours and raise penalties on firms that exceed it. Introduce a mandatory minimum period of rest between periods of work.
The female employment rate increased from 60.7% in 2012 to 69.6% in 2018, though around half were non-regular workers. The share of management positions in the public and private sectors held by women is among the lowest in the OECD. This contributes to a 25% gender wage gap, the third highest in the OECD.	Focus on reducing the waiting list for childcare so that mothers are not forced to leave the work force and strengthen measures to prevent discrimination against women in education and employment.
Foreign workers account for only 2% of the labour force, the lowest share in the OECD. A recent law created a residency status that allows foreign nationals to work for up to five years in Japan in sectors facing labour shortages.	Provide programmes to help foreign nationals adjust to Japan, including through education, and ensure fair treatment in wages and conditions to attract foreign workers.
Raising productivity	
The 2014 Stewardship Code and 2015 Corporate Governance Code have led to changes, though so far it is more form than substance. Cross-shareholding and cash reserves are high and the share of women and foreigners on corporate boards is low.	Carefully monitor the implementation of the principles in the Codes to encourage firms to use large cash holdings for investment, increase diversity on corporate boards and reduce cross-shareholding.
Productivity in SMEs lags far below large companies, and they tend to remain small. Many elderly SME owners cannot find successors.	Encourage mergers, acquisitions and divestitures of SMEs in the face of labour shortages to promote consolidation of managerial resources in viable firms.
Achieving fiscal sustainability	
Japan's gross government debt, which reached 226% of GDP in 2018, will continue to rise inexorably unless tax revenue is raised from its currently low level and the upward trend in ageing-related social spending is contained.	Develop a comprehensive fiscal consolidation plan covering specific spending cuts and tax increases, including a further gradual rise of the consumption tax, to ensure fiscal sustainability.
The average hospital stay in Japan is the longest in the OECD, while per capita outlays on pharmaceuticals are relatively high. Medical consultations are much more frequent than the OECD average.	Take long-term care out of hospitals and shift its focus to home-based care. Promote greater use of generic drugs by making them the standard for reimbursement by health insurance and raise the co-payment rate of the elderly by establishing the ability-to-pay principle through an effective system for assessing income and assets.
Falling population limits economies of scale in local public administration and infrastructure investment and management, threatening the sustainability of public services.	Promote the joint provision of local public services and infrastructure across jurisdictions and the development of compact cities.
The fall in the share of the population contributing to the basic pension system will reduce the share of elderly receiving public pensions. Macroeconomic indexation of pension benefits is likely to reduce the replacement rate and may increase the already high poverty rate among the elderly.	Raise the pension eligibility age above 65 to maintain a sufficiently high replacement rate, while taking measures to expand the employment of older persons. Remove distortions in tax and social benefit systems, such as the spousal deduction, that discourage labour force participation, while increasing the coverage of firm-based social insurance.
Promoting green growth	
Japan has a strategy to reach its target of reducing greenhouse gas (GHG) emissions by 26% below 2013 levels by 2030. There is no similar plan for reaching the 80% reduction in GHG emissions by 2050.	Develop a low greenhouse gas emission development strategy with a horizon to 2050.
The fragmentation of the electricity system into ten regions with vertically-integrated incumbent monopolies and limited grid integration weakens incentives for the rapid uptake of renewable generation. Incumbents are required to set up legally separate companies for transmission and distribution from 2020.	Strengthen competition in electricity markets by ensuring that the transmission systems operator is fully independent from the vertically-integrated incumbent utilities and expand interconnection capacity.
While energy prices are high, most of Japan's CO ₂ emissions are priced well below estimated climate-cost benchmarks in terms of effective carbon prices.	Gradually increase the effective carbon price, while taking account of the social and economic impact.

Key policy insights

The current expansion, which began in late 2012, is now the longest in Japan’s post-war history, though not its fastest. Output growth picked up from an annual pace of 0.5% over 1997-2012 to 1.3% since Abenomics was launched (Figure 1, Panel A). At the same time, persistent deflation has been replaced with positive, albeit low, inflation, helping boost nominal growth to 1.7%. On a per capita basis, output growth has converged toward the rate for the OECD area (Panel B). Moreover, output per working-age population has risen significantly along with the employment rate. Labour productivity growth, however, remains sluggish.

Figure 1. Abenomics has contributed to faster output growth and higher inflation



1. The 20-64 age group.

Source: OECD Economic Outlook database.

StatLink  <http://dx.doi.org/10.1787/888933953164>

The three arrows of Abenomics — a bold monetary policy, flexible fiscal policy and a growth strategy — helped Japan overcome two decades of sluggish growth. The Bank of Japan’s quantitative and qualitative easing, accompanied by yield curve control and negative interest rates since 2016, have ended deflation, though inflation remains below the 2% target. Fiscal policy has provided timely support, while helping to reduce Japan’s primary deficit by about 5% of GDP over 2012-18. Growth strategies have included welcome reforms, such as introducing a corporate governance code and a sizeable cut in the corporate income tax rate (Table 1). The expansion of childcare capacity has facilitated a sharp rise in female employment. Japan has also taken steps to boost the role of foreign workers and has been actively involved in regional trade agreements. Nevertheless, labour productivity growth has slowed to an annual pace of 1.0% since 2012.

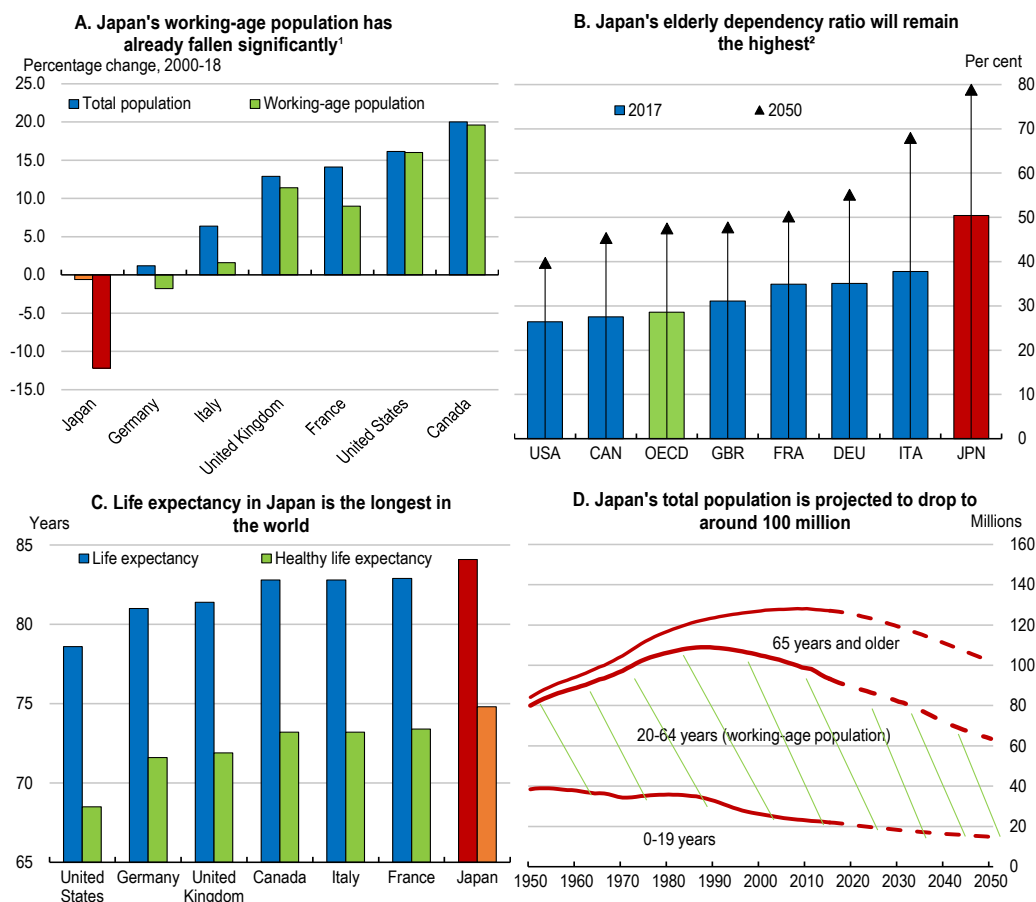
Prime Minister Abe has stated that rapid population ageing is Japan’s “biggest challenge”. Japan’s working-age population (aged 20-64) has fallen by 12% since 2000, compared to a 2% decline in Germany and increases in other G7 countries (Figure 2, Panel A). The share of the population over age 65 rose from 26% of the working-age population in 2000 to 50% in 2017. Despite a significant rise in the labour force participation rate, Japan is facing severe labour shortages that have forced some firms to curtail or cease operations and has led to a decline in the quality of services (Morikawa, 2018).

Table 1. Key reforms introduced since the launch of Abenomics

Reform	Objective	Actions taken
1. Strengthen corporate governance	Sustained growth in corporate value through enhanced corporate governance as well as improved management and strengthened fundamentals to support listed companies and financial institutions.	The Stewardship Code launched in early 2014 has been accepted by more than 200 institutional investors. A Corporate Governance Code, launched in 2015, applies to more than 2 500 listed firms. The share of firms in the first section of the Tokyo Stock Exchange that have at least two independent outside directors increased from 22% in 2014 to 91.3% in 2018.
2. Corporate tax reform	Encourage companies to invest more and raise wages.	The corporate tax rate was cut from 37% in FY 2013 to 29.74% in FY 2018, along with the broadening of the tax base. Over that period, national corporate income tax revenue is estimated to have risen 17.2%.
3. Enhance women's participation and advancement	Provide a working environment conducive to women with children and improve the business environment to enhance women's career advancement at workplaces.	Japan increased the number of childcare places by 0.53 million and the number of after-school care places by 0.3 million over FY 2013-17. This helped to push up the female employment rate from 60.7% in 2012 to 69.6% in 2018.
4. Attract talent from overseas	Create an environment where skilled professionals from overseas can play an active role. Conduct a thorough review of the Technical Intern Training Programme (TITP) for foreign workers in Japan.	In 2017, the government introduced the "Japanese Green Card for Highly Skilled Foreign Professionals" that reduces the period of stay required before they can apply for permanent residence. In 2018, the government approved a new residency status for work-ready foreigners with expertise in industries that need more workers, such as construction, agriculture and long-term care.
5. Reform agricultural policy	Double the income of farmers and farming communities by making agriculture a growth industry. Accelerate private-sector participation in agriculture, drawing on corporate experience.	Production quotas for table rice were abolished in FY 2018 to enable farmers to produce rice in response to demand without relying on government quotas. Requirements for the ownership of farmland by agricultural production corporations were relaxed and agricultural co-operatives reformed.
6. Promote international trade	Extend free, fair, rule-based markets across the world. Increase the share of Japanese trade covered by free trade agreements from 24% to 70%.	Japan ratified the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and an Economic Partnership Agreement with the European Union, which took effect in December 2018 and February 2019, respectively.

Source: Government of Japan; and OECD.

The elderly population is projected to reach 79% of the working-age population by 2050, remaining the highest in the OECD (Figure 2, Panel B). Japan's life expectancy is the longest in the world at 84 years, up from 68 in 1960, and so is healthy life expectancy, at 75 years (Panel C). Half of the children born in Japan in 2007 are expected to live until the age of 107. Meanwhile, the fertility rate, though it edged up from 1.3 in 2007 to 1.4 in 2016, remains below the OECD average of 1.7. Deaths have exceeded births since 2007. Fewer than one million babies were born in 2016, the lowest number since Japan began counting in 1899. After falling by 6.2 million in the 2020s, Japan's population is expected to decline by 8.2 million in the 2030s, the equivalent of losing Tokyo. Consequently, its total population is projected to fall by one-fifth to around 100 million, by 2050 (Panel D). A smaller population has a number of advantages for well-being, such as reducing environmental problems and climate change, alleviating congestion and lowering housing costs. However, the transition to a smaller population entails a number of challenges and risks.

Figure 2. Population ageing arrived early in Japan and continues at a rapid pace

1. Based on the last quarter in 2018 for which data are available. Working-age population is those aged 20-64.
2. Population aged 65 and over as a percentage of the population aged 20-64.

Source: OECD Demography and Population Statistics database; and World Health Organization (2018), *World Health Statistics 2018*.

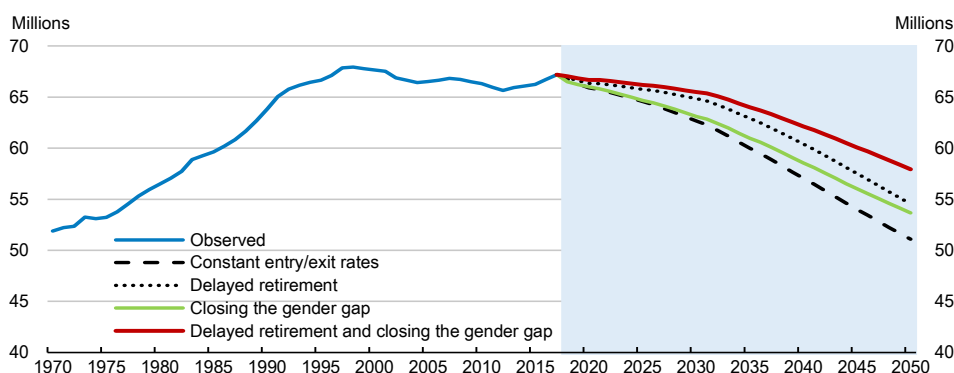
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The prospects of 100-year – or even longer – lifespans comes with a number of opportunities and risks for individuals that will lead to fundamental changes in all aspects of life. Enlightened policies are needed to ensure that longer life is a blessing rather than a curse. Promoting well-being (see below), good health, work-life balance and flexibility in adapting to change is even more important in an era of 100-year lifespans. Inclusive growth is essential to ensure that increased longevity, especially healthy longevity, is not limited to high-income groups. Indeed, the gap in life expectancy between rich and poor has been widening (Bosworth et al., 2016).

As Japan is a front-runner in confronting the issues of an aged society, the rest of the world will be watching the policy reforms, innovations and experiments that it pursues. One important challenge of demographic change is a shrinking labour force. Assuming constant labour market entry and exit rates by gender for each five-year age group, Japan's labour force would drop by a quarter from 67 million to 51 million by 2050 (Figure 3). Reforms of labour policies and practices to remove obstacles and disincentives that discourage work for men and women of all ages would limit the decline in the workforce. For example, the mandatory retirement age of 60 set by four-fifths of firms is anachronistic. Moreover, in an

era of 100-year lifespans, the tradition of three clearly defined stages of education, work and retirement is no longer feasible (Gratton and Scott, 2017). Education of young adults in their teens and early 20s will not be sufficient for careers that will last into their 70s and even 80s, and may include several professions, particularly in the context of rapid technological change. Workers may welcome longer careers: a recent government survey reported that 71% of seniors would like to work past the current retirement age (Cabinet Office, 2017a). Policies that allow workers to extend their careers and remove obstacles to female employment would help mitigate the demographic effect.

Figure 3. Japan’s labour force faces a significant decline



Note: The baseline assumes constant labour market entry and exit rates by gender for each five-year age group. In the “delayed retirement scenario”, exit rates are reduced for both men and women by 10% for each five-year age group between the ages 55 and 74. In the “closing the gender gap” scenario, the participation rates for women converge to those for men in each five-year age group.

Source: OECD projections based on data from the OECD Population and Labour Force Projections database.

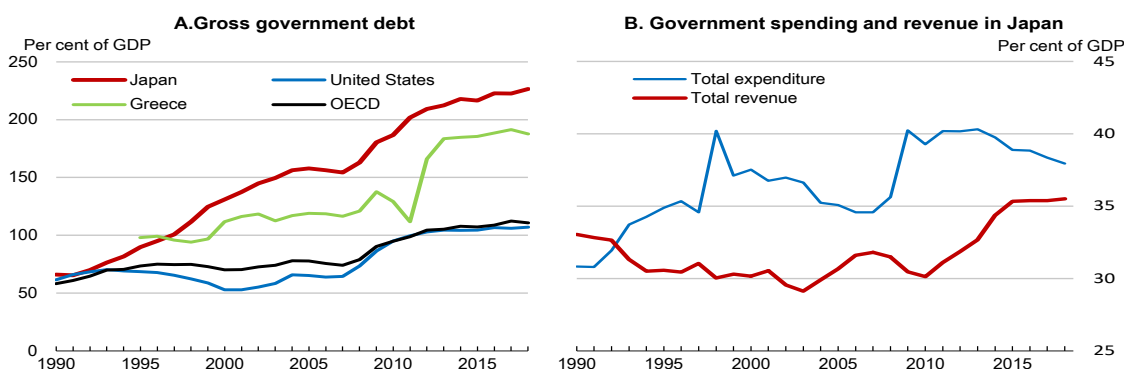
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Demographic change is also having a big impact on Japan’s fiscal situation. Public social spending rose doubled from 11% of GDP in 1991 to 22% in 2018, surpassing the OECD average. Around 80% of social spending is for pensions, health and long-term care, the second-highest share in the OECD. Twenty-seven consecutive years of budget deficits have driven up gross public debt from 60% of GDP in 1991 to around 226% in 2018, the highest ever recorded in the OECD area (Figure 4). Population ageing is projected to raise social spending by another 4.7% of GDP over 2020-60, assuming that planned reforms are implemented (Cabinet Secretariat et al., 2018; Fiscal System Council, 2018).

Against this backdrop of rapid ageing and shrinking of Japan’s population, the main messages of this *Economic Survey* are:

- Bold structural reforms, including improved corporate governance and policies to make small and medium-sized enterprises more dynamic, are needed to boost productivity and promote inclusive growth as labour inputs decline.
- Achieving fiscal sustainability requires a detailed consolidation plan that includes measures to control spending in the face of rapid population ageing and gradual hikes in revenue, beginning with the 2019 consumption tax hike (Chapter 2).
- Fundamental labour market reform is a priority to enable Japan to make full use of its human resources, thereby mitigating the impact of a shrinking labour force (Chapter 1).

Figure 4. Japan’s fiscal situation has deteriorated considerably since the early 1990s¹



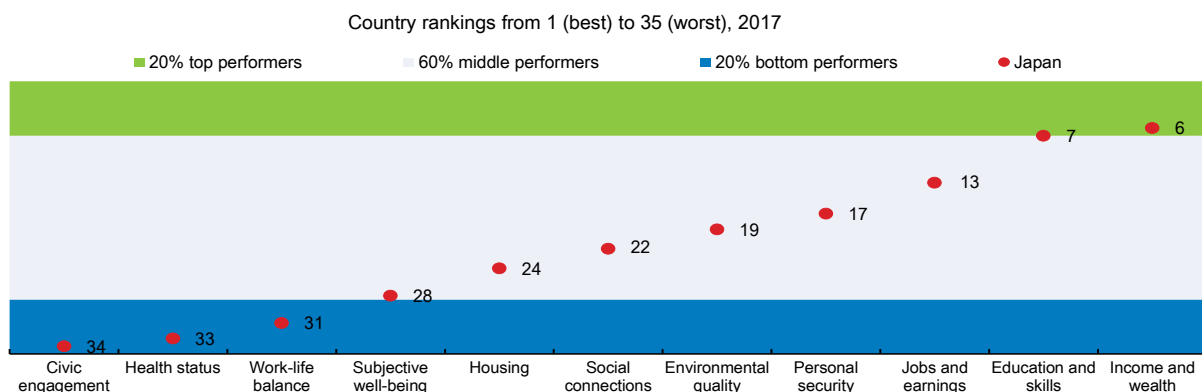
1. OECD estimate for 2018.

Source: OECD Economic Outlook database.

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Such policies would also contribute to well-being (Figure 5) by removing obstacles that prevent some people from working and by ensuring the sustainability of social insurance programmes providing pensions and health and long-term care. Labour market reforms that change how Japan works would improve work-life balance and reduce the stress of long hours, which may have a negative impact on health. In 2016, 22% of those employed worked over 49 hours per week. Only 35% of Japanese adults perceive their health as good compared to the OECD average of 69% despite Japan’s long life expectancy. Japan also ranks well below the OECD average in subjective well-being. Labour market reform would also promote social inclusion by removing obstacles to employment by those who historically have faced barriers in the labour market, notably women and older persons. Japan’s literacy and numeracy skills, which are among the highest in the OECD, provide a firm foundation for labour market reform.

Figure 5. Well-being indicators for Japan give a mixed picture



Note: Each well-being dimension is measured by between one and four indicators from the OECD Better Life Index set. Normalised indicators are averaged with equal weights.

Source: OECD (2017), *OECD Better Life Index*, www.oecdbetterlifeindex.org.

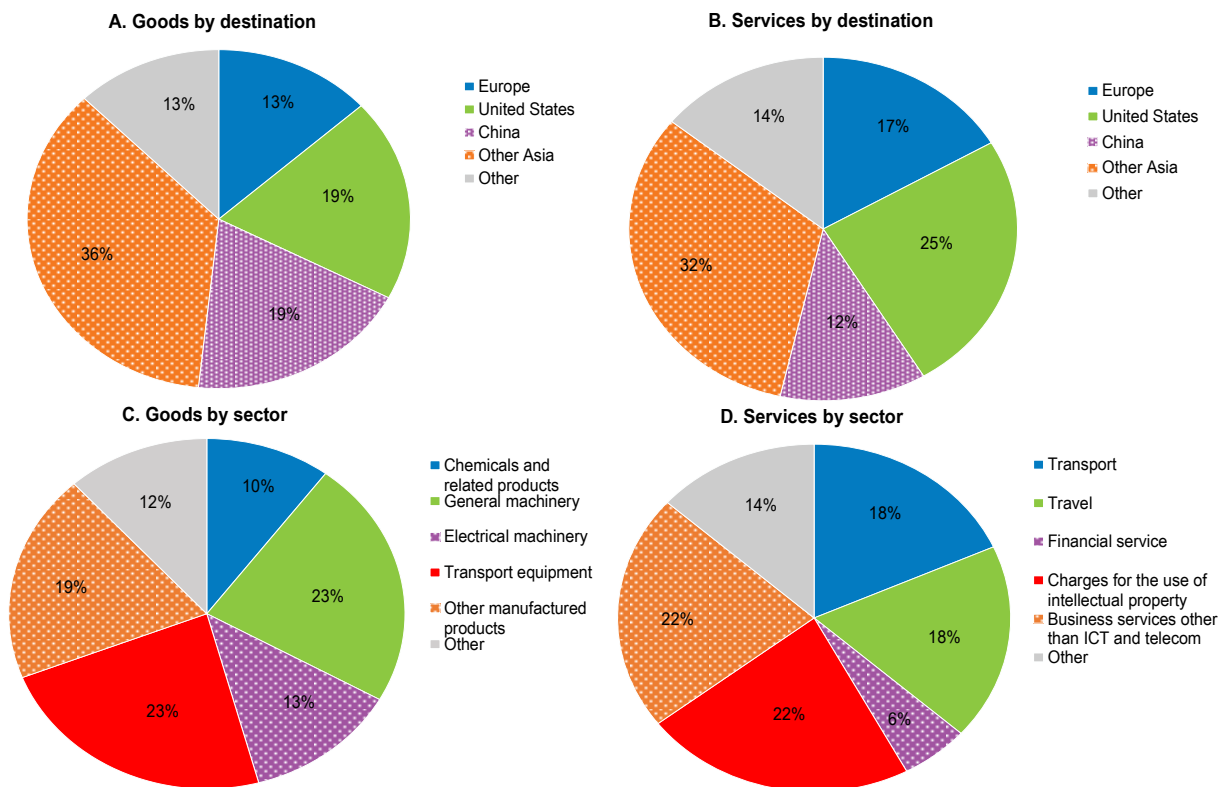
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Improving environmental quality, which is close to the OECD average, would also enhance well-being. Most of Japan's population is exposed to small particle pollution above the WHO-recommended limit and premature mortality from air pollution is estimated to be high for a high-income country (see below).

Output growth has peaked, but is projected to continue at a moderate pace

After peaking at 1.9% in 2017, output growth slowed to 0.8% in 2018. Growth was driven by an export boom, led by China and other Asian economies, which account for more than half of Japanese exports (Figure 6). In addition, the number of foreign tourists grew at a 26% annual average rate over 2011-18, boosting travel receipts from 8% of service exports to 21% over that period. In 2018, however, exports to the United States, China and other Asian economies stagnated in the context of slowing world trade and rising trade tensions (Figure 7, Panel A). In addition, natural disasters, including a number of typhoons and the Hokkaido earthquake, disrupted production and exports in the third quarter of 2018 and contributed to declines in private consumption and business investment.

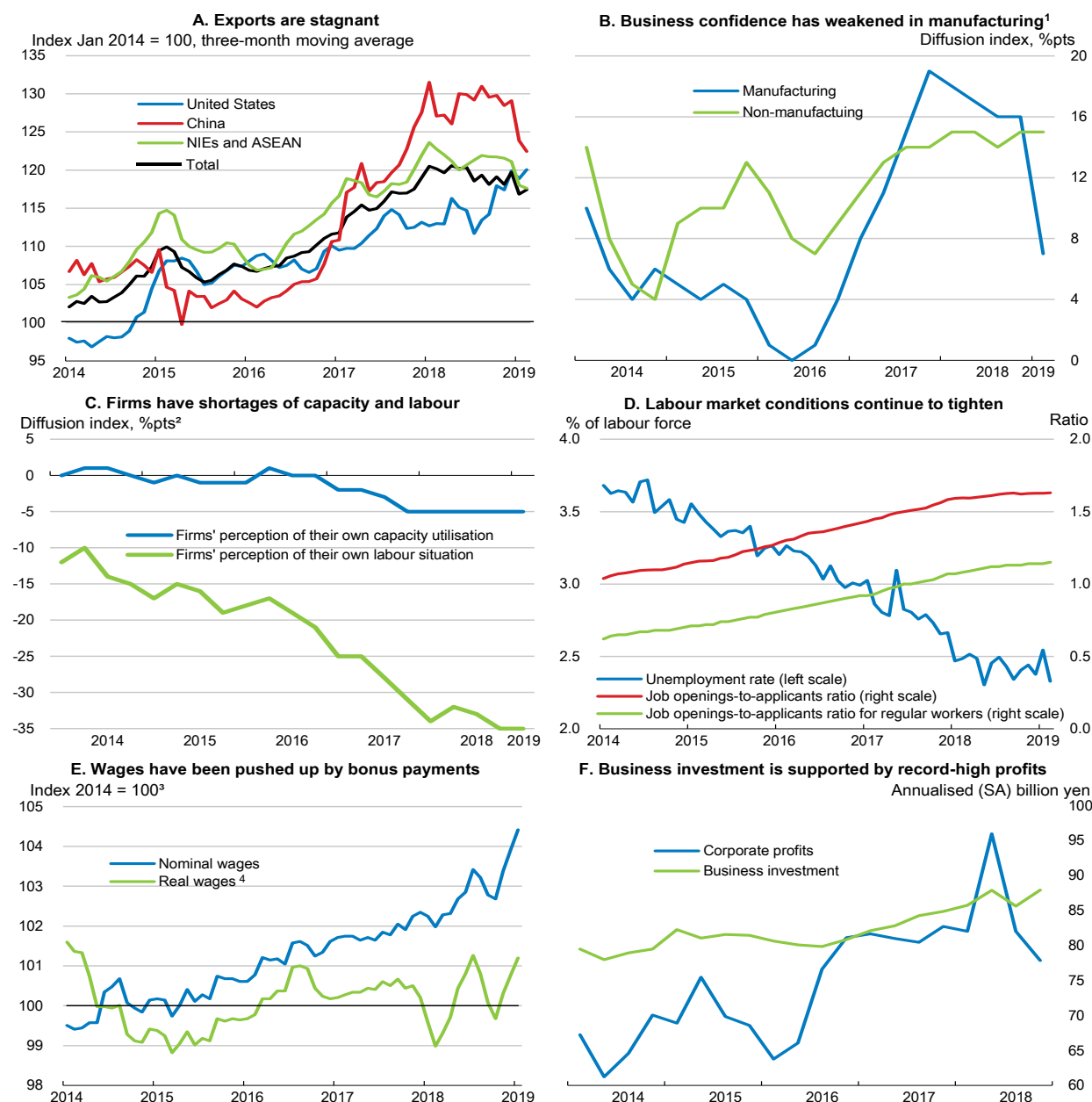
Figure 6. Composition of Japan's exports by destination and product category in 2017



Source: OECD International Trade Statistics database.

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Figure 7. Key macroeconomic indicators



1. The number of firms responding that business conditions are favourable minus those responding that they are unfavourable.

2. The number of firms responding they had an excess number of workers minus those reporting a shortage and the number responding that they had excess capacity minus those with a capacity shortage.

3. Seasonally-adjusted data (three-month moving average) based on establishments with 30 or more workers.

4. Deflated by the consumer price index, excluding rent.

Source: Bank of Japan; Ministry of Health, Labour and Welfare; Cabinet Office; and Ministry of Finance.

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Growth is projected to be sustained at around $\frac{3}{4}$ per cent in 2019, led by private consumption and business investment (Table 2), although business sentiment in the manufacturing sector has fallen from its end-2017 peak, it remains high in the non-

manufacturing sector (Figure 7, Panel B). The steepening decline in the working-age population has been offset by a sharp rise in the employment rate, from 70.6% in 2012 to 76.9% in 2018, led by women. Nevertheless, labour shortages have become more severe (Panel C). The unemployment rate has fallen to around 2½ per cent, while the ratio of job openings-to-applicants has risen to its highest level since 1974 (Panel D).

Table 2. Macroeconomic indicators and projections

	Annual percentage change, volume, unless otherwise specified ¹				
	2016	2017	2018	2019	2020
Gross domestic product	0.6	1.9	0.8	0.8	0.7
Gross domestic product per capita	0.8	2.1	1.0	1.1	1.0
Private consumption	-0.1	1.1	0.4	0.6	-0.1
Government consumption	1.4	0.3	0.8	0.8	1.0
Gross fixed investment	-0.3	3.0	1.1	1.9	0.6
Public ²	-0.3	0.7	-3.2	3.2	-1.2
Residential	5.9	2.1	-5.7	0.6	-1.6
Business	-1.5	3.9	3.9	1.8	1.5
Final domestic demand	0.1	1.4	0.6	1.0	0.3
Stockbuilding ³	-0.1	0.0	0.2	0.1	0.0
Total domestic demand	0.0	1.4	0.8	1.0	0.3
Exports of goods and services	1.7	6.8	3.1	1.6	3.8
Imports of goods and services	-1.6	3.4	3.3	3.5	2.0
Net exports ³	0.6	0.6	0.0	-0.3	0.3
Other indicators					
Potential GDP	0.7	0.7	0.8	0.8	0.6
Output gap ⁴	0.9	2.1	2.0	2.0	1.7
Employment	1.0	1.0	2.0	0.6	0.0
Labour force participation rate ⁵	70.8	71.7	73.4	74.4	75.0
Unemployment rate ⁶	3.1	2.8	2.4	2.4	2.4
GDP deflator	0.3	-0.2	-0.1	0.3	1.3
Nominal GDP	0.9	1.7	0.7	1.1	2.0
CPI ⁷	-0.1	0.5	1.0	0.7	1.3
Core CPI ⁷	0.4	-0.1	0.2	0.8	1.3
Household saving ratio, net ⁸	2.9	2.5	4.3	4.5	4.74
Trade balance ⁹	1.0	0.9	0.2	-0.4	0.0
Current account ⁹	3.8	4.0	3.4	3.0	3.4
General government financial balance ⁹	-3.5	-3.0	-2.4	-2.4	-1.9
General government primary balance ⁹	-3.0	-2.7	-2.4	-2.4	-2.1
Underlying government primary balance ⁴	-4.0	-3.9	-3.3	-3.3	-2.9
Gross government debt ⁹	223.4	224.2	225.8	226.8	226.1
Net government debt ⁹	126.9	127.7	129.3	130.3	129.6
Three-month money market rate average	0.0	0.0	-0.1	-0.1	-0.1
Ten-year government bond yield average	0.0	0.1	0.1	0.1	0.1

1. Based on the Interim Economic Outlook released on 6 March 2019, taking account of the second estimate of 2018Q4 on 8 March 2019.

2. Including public corporations.

3. Contribution to GDP growth (percentage points).

4. As a percentage of potential GDP.

5. Employment as a percentage of the population aged 15 to 74.

6. As a percentage of the labour force.

7. Excluding the impact of the planned consumption tax hike in October 2019. See footnote 1 to Figure 8. The core CPI is the OECD definition, which excludes both food and energy.

8. As a percentage of household disposable income.

9. As a percentage of GDP.

Source: OECD Economic Outlook database.

Despite tight labour market conditions, real wages are below their level at the beginning of 2014 (Panel E). Weak income gains have held private consumption to an annual growth rate of only 0.6% in per capita terms since the expansion began in 2012, well below the 1.3% pace of per capita output. In 2018, however, real wages rebounded due to an 8.6% rise in summer bonuses and a 6.1% rise in winter bonuses in large firms. To promote faster growth in base wages, the government implemented a three-year tax break for firms that increase employees' pay by 3% a year or more and reach a certain threshold for domestic investment. It is also raising the minimum wage, which is only around 40% of the median wage, by 3% per year.

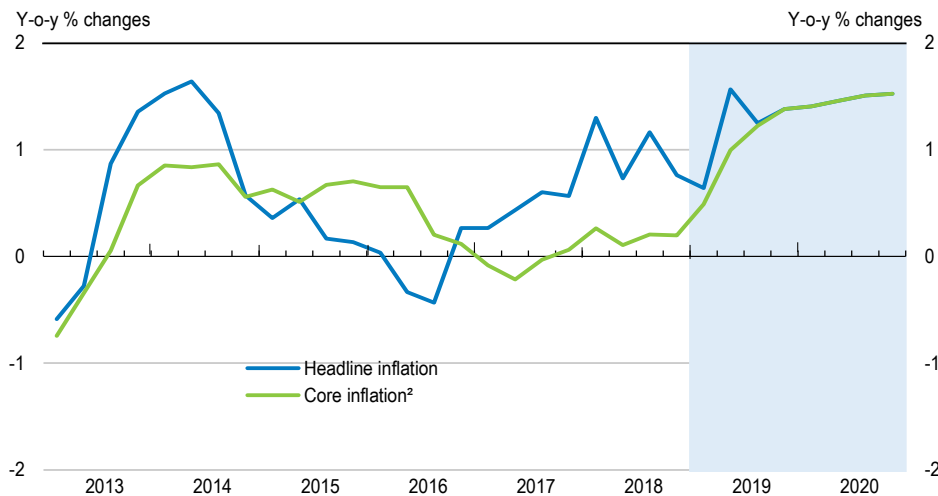
Firms are reporting growing capacity shortages (Figure 7, Panel C), which, combined with record-high profits, is promoting business investment (Panel F). In addition, the government has implemented tax breaks for firms that expand investment in fixed assets and human resources. These factors are likely to sustain business investment, although the surge in capital spending related to the 2020 Tokyo Olympics is waning. Moreover, the expected decline in industrial production in the first quarter of 2019 may slow business investment.

The government is planning exceptional fiscal measures (see below) to mitigate the impact of the planned hike in the consumption tax from 8% to 10% in October 2019. These measures are expected to prevent a repeat of the sharp growth slowdown that followed the 2014 consumption tax hike from 5% to 8%, keeping output growth close to $\frac{3}{4}$ per cent in 2020.

Higher wage increases are key to boosting private consumption and raising consumer price inflation towards the Bank of Japan's 2% target. Inflation picked up during 2018, but has been driven by soaring vegetable prices and higher energy prices, rather than fundamentals (Figure 8). Thus, core inflation (excluding fresh food) has been stable at around 1.0%, and is only around 0.2% according to the OECD definition (excluding food and energy). During 2019, inflation is likely to increase as the 2.2% hike in unit labour costs in 2018 – the largest since the collapse of the bubble economy -- feeds into the prices of goods and services. In 2020, inflation is projected to reach $1\frac{1}{4}$ per cent, excluding the impact of the planned consumption tax hike from 8% to 10% and the provision of free childcare for children aged three to five.

Japan faces many uncertainties in a global economy with escalating downside risks. Trade tensions have clouded the outlook for businesses and risk disrupting investment and global value chains. Japan is particularly vulnerable to US-China trade frictions, as those two countries account for 38% of its exports (Figure 6). However, no new trade restrictions against Japan are to be introduced during the consultations based on the September 2018 Japan-US Joint Statement. Another risk to international trade is a reversal of capital flows, which have fuelled growth in emerging markets, towards advanced economies as their interest rates rise. A further slowdown in China's domestic demand would particularly affect Japan. On the domestic side, a key concern is wage growth. While the jump in bonus payments in 2018 is a positive sign, larger increases in basic wages are important to sustain private consumption. Japan is also potentially vulnerable to exogenous shocks that are not factored into the central projection scenario (Table 3).

Figure 8. Underlying consumer price inflation has been trending up but remains below the 2% target¹



1. Excluding the effects of the April 2014 consumption tax hike, which added 2 percentage points to inflation in FY 2014 according to a government estimate. It also excludes the scheduled October 2019 consumption tax hike, which would add 1.0 point to inflation in the fourth quarter of 2019, and the impact of free childcare for children aged three to five, which would reduce it by 0.5 percentage points, according to OECD estimates.

2. OECD measure, which excludes food and energy.

Source: OECD Economic Outlook 104 database; and Bank of Japan.

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Table 3. Possible shocks to the Japanese economy

Shocks	Possible outcome
A loss of confidence in Japan's fiscal sustainability	A rise in real interest rates, which could destabilise the financial sector and the real economy, with large spillovers to the world economy
An increase in trade protectionism in major trading partners	A contraction in exports and business investment and a disruption of global value chains
Natural disasters, such as earthquakes, tsunamis and typhoons	Significant loss of life, disruption of economic activity and high costs for reconstruction
The large expansion of the Bank of Japan's balance sheet results in excessively high inflation	A fall in the value of households' savings and real wages, increased uncertainty and a reversal of the monetary policy stance

Fiscal policy: short-term challenges and threats to long-run fiscal sustainability

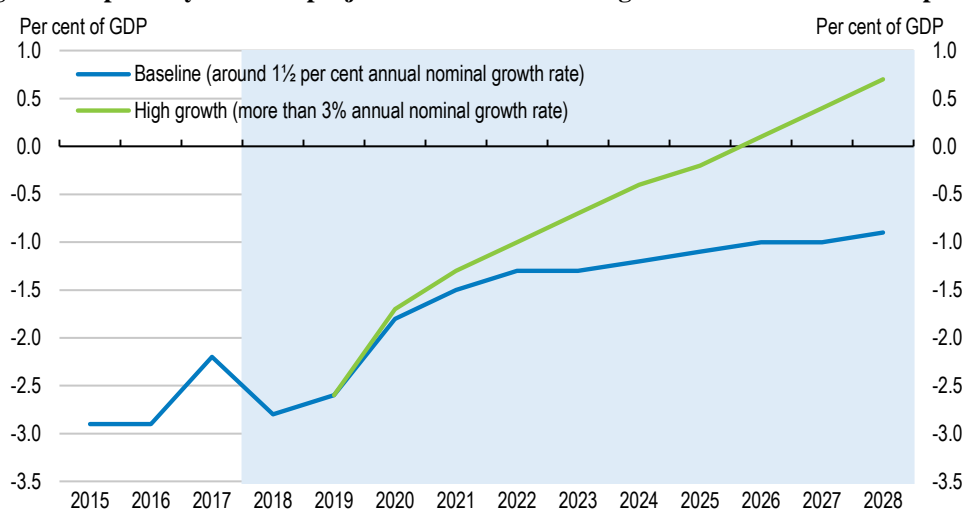
After three years of significant fiscal consolidation aimed at the target of a primary surplus by FY 2020, fiscal policy in 2017 contributed to strong growth. With a primary deficit of 2.7% of GDP in 2017, a surplus in FY 2020 is out of reach. The failure to reach the benchmark of a primary deficit of around 1% of GDP in FY 2018 reflects: *i*) shortfalls in tax revenue due to slower-than-projected economic growth; and *ii*) the postponement of the second consumption tax hike (from 8% to 10%), originally planned for 2015, to 2019 (Committee for Promotion of Integrated Economic and Fiscal Reform, 2018). This slippage plus the decision to use half of the revenue from the tax hike for additional spending on early childhood education and care and social programmes put the FY 2020 target out of reach.

Missing the FY 2020 target, which was decided in 2010, strengthens the case for an independent fiscal institution in Japan, an approach that has improved fiscal policymaking, made clear the fiscal problems and helped build public consensus for consolidation in a number of OECD countries. The OECD has proposed 22 principles for independent fiscal institutions (OECD, 2014a).

The new fiscal targets and preparing for the 2019 tax hike

In 2018, the government pushed back the target date for achieving a primary surplus to FY 2025. The new plan includes three interim benchmarks in FY 2021: *i*) halving the primary deficit from its FY 2017 level to around 1.5% of GDP; *ii*) lowering government debt to 180-185% of GDP (by the government's measure, it was 188% in FY 2017); and *iii*) reducing the fiscal deficit of central and local governments to below 3% of GDP. The fiscal deficit depends in part on the interest rate, which the government assumes will remain at 0% for ten-year bonds through FY 2020. Based on these benchmarks, the government will decide what additional measures are needed to achieve a primary surplus by FY 2025. In the government's January 2019 projection, a primary surplus will not be achieved until FY 2026 (Figure 9) even assuming nominal annual output growth of more than 3%, which is well above the average of less than 2% since 2012 (Figure 1). In the baseline scenario, with growth of 1½ per cent, the primary deficit would remain around 1% of GDP in FY 2027.

Figure 9. A primary deficit is projected to continue through FY 2025 under current policies



1. Government projections in January 2019. It assumes that the hike in the consumption tax rate from 8% to 10% is implemented as planned in 2019. The primary balance is central and local governments, as a percentage of GDP on a fiscal year basis.

Source: Cabinet Office (2019).

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Since FY 2016, the increase in social security spending has been limited to that resulting from population ageing and this effort will continue through FY 2021. The government intends to decide new policies for social security in FY 2020. It is committed to raising the consumption tax rate from 8% to 10% in October 2019, with about half of the additional revenue earmarked for additional social spending. The government is also considering a number of measures to avoid the economic volatility that followed the 2014 consumption tax hike, including:

- Providing free early childhood education and care for children aged three to five.
- Maintaining the consumption tax rate at 8% for food and non-alcoholic beverages.
- Increasing public investment in FY 2019-20.
- Introducing tax or spending measures to support purchases of cars and homes.
- Increasing support for older persons through subsidies and reduced long-term care insurance premiums for those with low income.
- Providing vouchers for purchases of goods and services by low-income households and those with children under the age of three.
- Introducing point rewards for purchases using cashless payment at small retailers.

The proposed measures may cost around 1.0% of GDP, offsetting the revenue from the tax hike (Table 4) in FY 2019-20, when the temporary and special measures are implemented. It is important to calibrate them in such a way so that the FY 2021 benchmark of a primary deficit of 1.5% remains within reach. Some of the proposed measures may have limited effects on demand. Vouchers for purchases are estimated to have boosted household spending by only JPY 340 billion (0.1% of GDP) in 2014, at a cost of JPY 250 billion (Cabinet Office, 2017b). Moreover, the effectiveness of the point system may be limited, given that prices are higher at small retailers.

Table 4. Illustrative annual fiscal impact of proposed reforms

	Per cent of GDP on an annual basis	
	Short term	Around 2035
Expenditures		
A. Increase of age-related spending under current policy	-0.1	-1.7
B. Expenditures proposed by government that are related to the 2019 consumption tax hike	-1.0	-0.6
Temporary budget measures, including public investment	-0.4	
Free early childhood education and care for children aged three to five	-0.2	-0.2
Benefits for supporting low-income pensioners, etc.	-0.4	-0.4
C. Spending cuts to achieve the FY 2025 primary surplus goal	+0.0	+0.2
Sub-total	-1.1	-2.3
Revenues		
A. Increase in the consumption tax rate from 8% to 10%	+1.0	+1.0
B. Revenues proposed by the government to cope with the 2019 consumption tax hike	-0.1	-0.1
Tax breaks for purchases of cars and homes (temporary) ¹	-0.1	-0.0
Maintaining the consumption tax rate at 8% for food and non-alcohol beverages	-0.2	-0.2
Increasing the cigarette and other taxes to finance the reduced consumption tax rate	+0.1	+0.1
C. Additional measures proposed by the OECD		+7.0
Increasing the consumption tax rate from 10% to 20%		+5.0
Raising environmentally-related tax ²		+1.0
Broadening the personal income tax base		+1.0
Sub-total	+0.9	+7.9
Total	-0.2	+5.6
Memorandum item: net cost of measures to cope with the 2019 consumption tax hike	0.0	-0.4

1. In addition to the temporary measures, a proposed tax cut on owning cars would be permanent.

2. Assumes that all CO₂ emissions in Japan are priced at EUR 60 per tonne.

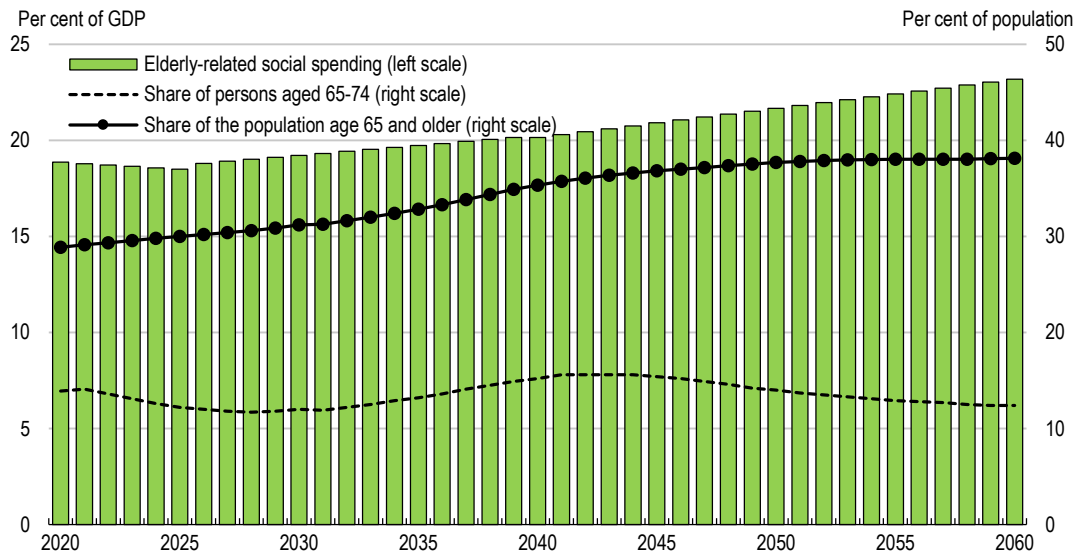
Source: Council on Economic and Fiscal Policy (2018); and OECD calculations.

In addition, the introduction of multiple consumption tax rates to soften the regressive impact of the tax hike is not effective, as the benefits are larger for high-income households (OECD, 2014b). If the revenue foregone by introducing a lower rate were used instead to finance a successful system of earned income tax credits, the gains would be better targeted on low-income earners. Introducing multiple VAT rates has additional drawbacks. *First*, it would entail higher administrative and compliance costs, especially for SMEs. *Second*, it would provide opportunities for fraud through the misclassification of items. *Third*, it would reduce the neutrality of the VAT, thus distorting consumption decisions and decreasing welfare (2017 OECD Economic Survey of Japan).

Ensuring long-run fiscal sustainability

The revised fiscal consolidation plan of the government needs to be accompanied by a more concrete strategy to control spending, with effective rules to govern each year's budgeting process. Spending has been contained below 40% of GDP despite the rise in social spending, but the government projects that ageing-related social spending will increase from 18.8% of GDP in FY 2018 to 23.2% in FY 2060 under current policies (Figure 10). The rise is driven by a 4.7% of GDP increase in health and long-term care spending, which is in the middle of the range of OECD estimates (de la Maisonneuve and Oliveira Martins, 2013). The priority is to control social spending related to the elderly. *First*, there is considerable scope for re-optimising the allocation of healthcare resources at the community level away from hospitals. *Second*, pharmaceutical spending could be reduced by further promotion of generic drugs. *Third*, raising co-payment rates for those with higher income and assets, including the elderly, would help finance healthcare while curbing excessive use. *Fourth*, raising the pension eligibility age is important to ensure income security for the elderly, while taking measures to promote their employment opportunities, which could limit their reliance on social welfare programmes.

Figure 10. Elderly-related social spending is projected to rise further



Note: The estimates of pension and health and long-term care spending by the government are based on current per capita benefit levels by age, taking changes in the demographic structure over 2020-60 into account. For more details, see Annex 2.1.

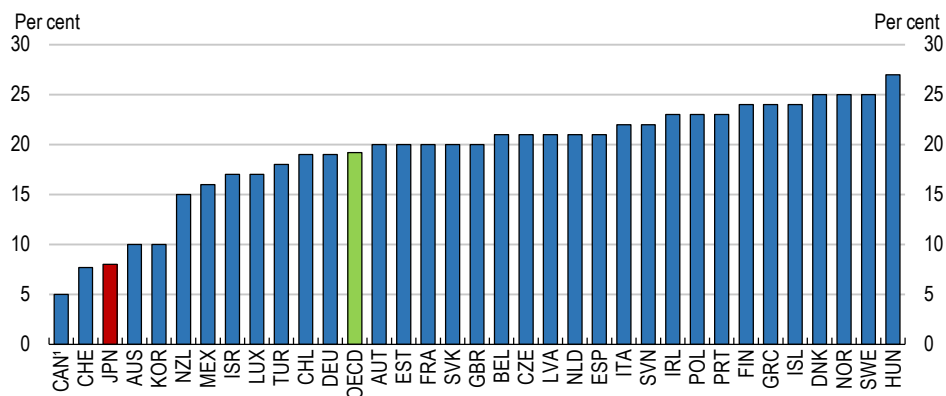
Source: Cabinet Secretariat et al. (2018); Fiscal System Council (2018); Ministry of Internal Affairs and Communications; and OECD calculations.

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Local governments account for three-quarters of total government spending (excluding social security funds), while 45% of their revenues are transfers from the central government. To ensure the sustainability of local governments, it is essential to improve their efficiency in both public administration and in social infrastructure investment and maintenance. A promising way to ensure economies of scale in the face of a falling population is to consolidate administration and infrastructure across jurisdictions. This would also promote Japan's objective of creating compact cities, which would reduce energy consumption, pollution and CO₂ emissions. However, the growing problem of abandoned and unclaimed land and houses is an obstacle. A 2016 government survey of 100 locations concluded that it was difficult to locate the owners of 20% of the land (Ministry of Land, Infrastructure, Transport and Tourism, 2016), indicating the need to reform the local land-use framework. Finally, a greater role for the private sector through outsourcing and private financial initiatives could also be effective, although it involves risks.

To achieve a primary surplus large enough to stabilise government debt relative to GDP, measures to limit spending must be accompanied by higher government revenue, which was the fourth lowest in the OECD in 2017 at 35% of GDP. Moreover, the composition of government revenue should be shifted toward less distortive sources through a further gradual hike of the consumption tax and greater use of environmentally-related taxes. Even with the planned hike to 10% in 2019, Japan's consumption tax will remain among the lowest in the OECD (Figure 11). Another key is to broaden tax bases while removing distortions in tax and social benefit systems that discourage the labour participation of certain groups, notably women and older persons. This requires a comprehensive approach that reforms the spousal deduction, the public pension deduction and the earnings test for public pension benefits. Broadening the base of the personal income tax would also make it more effective in reducing income inequality.

Figure 11. Japan's consumption tax rate is relatively low



Note: In 2018. In Canada, the provinces can levy a consumption tax on top of the federal tax, making it higher than Japan's 8%.

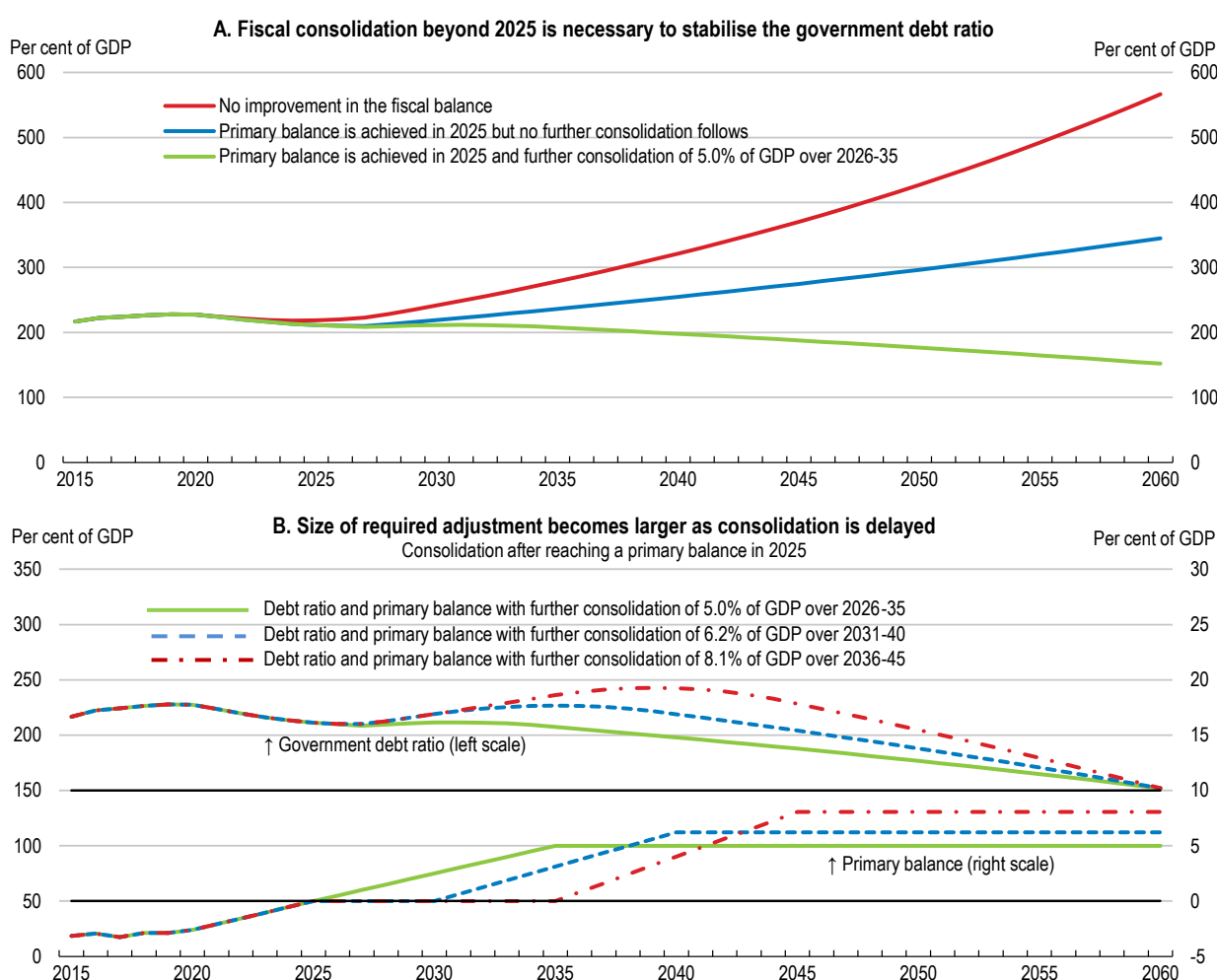
Source: OECD (2018a).

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A primary surplus in FY 2025 is just a first step to putting the government debt ratio on a downward trend. In the simulation below, public social spending rises in line with government estimates, while other spending is held constant as a share of GDP. If there were no further consolidation after FY 2025, the government debt ratio would rise to

around 560% of GDP by 2060 (Figure 12, Panel A). In contrast, policies over 2026-35 to raise the primary surplus to 5% of GDP would reduce the debt ratio to 150% of GDP by 2060. A fiscal consolidation of this magnitude is equivalent to a 10 percentage-point hike in the consumption tax over a decade. This implies raising the rate gradually to 20%, still below the current EU average of 22%. The simulation also shows that delaying fiscal tightening raises the amount of consolidation necessary to reduce the debt ratio to 150%. If further tightening were delayed to 2036-45, the necessary amount of consolidation would be 8.1% of GDP, rather than 5% (Panel B). Even though government financial assets amount to nearly 100% of GDP, Japan’s net public debt is among the highest in the OECD and has been increasing rapidly.

Figure 12. Long-run simulation of Japan’s fiscal balance and government debt



Source: OECD calculations based on *OECD Economic Outlook No. 104* through 2020, Cabinet Office projections through 2027 (using the “Economic Growth Achieved Case”, which implies real growth of more than 2% and nominal growth of more than 3% a year in the first half of the 2020s) and government assumptions for growth, spending and interest rates through 2060 (see Chapter 2).

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While these simulations are merely illustrative, the message is clear: stabilising net government debt at a level close to the current OECD average requires more than a decade of consolidation to achieve a large primary surplus. The amount of the required fiscal

consolidation depends on the economic assumptions. In this simulation, real output growth averages 1.4% per year and inflation 2.0%. If real output growth and inflation were below these assumptions, even greater consolidation would be needed. In sum, fiscal sustainability becomes more difficult, perhaps even impossible, without economic revitalisation and positive inflation.

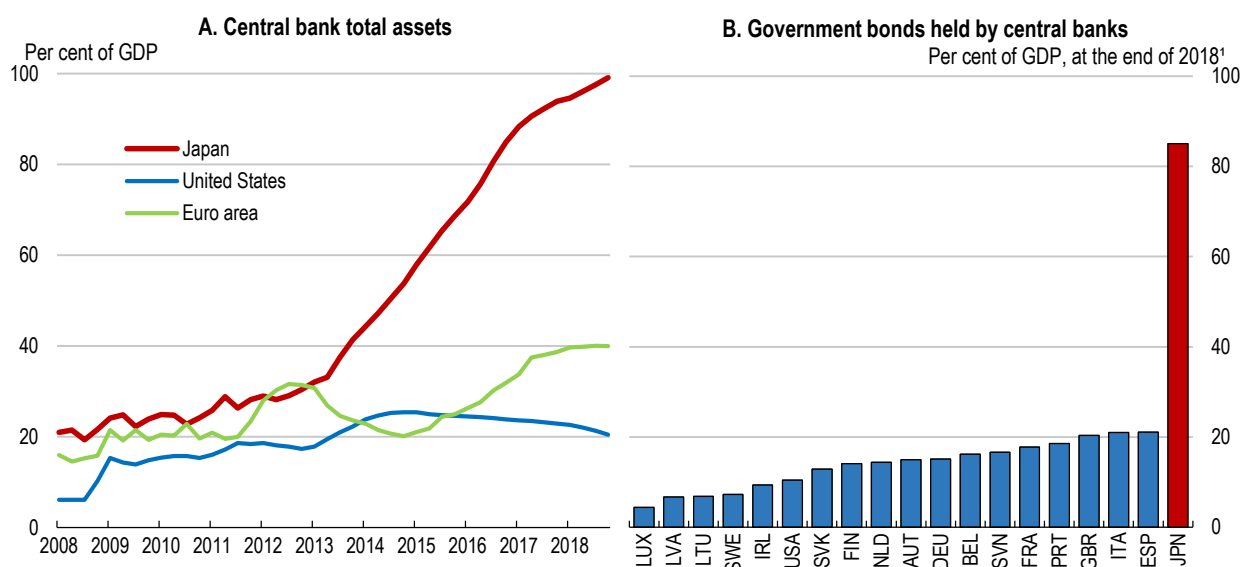
Table 5. Implementation of OECD recommendations to achieve fiscal sustainability

Earlier OECD Survey recommendations	Action taken or planned
Commit to a more detailed medium-term fiscal consolidation path with specific spending cuts and tax increases to strengthen confidence in Japan's fiscal sustainability.	In June 2018, the government set a new target of a primary surplus by FY 2025. A new timetable for expenditure reform in FY 2019-21 was set in December 2018.
Gradually raise the consumption tax rate.	The government is committed to raising the rate from 8% to 10% in October 2019, but no further increase is planned.
Enhance equity by introducing an earned income tax credit.	No action taken.
Fully apply macroeconomic indexation to pension benefits.	The carry-over system was implemented in April 2018. The carry-over of macroeconomic indexation by 0.3% in 2018 is to be applied in 2019.
Raise the pension eligibility age above 65.	The government is considering the expansion of the range of the pensionable age.
Take long-term care out of hospitals and reduce long-term care insurance coverage for those with less severe needs.	In 2018, the government established a new type of facility covered by long-term care insurance that combines "daily healthcare administration" and "end-of-life care", as well as "residential space", to respond to increasing demand for medical care and long-term care services for people in a chronic phase of illness.
Increase the use of generic drugs.	The FY 2018 medical fee schedule revision strengthened the preferential treatment for generic drugs, including additional fees for prescription and penalties for dispensaries with low use of generics. The government proposed an amendment to use generics, in principle, in medical assistance.

Monetary policy and the financial sector

Higher inflation and a decisive exit from deflation are essential, in part for fiscal sustainability as noted above. In 2013, the Bank of Japan (BoJ) set a 2% target for consumer price inflation (Table 6) and launched "quantitative and qualitative monetary easing" (QQE), which has more than tripled the size of its balance sheet. It reached 100% of GDP in 2018, much larger than in the United States and the euro area (Figure 13). QQE has made the BoJ the dominant holder of government bonds (Panel B). Following the introduction of QQE, core inflation (excluding energy and food) rose from -0.7% (year-on-year) in 2013Q1 to 0.9% in 2014Q1 (Figure 8).

However, weak demand following the 2014 consumption tax hike, falling oil and commodity prices and slower growth in emerging economies partially reversed the rise in inflation (Bank of Japan, 2016a). In a government survey that asked firms why they do not pass on cost increases to sales prices, 52% said that they prioritise long-term relationships with business partners and consumers (Figure 14). Other reasons are increased competition and households' low tolerance of price increases after a long period of zero or negative inflation. Indeed, 43% of firms said that they keep prices constant until competitors raise prices and another 33% said that feared higher prices would lead to falls in sales volume. Another 22% said that they were able to offset a rise in costs by cutting other costs, suggesting scope for raising productivity. In addition, tight labour market conditions have had only a small effect on wages so far, reflecting workers' focus on job security and backward-looking inflation expectations.

Figure 13. The run-up in central bank assets has been the largest in Japan

1. March 2019 for Japan, January for the United States and November 2018 for Sweden.

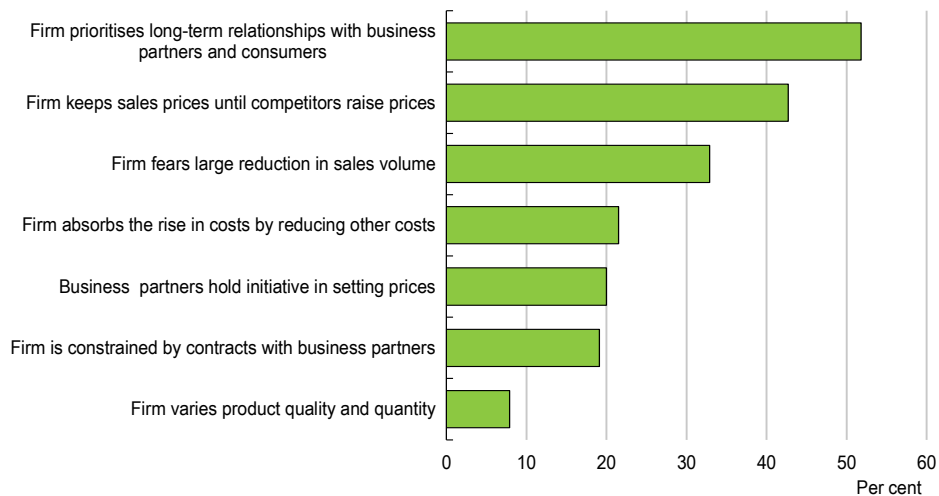
Source: OECD Economic Outlook database.

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Table 6. Chronology of major monetary policy measures and announcements since 2013

2013	January	The BoJ sets a 2% price stability target that it aims to reach "at the earliest possible time".
	March	Haruhiko Kuroda becomes the governor of the BoJ.
	April	The BoJ launches "quantitative and qualitative monetary easing", which aims to double the size of the monetary base by end-2014 by purchasing government bonds at a rate of JPY 50 trillion (10% of GDP) per year.
	April	In the <i>Outlook for Economic Activity and Prices</i> , CPI inflation (excluding fresh food) is projected at 1.9% in FY 2015.
2014	October	The BoJ accelerates its purchases of JGBs to an annual pace of JPY 80 trillion.
2015	January	In the <i>Outlook for Economic Activity and Prices</i> , the projection for CPI inflation (excluding fresh food) for FY 2015 is cut to 1.0%, and the 2% target will not be achieved until FY 2016.
2016	January	The <i>Outlook for Economic Activity and Prices</i> states that the 2% inflation target will be met "around the first half of FY 2017".
	January	The BoJ introduces a negative interest rate of 0.1%, which initially applies to about 4% of bank deposits at the central bank.
	July	The BoJ expands its purchases of Exchange Trade Funds (ETFs) from JPY 3.3 trillion yen (0.7% of GDP) per year to JPY 6 trillion yen (1.2% of GDP) and doubled its lending in dollars to USD 24 billion.
	September	The BoJ introduces "QQE with yield curve control", which targets JGB yields rather than asset purchases. The new policy includes an "inflation-overshooting commitment".
	October	In the <i>Outlook for Economic Activity and Prices</i> , the projection for CPI inflation (excluding fresh food) is cut to 1.5% in FY 2017 and to 1.7% in 2018, and the 2% target is to be met "around FY 2018".
	July	In the <i>Outlook for Economic Activity and Prices</i> , the projection for CPI inflation (excluding fresh food) is cut to 1.5% in FY 2018 and to 1.8% in FY 2019, and the 2% target is to be met around FY 2019.
2018	April	Haruhiko Kuroda is appointed to a second term as governor of the BoJ.
	July	The BoJ announces the "Strengthening the Framework for Continuous Powerful Monetary Easing", which introduces more flexibility in the yield target on ten-year government bonds and in the purchase of other assets.
	October	In the <i>Outlook for Economic Activity and Prices</i> , the projection for CPI inflation (excluding fresh food) is cut to 1.4% in FY 2019 and to 1.5% in FY 2020 and the 2% target will not be met until FY 2021.

Source: Bank of Japan; and OECD.

Figure 14. Reasons why firms do not pass on cost increases to sales prices

Source: Cabinet Office (2013).

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Recent developments in monetary policy

The BoJ added another tool to its policy framework in January 2016 by introducing a negative interest rate of -0.1% on banks' excess reserves, a policy also used by a number of European central banks. With headline inflation falling back into negative territory in 2016Q2, the BoJ introduced "QQE with yield curve control" in September 2016. Its aim is to enable the central bank to achieve the yield curve it believes necessary to achieve the 2% inflation target and allow it to adjust more flexibly to economic and financial conditions (Bank of Japan, 2016b). The new framework has two components. *First*, the BoJ decided to keep the 10-year government bond yield around 0%, though the target level may change depending on economic activity, prices and financial conditions going forward. *Second*, the BoJ made an "inflation-overshooting commitment" to continue expanding the monetary base until the year-on-year inflation rate for the CPI excluding fresh food exceeds 2% target and stays above the target in a stable manner. This policy aims to strengthen inflation expectations.

With the introduction of negative interest rates and yield curve control, the yield curve shifted further down (Figure 15). Lower government bond yields were passed through to corporate bonds and lending rates, thus helping boost residential and business investment. Although the benchmark purchase amount of government bonds by the BoJ remains at JPY 80 trillion, the shift to focusing on yields has enhanced flexibility in the amount of bonds purchased (Sudo and Tanaka, 2018). Indeed, BoJ bond purchases fell to JPY 58 trillion in 2017 and to JPY 37.6 trillion in 2018 (Figure 16). According to one estimate, only 10% of changes in government bond yields is determined by its purchases, with the remainder due to the large stock of its holdings (Sudo and Tanaka, 2018).

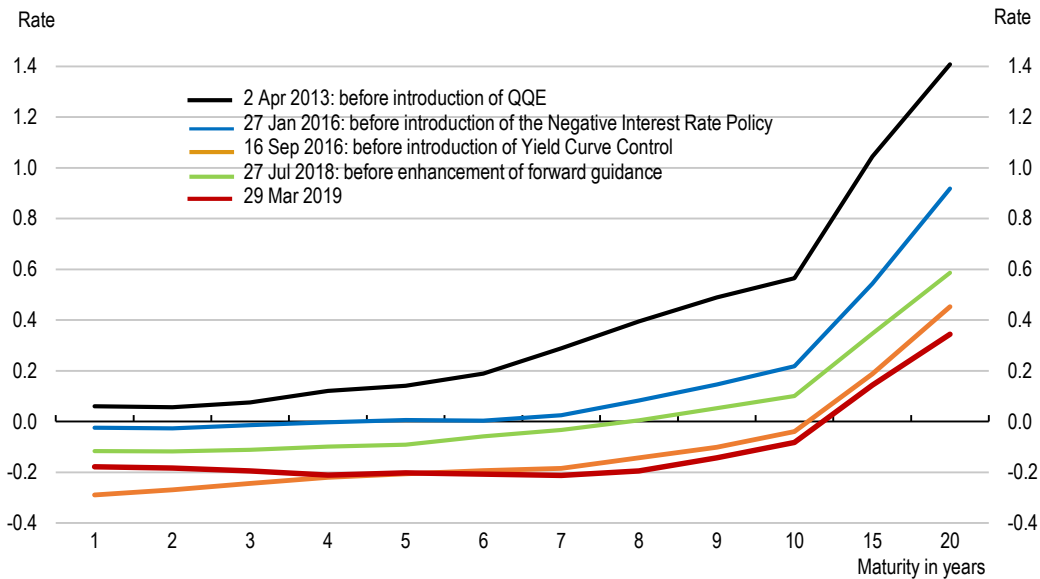
The BoJ fine-tuned its policy framework in July 2018 with a view to making it more sustainable:

- *Allowing flexibility in the yield target on ten-year government bonds:* While the target remains at 0%, the BoJ will allow deviations of up to about 20 basis points, depending on economic and inflation developments. Even though the benchmark

purchase amount of government bonds is unchanged at JPY 80 trillion, in practice it will be flexibly determined to maintain a desirable shape of the yield curve.

- *Enhancing flexibility in the purchase of other assets:* While the goal of purchasing JPY 6 trillion of ETFs and JPY 90 billion of Japan Real Estate Investment Trusts (J-REITs) each year is maintained, the BoJ will allow some flexibility in response to changes in the market environment.

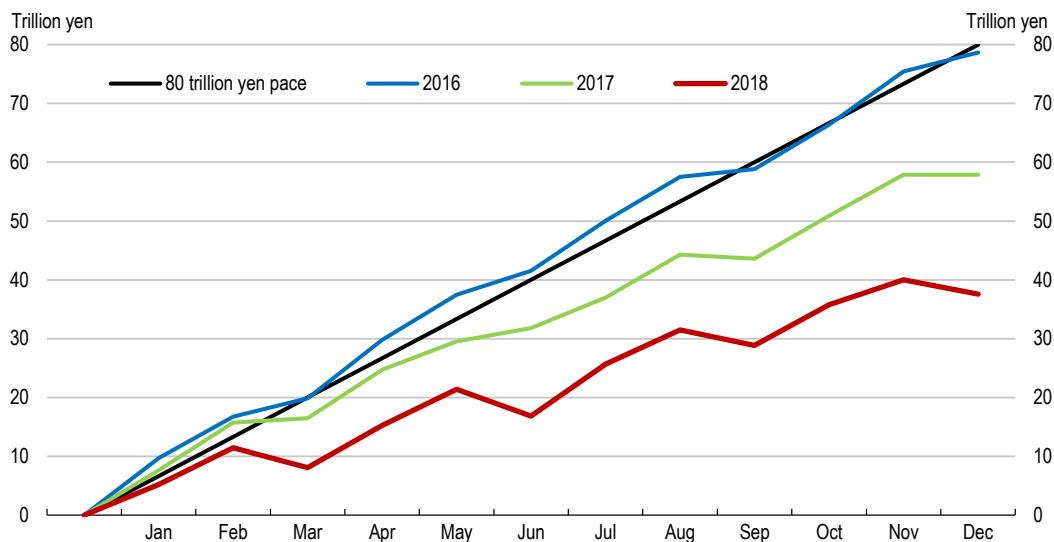
Figure 15. The yield curve has become flatter¹



1. Market-based rate using compounded rates.
Source: Ministry of Finance.

StatLink <http://dx.doi.org/10.1787/888933953430>

Figure 16. The Bank of Japan’s net government bond purchases have slowed



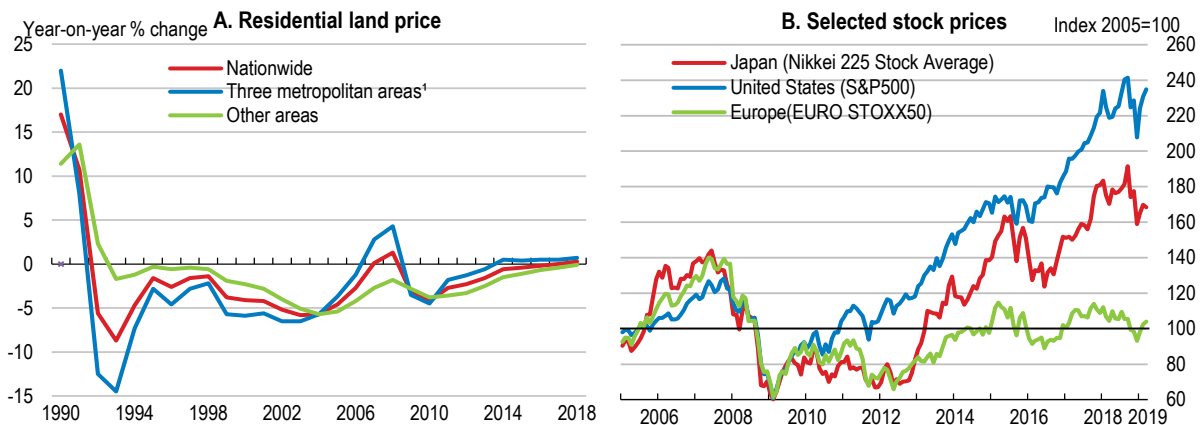
Source: Bank of Japan.

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- *Strengthening forward guidance:* Given that achieving the 2% inflation target is likely to take longer than previously expected, the BoJ declared that it “intends to maintain the current extremely low levels of short- and long-term interest rates for an extended period of time, taking into account uncertainties regarding economic activity and prices, including the effects of the consumption tax hike scheduled to take place in October 2019”.

How far to go in the direction of highly expansionary monetary policy and how long to maintain such policies hinges on the balance of marginal benefits and costs. A number of potential costs and side effects can be identified (Rawdanowicz et al., 2013). Perhaps most importantly, overly expansionary monetary policy can lead to excessive risk-taking that fuels asset price booms that result in financial instability in the future. In Japan, land prices have finally stabilised after more than two decades of decline, a positive development (Figure 17). Equity prices have rebounded, reflecting record-high corporate profits (Panel B). Still, the price-earnings ratio is around 24, well below the average of the past decade. The biggest run-up in asset prices is in government bonds, as interest rates have fallen across the yield curve (Figure 15). Exit from QQE can thus lead to a risk of bond market instability and losses for financial institutions. Maintaining market liquidity in the government bond market will be essential. However, with inflation still far from the 2% target, it may be premature to focus on the details of the exit strategy, which will depend on economic and market conditions at that time. The BoJ's successful exit from quantitative easing in 2006 is a positive precedent, although the size of the BoJ balance sheet was much smaller at 30% of GDP (2008 *OECD Economic Survey of Japan*). Moreover, Japan may benefit from the experience of other major economies exiting quantitative easing.

Figure 17. Asset price trends in Japan have improved



1. Tokyo area (Tokyo, Kanagawa, Saitama, Chiba, and Ibaraki prefectures), Osaka area (Osaka, Hyogo, Kyoto, and Nara prefectures), and the Nagoya area (Aichi and Mie prefectures).

Source: Ministry of Land, Infrastructure, Transport and Tourism; and Thomson Reuters Datastream.

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Another concern is the BoJ's purchases of ETFs; it now owns more than three-quarters of the ETF market, making it among the top ten shareholder, indirectly, in 40% of Japanese listed companies (Nikkei Asian Review, 2018a). Central bank purchases of ETFs may lead to the overvaluation of some stocks (Shirai, 2018). Moreover, the BoJ programme is eroding market discipline as companies are rewarded simply for being in major market indexes, rather than for having new business strategies or offering more dividends (Nikkei Asian Review, 2018a). Finally, the large-scale purchases will make it difficult for the BoJ

to sell their holdings. There are some signs that the BoJ is showing more flexibility in its ETF purchases in line with its July 2018 decision and the shift from the Nikkei 225 stock average, which focuses on the largest firms, to the broader Topix equities index.

Despite these concerns, achieving the 2% target should remain the BoJ's priority, while monitoring the potential costs and side effects, including those related to financial institutions (see below). Deflation lowers nominal GDP, thereby boosting the government debt ratio and threatening fiscal sustainability. Reducing the debt ratio in a deflationary context is thus very difficult, even more so as deflation also has a negative impact on growth.

Table 7. Implementation of OECD recommendations for monetary policy

Earlier OECD Survey recommendations	Action taken or planned
Monetary easing should be maintained as planned until inflation is durably above the 2% target, while taking account of costs and risks.	The Bank of Japan introduced forward guidance to signal its determination to maintain ultra-low short and long-term interest rates for an extended period of time. The sustainability of monetary policy has been enhanced by yield curve control, which targets the yield rather than the quantity of government bonds purchased.

The financial sector: strong at present but emerging concerns

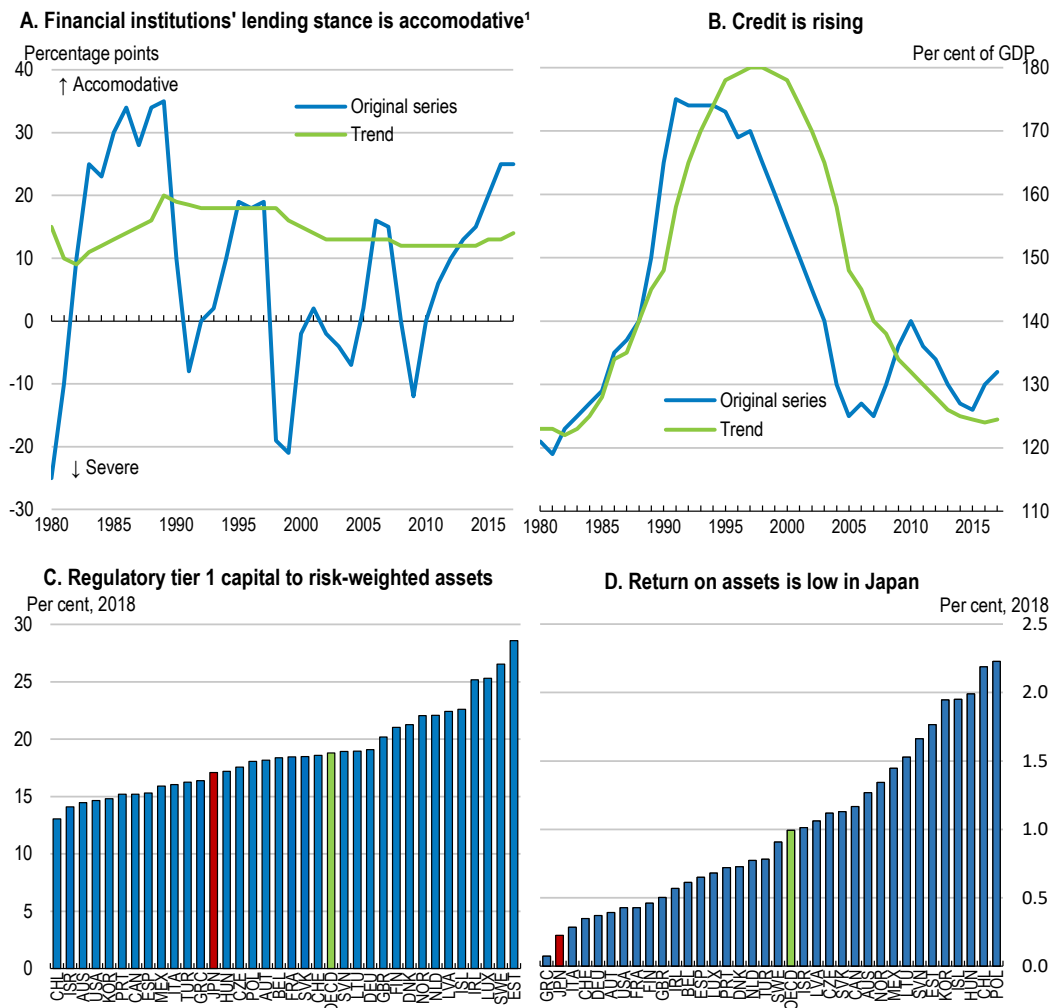
The financial sector is supporting the economic expansion. Lending attitudes of financial institutions have remained at their most accommodative level since the collapse of the bubble economy in the early 1990s (Figure 18). Total credit has risen as a share of GDP during the past few years, reversing the downward trend (Panel B). Banks' non-performing loans are low, reflecting aggressive efforts by the supervisory authorities to reduce them. Tier 1 regulatory capital rose from 15.3% of risk-adjusted assets in 2014 to 17.1% in early 2018, close to the OECD average (Panel C). Macro stress testing by the BoJ finds that financial institutions have generally strong resilience in terms of both capital and liquidity against tail events, such as those during the global financial crisis (Bank of Japan, 2018). The overall banking sector "remains well capitalised and liquid" (IMF, 2018).

However, banks' return on assets is the second lowest in the OECD area (Figure 18, Panel D). Net income has remained relatively high from a long-term perspective for all types of financial institutions, underpinned by realised gains on stockholdings and the fall in borrowing costs (Figure 19). However, net interest income has trended down, reflecting narrower deposit-lending margins during a prolonged period of low interest rates. A second factor is intensified competition among financial institutions, as the number of firms shrinks and the share that are debt-free rises. In a BoJ survey, almost half of regional banks, which are major lenders to SMEs, reported that interest rates on their loans to middle-risk firms do not match credit costs through the cycle. More than 85% responded that it is difficult to raise their lending rates because of competition with other financial institutions, suggesting a structural problem in this sector (Bank of Japan, 2018). Consolidation of the regional banking sector could help strengthen their balance sheets. The government should move ahead with its late 2018 proposal to either create a new system to approve M&As of regional banks or to enhance the predictability of the review process by the Japan Fair Trade Commission, which would help maintain services throughout the country.

QQE has been effective in achieving portfolio rebalancing by encouraging financial institutions to accept more risk. However, recent trends create a number of concerns. *First*, the share of loans to "low-return borrowers" – which are primarily SMEs with relatively weak financial conditions whose borrowing interest rates are low relative to their credit risk

through the business cycle – have increased substantially (Figure 20). *Second*, real estate lending, fuelled by loans to the rental-housing sector, is rising rapidly (Panel B). *Third*, overseas lending has also increased markedly (Panel C). Although about 70% is investment grade, overseas loans create foreign exchange risks and the risk of a snapback in foreign interest rates. *Fourth*, financial institutions have increased their holdings of investment trusts (Panel D). Effective financial supervision is essential in the face of these increasing risks.

Figure 18. The financial sector is contributing to the economic expansion



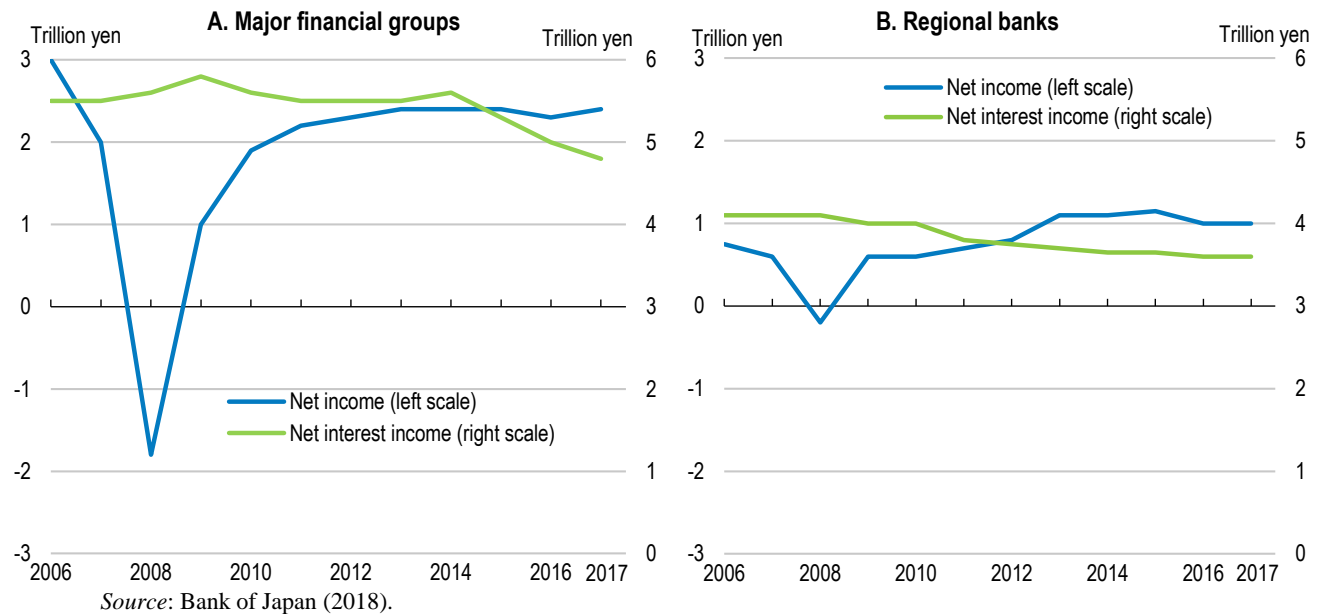
1. A diffusion index that measures the difference between the number of firms responding that financial institutions' lending stance is accommodative minus those responding that it is severe.
 Source: Bank of Japan (2018); and International Monetary Fund.

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A declining and ageing population will tend to reduce both the supply and demand for funds due to an increasing share of retirees and a shrinking economy. The life-cycle hypothesis implies that Japan's saving rate will decline. However, empirical studies find that precautionary saving and bequest motives in Japan have slowed its fall (Horioka and Niimi, 2017; Hamaaki et al., 2019). In addition, the share of risky assets in household portfolios increases with age as the burden of repaying mortgages declines (Iwaisako et al.,

2016). Given the elderly's saving behaviour and willingness to accept risk, Japan should have enough funding to create profitable businesses. A bigger concern is a lack of demand for such funds.

Figure 19. Net income is high, although net interest income is falling



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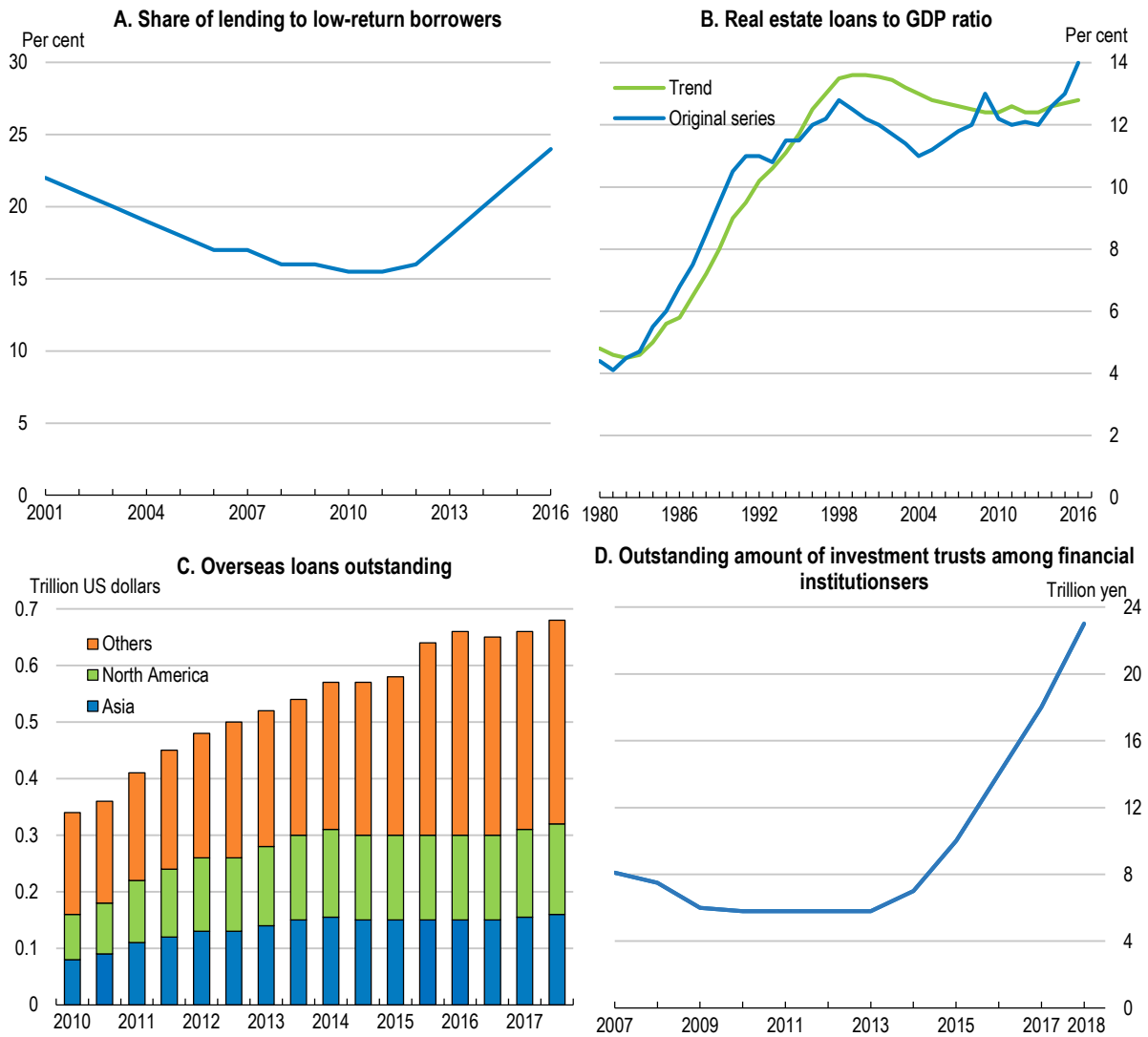
Sustaining labour inputs in the face of population ageing

Japan's labour force will decline by 25% by 2050 if labour market entry and exit rates remain unchanged (Figure 3). Labour inputs will also be constrained by the 2018 work style reform bill, which limits overtime work to 45 hours per month and 360 hours per year (Table 8). However, up to 720 hours per year is allowed if employers and employees agree. The demographic challenge makes fundamental labour market reform a top priority. Japan's traditional model – based on lifetime employment, seniority-based wage and promotion systems, mandatory retirement, simultaneous recruitment of new graduates and company-based training -- was effective when the population was young and growing. However, it is inappropriate in the era of 100-year lives, as it discourages the employment of older persons and women and reduces labour mobility. A shift to more flexible employment and wage systems based more on ability and less on age would enable Japan to better utilise its human capital.

A shift to more flexible employment and wage systems would also help break down labour market dualism, which results in a large wage gap between regular workers and non-regular workers, who are predominately women. The “equal pay for equal work” provision, which will be implemented in 2020-21, aims at resolving “irrational gaps in working conditions between regular and non-regular workers in the same firm”. In practice, it is difficult to determine whether a pay gap is rational, as it requires employers to carefully evaluate the performance of individual workers. *OECD Economic Surveys of Japan* have long recommended a comprehensive strategy to break down labour market dualism by increasing the coverage of social insurance and upgrading training programmes for non-regular workers, raising the minimum wage and reducing employment protection for

regular workers, in part by increasing transparency. Given the difficulty of reforming employment protection, Japan could consider the approach of Italy, which has “grandfathered” the existing rights of current employees, while introducing a single contract for new workers (OECD, 2017b).

Figure 20. Increased risk-taking by financial institutions is creating some concerns



Source: Bank of Japan (2018).

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Table 8. Basic Policy on Economic and Fiscal Management and Reform

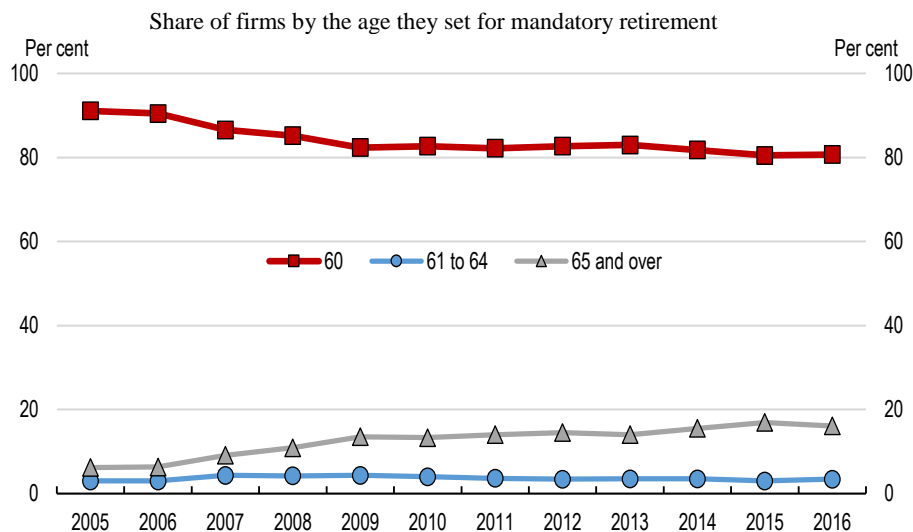
Agenda	Objective	Actions taken or planned
1. Realisation and expansion of the “human resource development revolution”	Provide an environment that enables all citizens to play active roles in society throughout their lifetime.	<p>(1) <u>Investment in human resources</u> A plan to expand childcare capacity by 320 000 children by 2020 was launched in 2018. Free early childhood education and care for children aged three to five is to be introduced in October 2019. Exemption and reduction of tuition for higher education for students from low-income households is to be introduced in 2020. Job training programmes will be enhanced, as will education curricula through collaboration between business and universities.</p> <p>(2) <u>Promoting the engagement of all talents in Japan</u> A plan will be formulated by summer 2019 to secure employment opportunities until age 70.</p>
2. Realisation and expansion of the productivity revolution	Double annual labour productivity growth to 2% by 2020. Implement the technologies of the Fourth Industrial Revolution to realise “Society 5.0”, which will promote sustainability and inclusiveness.	<p>(1) <u>Flagship projects for the realisation of “Society 5.0”</u> Promote such projects as: <i>i)</i> automated mobility systems; <i>ii)</i> data-driven healthcare systems; <i>iii)</i> smart energy management and finance; <i>iv)</i> digital government; and <i>v)</i> smart industry, community and SMEs.</p> <p>(2) <u>Building a foundation for innovation</u> 5G frequency bands were allocated in 2019, with commercial services to begin in 2020. A framework for project-based regulatory sandboxes was created in 2018.</p> <p>(3) <u>Establishment of innovation ecosystem</u> Preferential treatment in public procurement will be granted for advanced technology and SMEs and venture businesses.</p>
3. Promotion of work style reform	Implement drastic labour market reform to realise a society that enables workers to flexibly choose varied work-styles.	<p>(1) <u>Reduction of long working-hours</u> A compulsory cap on overtime hours on a monthly and annual basis will be enforced in 2019 for large firms and in 2020 for SMEs.</p> <p>(2) <u>Realisation of equal pay for equal work</u> The equal-pay-for-equal-work principle will be enforced in 2020 for large firms and in 2021 for SMEs. Guidelines for equal or balanced treatment between regular and non-regular workers were announced in 2018.</p> <p>(3) <u>Creation of a flexible employment system to promote performance-based pay for specialised workers</u> A new type of employment contract that exempts highly specialised workers with specific job descriptions from the limits on overtime hours will be introduced in 2019.</p> <p>(4) <u>Minimum wage will continue to increase</u> Minimum wages, set at a national average of JPY 874 per hour in 2018, will continue to be hiked around 3% per year until they reach JPY 1 000.</p>
4. Acceptance of new human resources from overseas	Accepting more foreign workers to cope with the serious labour shortage.	<p>(1) <u>Creation of a new residency status for lower-skilled foreign workers</u> A new residency status was created in 2018 to allow foreign nationals who have completed Technical Intern Training II in Japan to remain for up to five additional years to work in sectors that face severe labour shortages.</p>

Source: Basic Policy on Economic and Fiscal Management and Reform 2018.

More than 80% of firms continue to set mandatory retirement at age 60 (Figure 21), even though life expectancy at that age is 26 years, up from 17 in 1970. While workers can continue until age 65, most are re-hired as non-regular workers at significantly lower wages and in jobs that make less use of their skills. The right of firms to set a mandatory retirement age should be abolished to allow more workers to continue their careers, while fully utilising their skills. An end to mandatory retirement requires shifting away from seniority-based wage systems by giving more weight to job category and performance. In addition, the pension eligibility age should be raised above 65, as healthy life expectancy has reached 75. Lengthening careers in the era of 100-year life spans also requires lifelong learning and job-related training to avoid the decline in skill levels among older workers. An end to mandatory retirement would increase firms' incentives to increase such investment in older workers, which is currently low in Japan. Finally, longer working lives would also be facilitated by better work-life balance for all workers by strictly enforcing the new 360-hour annual limit on overtime hours, imposing adequate penalties on firms that exceed it and introducing a mandatory minimum period of rest between periods of work.

The employment rate for women has risen sharply over the past five years, from 60.7% in 2012 to 69.6% in 2018, well above the 60.1% OECD average (Table 9). However, half of the new workers are non-regular workers. The working lives of women are interrupted and shortened by the burden of providing care for family members, leaving them under-represented in managerial positions and on boards of directors (Figure 22). Removing obstacles to female employment requires improving work-life balance, eliminating the concentration of women in career tracks with fewer opportunities for advancement and fighting discrimination. The government plans to provide free childcare for all children between the ages of three and five, which it expects to boost the fertility rate. Eliminating the waiting list for childcare should be a priority to encourage female employment. In addition, the spousal deduction on personal income tax should be further reformed in line with the recommendation of the OECD Council at Ministerial Level that countries should “design tax-benefit systems so that both parents have broadly similar financial incentives to work” (OECD, 2013).

Figure 21. Most firms have kept their mandatory retirement age at 60



Source: Ministry of Health, Labour and Welfare, *General Survey on Working Conditions*, 2017.

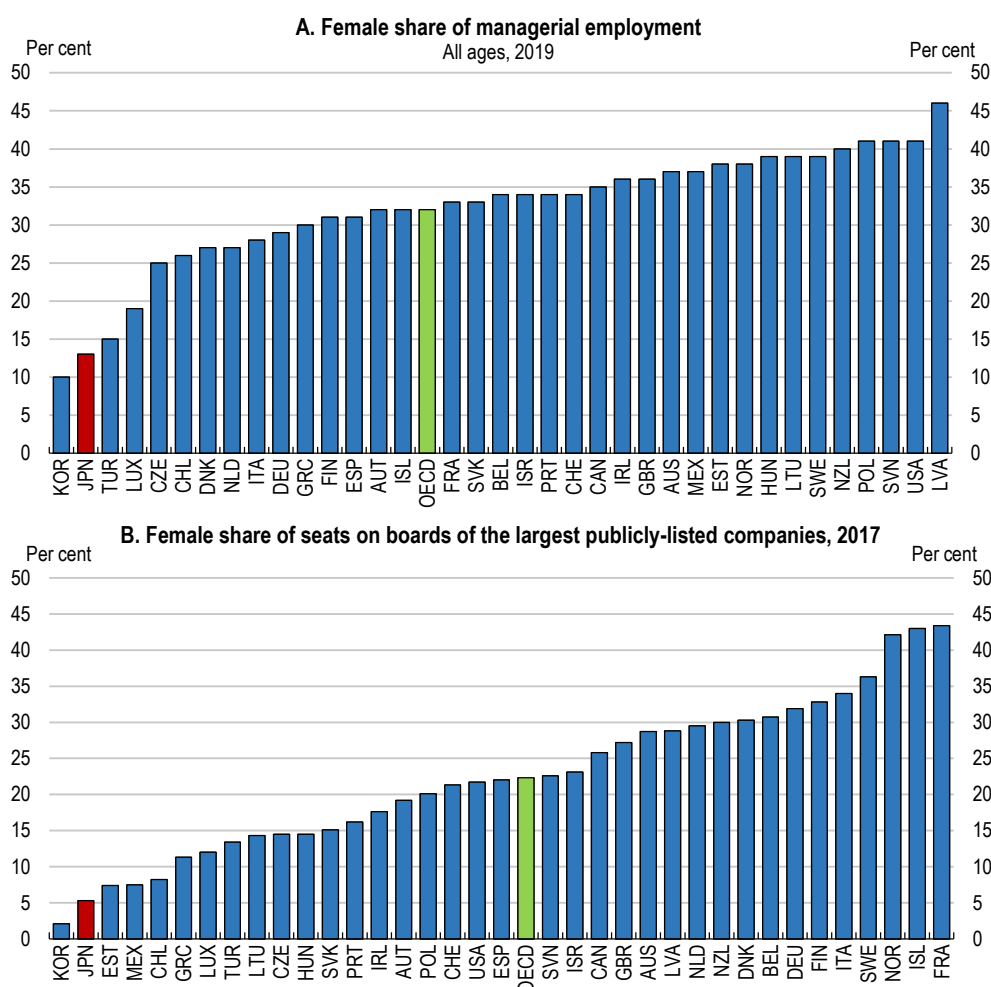
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Table 9. Employment rates by age and gender

In 2017

	Japan				OECD			
	15-24	25-54	55-64	15-64	15-24	25-54	55-64	15-64
Men	42.0	92.7	85.0	82.9	44.7	86.8	69.1	75.5
Women	42.9	75.3	61.9	67.4	38.5	68.9	52.2	60.1
Total	42.5	84.1	73.3	75.3	41.6	77.8	60.4	67.8

Source: OECD Employment and Labour Market Statistics (database).

Figure 22. Japanese women are under-represented in leadership positions

Source: OECD Gender database.

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The number of foreign workers (including trainees) in Japan nearly doubled from 0.7 million in 2013 to 1.3 million in 2017, indicating the willingness of employers to hire foreign workers. Still, they accounted for only 2% of Japan's labour force, one of the lowest shares in the OECD. Moreover, the Technical Intern Training Programme, which allows foreigners to stay in Japan for up to five years, has been criticised as a scheme to provide cheap labour, resulting in human rights abuses. In 2017, the Ministry of Health, Labour and

Welfare introduced regulations with penalties attached to “reduce human rights violations”, stating, “trainees are no different than Japanese labourers” (Japan Times, 2017).

A December 2018 law introduced a new residency status for work-ready foreigners with expertise in sectors facing labour shortages. This landmark legislation will allow lower-skilled workers to be employed in Japan based on worker residency status for the first time. The government plans to accept 345 150 foreign workers over 2019-24 under this law. Although international migration on a scale sufficient to substantially change Japan’s demographic picture is unrealistic, increased inflows of foreign workers should be part of a comprehensive approach to coping with population decline. OECD research shows a wealth of evidence demonstrating that the medium and longer-term effects of migration on public finance, economic growth and the labour market are generally positive (OECD, 2016). Maintaining a no-immigration approach based on temporary foreign workers is not enough. Realising the economic benefits of migration requires significant investment in the education of new migrants and assistance in adjusting to life in Japan.

Table 10. Implementation of OECD recommendations to support employment

Earlier OECD Survey recommendations	Action taken or planned
Remove obstacles to female employment by increasing the capacity of childcare and improving work-life balance through a binding ceiling on overtime work.	The government plans to expand childcare capacity by 320 000 children by the end of FY 2020. Free early childhood education and care for children aged three to five is to be introduced in October 2019.
Break down dualism by relaxing employment protection for regular workers and expanding social insurance coverage and training for non-regular workers.	Since April 2017, part-time workers in enterprise with fewer than 500 employees can be included in Employee Pension Insurance if there is an agreement between the employer and employees. The government has enlarged support for vocational training for non-regular workers.

Narrowing the productivity gap with leading OECD countries

Japan’s exceptionally large labour inputs (on a per capita basis) have offset low labour productivity, which was more than a quarter below the top half of OECD countries in 2017 (Figure 23). This reflects the widening productivity gap between Japan’s manufacturing and service sectors (2017 *OECD Economic Survey of Japan*). Consequently, per capita income was 19% below the top half of OECD countries. The government’s 2013 goal of boosting real output growth to an annual rate of 2% through 2022 remains out of reach with productivity growing at a 1.0% annual rate over 2012-17. The New Economic Policy Package announced at end-2017 set a goal of doubling productivity growth to 2% by 2020.

The top priority will be Japan’s Society 5.0 agenda, which aims at the systematic integration of digital technologies and the physical world to spur economic growth and provide solutions to social challenges. Japan is a world leader in the development of digital infrastructure, which is welcomed as a strategy to cope with labour shortages and a declining population (OECD, 2018e). To fully reap the benefits of the digital infrastructure, it needs to be complemented by investment in skills, particularly for middle-aged and older workers, and policies to minimise the digital divide. Regulatory reform is another priority to allow the development of new technologies, such as driverless cars. The regulatory sandbox system introduced in 2018, which exempts projects using new technology from existing regulations under certain conditions, is a welcome step forward. Two other key areas for reform to achieve faster growth are corporate governance, one of the three key priorities in the 2016 Growth Strategy, and SME policies.

Box 1. Quantification of the impact of structural reforms

The labour market reforms discussed in this *Survey* are estimated to have large benefits (Table 11). In the baseline scenario below, labour market entry and exit rates are constant for men and women for each five-year age cohort, leading to a 24.0% fall in the labour force over 2017-50. Nevertheless, real GDP per capita would rise 1.8%, even assuming no change in labour productivity. In reality, labour productivity is likely to increase, so the rise in real GDP per capita would be larger, but this occurs in the two reform scenarios so this would not affect the percentage gain in real GDP per capita associated with reform.

Table 11. The impact of policies to boost employment on per capita GDP

Percentage change over 2017-50

	Labour force	Real GDP per capita	Difference from baseline
Baseline ¹	-24.0	1.8	0.0
Delayed retirement ²	-18.9	8.4	6.5
Closing the gender gap ³	-20.2	6.8	4.9

1. Assuming unchanged labour market entry and exit rates men and women for each five-year age cohort.
2. Labour market exit rates from age 55 onwards are adjusted downwards by 10% over the period 2017-30.
3. The participation rates for women converge to those for men in each five-year age group.

Source: OECD (2018h); and OECD calculations.

In the “delayed retirement” scenario, exit rates from age 55 onwards fall by 10% over the period 2017-30. This would raise the average effective age of retirement by 1.1 and 0.7 years for men and women, respectively, by 2030. Such a scenario appears reasonable, given that the effective retirement age increased 1.1 years for men and 3.2 years for women over 2004-17. Moreover, the projected increase in the effective age of retirement would still be slightly less than the projected rise in life expectancy, increasing the expected number of years in retirement slightly from 15.2 in 2017 to 15.4 in 2030 for men and from 20.5 to 21.0 for women (OECD, 2018h). With a smaller decline in employment, real GDP per capita in 2050 would be 6.5% higher than in the baseline scenario.

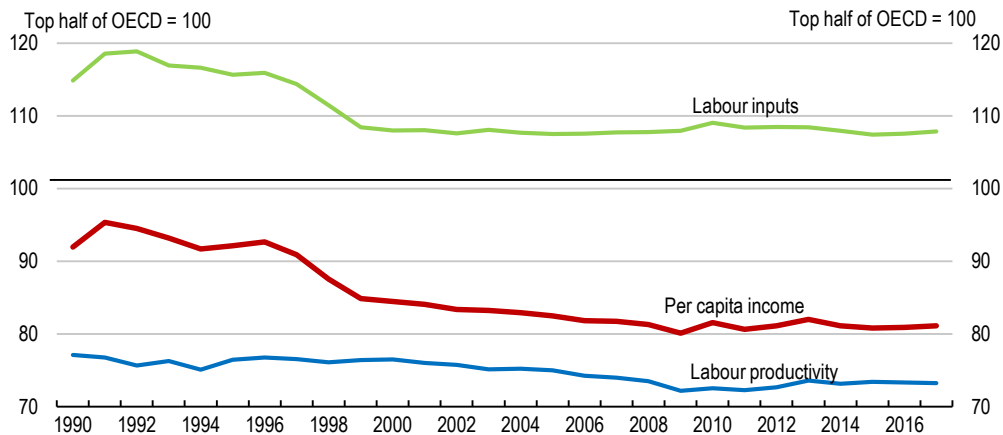
In the “closing the gender gap” scenario, the participation rates of women converge to those of men in each five-year age group. The gender gap in participation narrowed from 24 percentage points (84% for men and 60% for women) in 2004 to 16 points (85.5 for men and 69.4 for women) in 2017. Further narrowing the gap at the same pace would eliminate it before 2050. In this scenario, real GDP per capita in 2050 would be 4.9% higher than in the baseline scenario.

The other structural recommendations in this *Survey* relate to corporate governance and SME policy. While reforms in these areas are expected to have a significant impact, quantitative estimates are not possible at this point.

Improving corporate governance in Japan

Japanese firms have long been characterised by low returns on equity compared to their European and US counterparts. Corporate boards of directors have been primarily composed of insiders who fail to effectively scrutinise management decisions (2017 *OECD Economic Survey of Japan*). One factor was the lack of a corporate governance code until 2015. Better corporate governance has the potential to improve the allocation of capital and the monitoring of firm performance, leading to better use of Japan’s high level of business R&D and human capital. It would also facilitate the downsizing or closing of low-productivity activities and the shift of resources to high-productivity activities.

Figure 23. Labour productivity in Japan is more than a quarter below the top half of OECD countries



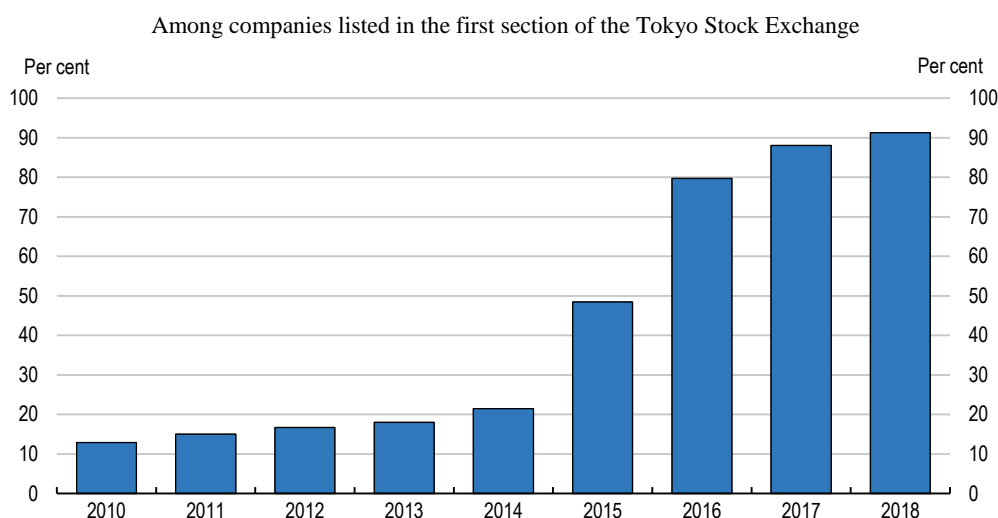
Source: OECD Economic Outlook database.

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The Stewardship Code introduced in 2014 aims at encouraging “institutional investors to fulfil stewardship responsibilities by improving and fostering their investee companies’ corporate value and sustainable growth through constructive engagement”. By November 2018, 237 institutional investors had adopted the Code, of which nearly half were foreign institutions. While almost all major asset managers and public pension funds have signed up, only 12 of the more than 10 000 corporate pension funds have joined, reflecting their lack of human resources for stewardship activities. By end-2016, the implementation rate of each of the Code’s seven principles was more than 90%. The Code was revised in 2017 to require asset managers to resolve conflicts of interest and to promote effective monitoring of asset managers by asset owners (e.g. corporate pension funds).

The Corporate Governance Code created in 2015 is based on the G20/OECD Principles of Corporate Governance. It urges “companies to enhance mid- to long-term earnings power, under effective business strategies, with appropriate cooperation with stakeholders” (Financial Services Agency, 2018). Both Codes take a principles-based approach on a comply-or-explain basis. One of the key principles of the Corporate Governance Code, which applies to more than 2 500 listed companies, is having at least two independent directors. The share of companies in the first section of the Tokyo Stock Exchange (2 021 in total) with two or more outside directors increased from 22% in 2014 to 91.3% in 2018 (Figure 24), raising the average number of outside directors per company from 1.6 to 2.3.

As of July 2017, 32% of companies had complied with all 73 principles in the Code, while another 61% complied with more than 90%. The share of companies with nomination committees increased from 21% in 2015 to 32% in 2017, while the share with remuneration committees rose from 13% to 35%. Another sign of progress is that the share of companies holding their regular general shareholder meeting on the most crowded day of the year fell from 96% in 1995 to 31% in 2018, suggesting increased interest in listening to shareholders.

Figure 24. Share of firms with two or more independent directors

Source: Japan Exchange Group (2018).

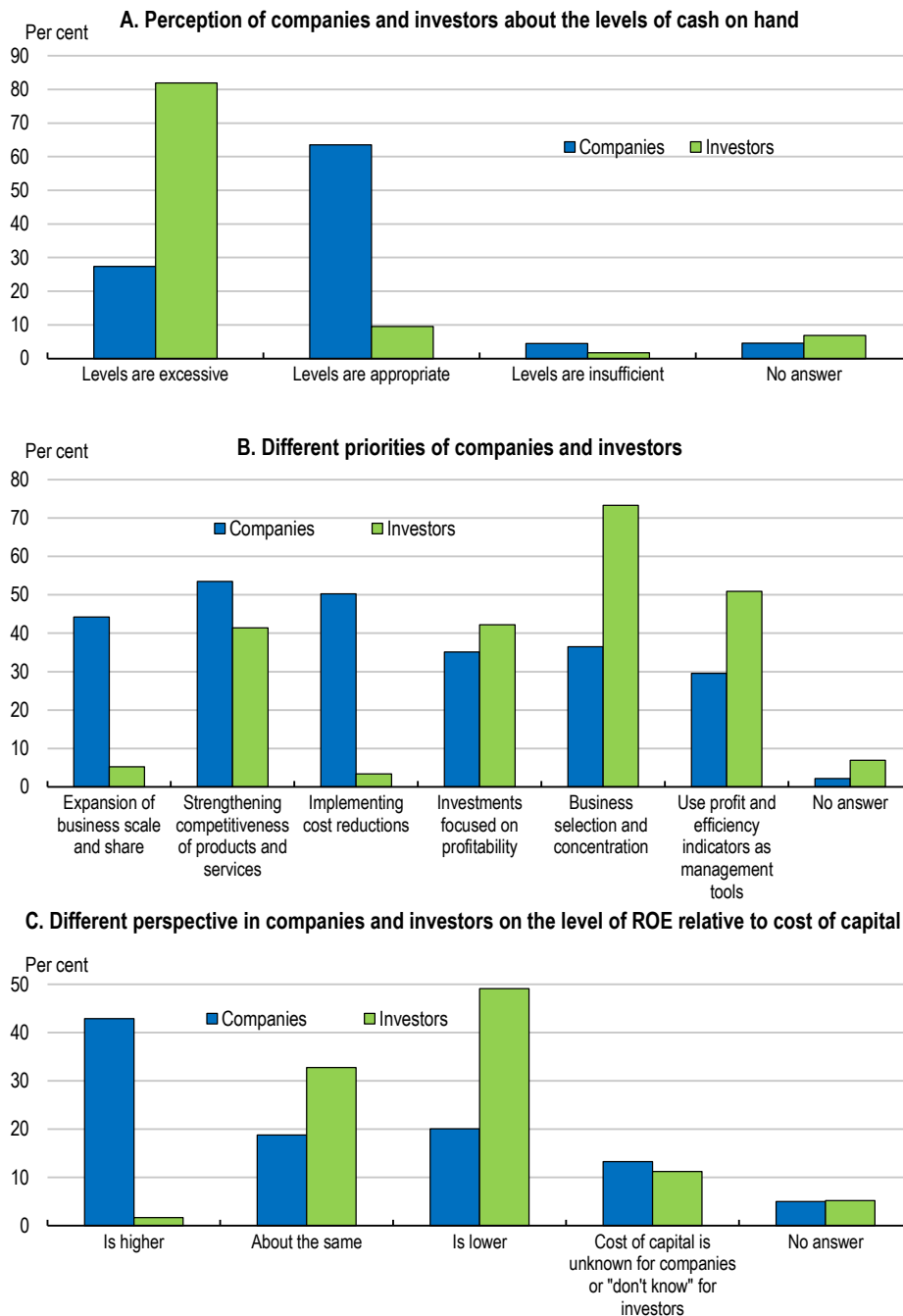
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The 2017 New Economic Policy Package called for improving corporate governance to boost strategic investment in fixed assets, R&D and human resources. Indeed, upgraded corporate governance could help unlock the corporate sector's large stash of cash for investment to boost productivity. A 2017 survey of 581 listed companies and 116 institutional investors found that 64% of companies felt that their cash holdings were appropriate, while 82% of investors said that they were too high (Figure 25, Panel A). Moreover, 70% of investors said the surplus cash should be invested and about two-thirds complained that companies had offered little or no explanation for their level of cash holdings. Companies and investors also diverged on the priorities for management. While 73% of investors said that companies should concentrate on selecting the correct business lines and focus on them, only 36% of firms listed that as a priority (Panel B). Finally, half of investors complained that companies' returns on equity (ROE) were below the firms' cost of capital. However, companies felt that their ROE matched (43%) or exceeded (19%) their cost of capital (Panel C). Surprisingly, 13% of companies did not know their cost of capital.

The revision of the Corporate Governance Code and the Corporate Governance System Guideline in 2018 made a number of important changes:

- *Cross-shareholdings*: companies are required to annually assess whether or not to maintain each individual cross-shareholding and disclose the results of the assessment. This is expected to reduce cross-shareholdings, which have been found to have a negative impact on productivity.
- *Diversity of corporate boards*: the shares of women and foreigners on boards are both below 5%, while the average age of outside directors is 67. The authorities expect to see greater diversity. The Guideline also includes principles on the qualifications of outside directors and states that the chair of the board should be a non-executive director.
- *CEOs*: boards should appoint and dismiss CEOs through objective, timely and transparent procedures.

Figure 25. Divergent views of investors and companies



Source: Japan Exchange Group (2018).

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- *Independent advisory committees*: the establishment of such committees, such as those for nominations and remuneration, was added to the Code.

While Japan has established a corporate governance system in line with best practices, its full impact will only be seen gradually. The reforms thus have mainly changed form rather than substance (Financial Services Agency, 2018). According to a 2018 survey by the

Government Pension Investment Fund, 40% of companies see improvements in the attitudes of at least some institutional investors, but 46% have not seen any change. The government should closely monitor and promote the implementation of the Codes to improve the performance of the business sector.

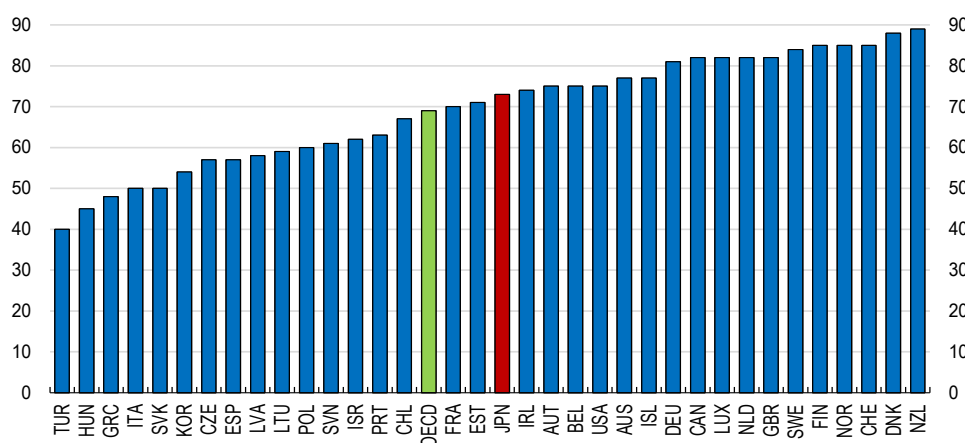
Table 12. Implementation of OECD recommendations on corporate governance

Earlier OECD Survey recommendations	Action taken or planned
Work in tandem with the stock exchange and the private sector to promote compliance with the principles contained in the new Stewardship and Corporate Governance Codes.	The Stewardship Code was revised in May 2017 to require asset managers to resolve conflicts of interest and to require asset owners to monitor asset managers effectively. The number of institutional investors adopting the Code has risen from around 200 in late 2016 to 239 in December 2018. The Corporate Governance Code was revised in June 2018 to focus on reducing cross-shareholdings and establishment of independent advisory committees. The share of large listed firms with more than two independent directors has risen from less than half in 2015 to 91% in 2018.

Addressing corruption and other serious corporate offences

Improved corporate governance could also reduce corruption. Japan ranks in the middle of the OECD in the index of perceived corruption by Transparency International (Figure 26). Fighting corruption is important for ethical and economic reasons, as it harms the business climate, distorts competition and diverts public resources into overpriced or worthless projects. Compared to other countries, corruption and other serious corporate offences in Japan stands out for its long duration (Coney and Coney, 2018). For example, a steel company admitted falsifying data going back to the 1970s, while a car company confessed to covering up defects for 23 years. Accounting fraud at a company producing cameras continued for 20 years under a series of CEOs. An electronics company admitted that it had overstated its profits by more than USD 2 billion over seven years, prompting the resignation of the CEO and two previous CEOs.

Figure 26. Perceived corruption in Japan was near the OECD average in 2017



Source: Transparency International (2018).

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In contrast, corporate fraud episodes in the United States last an average of 20 months (Dyck et al., 2017). The longevity of corruption cases in Japan reflects the domination of insiders, including corporate boards consisting primarily of former employees, with few

outside directors, and weak auditing procedures. Auditors, who are appointed by the board, have no voting rights, cannot dismiss directors or impose sanctions on them, and are poorly paid.

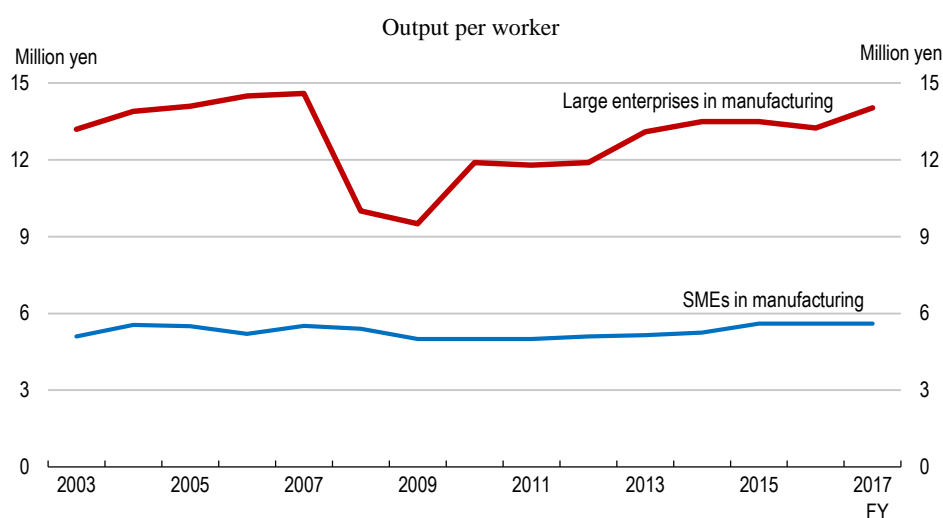
In addition, whistleblowing has traditionally not been common in Japan. Japan established a Whistleblowers Protection Act in 2004, but a 2013 government survey found that more than two-thirds of employees were unaware of it (Consumer Affairs Agency, 2013). Moreover, those who point out fraud often face retaliation or are fired by their employers, although they can sue to invalidate their firing or receive compensation. Following a series of systemic cheating and wrongdoing by companies over the past few years, the government is considering ways to improve protection for whistleblowers (Nikkei, 2018b). The Corporate Governance Code states that companies should establish whistleblower contact points “independent of company management”, such as a panel consisting of independent directors. Among other measures, making such a system mandatory for firms would help reduce corruption.

Japan should also strengthen efforts to fight bribery by Japanese companies and individuals in their foreign activities by better implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. Only four cases of foreign bribery in Japan have resulted in punishment since 1999, when its legislation was amended to make it a criminal offence to bribe foreign public officials to obtain advantages in international business. In June 2017, Japan amended its legislation so that companies and individuals convicted of bribing foreign public officials do not keep the proceeds or benefits of this crime. With this measure, Japan took a step toward implementing the OECD Convention.

Improving the performance of SMEs

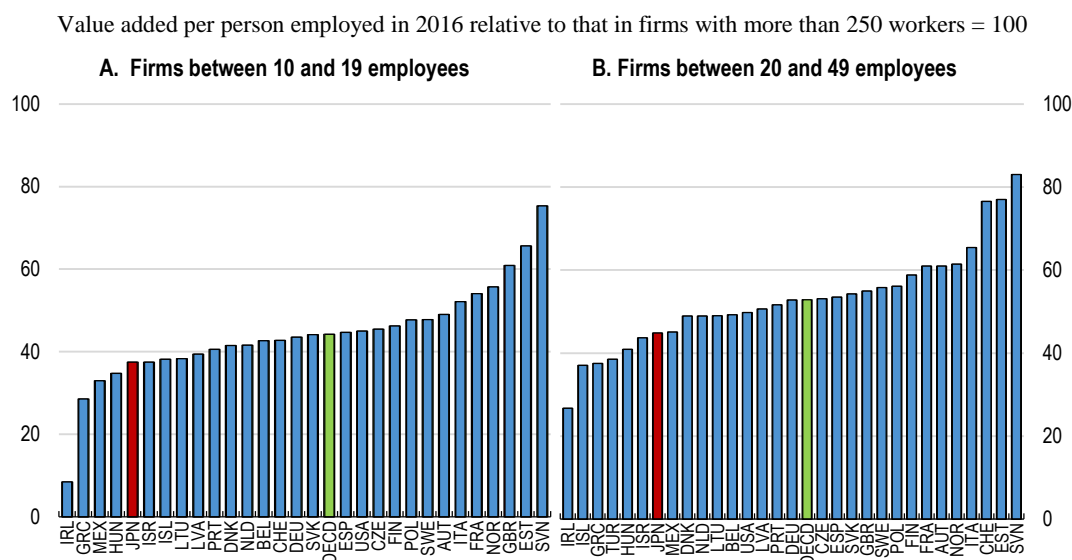
Improving the performance of SMEs is necessary to raise productivity, promote inclusive growth and strengthen financial institutions. SMEs have low productivity relative to large firms in Japan (Figure 27). In addition, the gap has been widening as productivity has been rising in large firms since 2010, while stagnating in SMEs. The gap between large firms and SMEs in Japan is large compared to other OECD countries (Figure 28). The productivity gap is important as SMEs account for more than two-thirds of employment and around half of output. Enhancing the dynamism of SMEs was an objective of Japan’s 2013 Revitalisation Strategy.

Low productivity in the SME sector has several causes. *First*, three-quarters of SMEs are in the service sector, which has relatively low productivity, making it important to address regulations and other factors that limit service sector productivity (Fukao, 2010). *Second*, the firm entry rate in Japan, although rising, is still well below other major economies (Figure 29). Consequently, firms over ten years old account for three-quarters of Japan’s small enterprises (less than 50 workers) compared to less than half in most OECD countries. Firm creation is essential to boost productivity given the key role of start-ups in innovation (OECD, 2018f). New firms boost aggregate productivity by displacing less-productive firms, placing incumbents under competitive pressure and enabling the commercialisation of knowledge that would otherwise remain unused.

Figure 27. The productivity gap between large firms and SMEs is wide in Japan

Source: Ministry of Finance, *Financial Statement Statistics of Corporations by Industry*.

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Figure 28. The productivity gap between SMEs and large firms is relatively wide in Japan

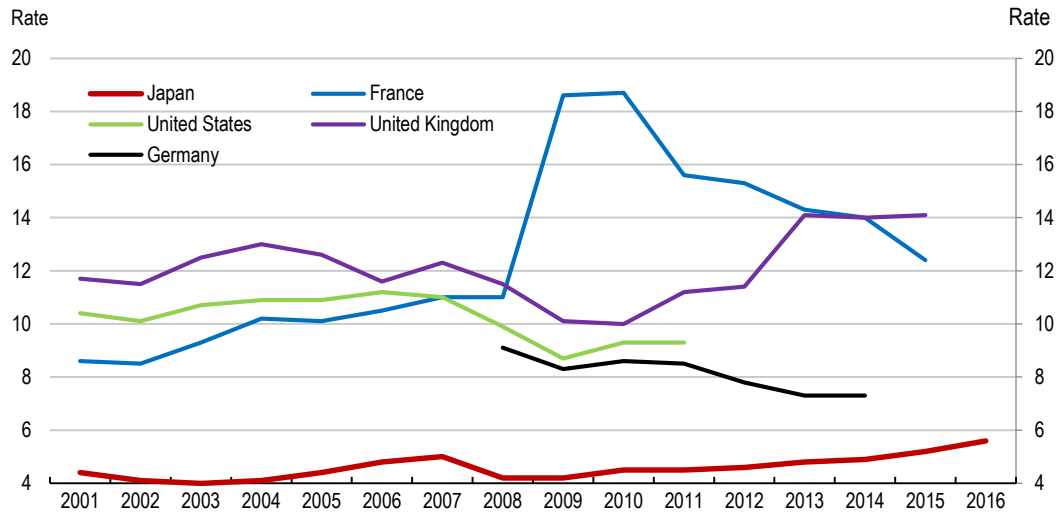
Source: OECD (2018c).

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The Revitalisation Strategy set a goal of boosting the firm entry rate to 10%. The weakness of entrepreneurship is one obstacle to achieving this goal. Indeed, the number of entrepreneurs (as a share of those employed) in Japan is the lowest in the OECD (OECD, 2017a). Promoting entrepreneurship also requires improving its image: less than a quarter of the Japanese views entrepreneurship as a good career choice, compared to a global average of 62% (GEM, 2017), in part as they perceive few opportunities. The widespread use of personal guarantees for loans may also discourage entrepreneurship. The government is encouraging lending without personal guarantees. In FY 2017, such loans accounted for 34% of loans from public institutions and 16% from private institutions.

Finally, the low entry rate is partly a reflection of a low exit rate at 3.5%. The government reformed the legal framework for promoting entrepreneurship in 2018 and should step up its efforts to foster public awareness of entrepreneurship.

Figure 29. The firm entry rate in Japan is rising, but remains below other major economies



Source: Ministry of Economy, Trade and Industry (2017b).

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Low SME productivity stems in part from less investment in new technology and digitalisation, reflecting their weaker financial position, lack of human capital and the advanced age of many owners. Government financial support for investments in new technology by SMEs has been expanded. Since 2018, investment in advanced equipment by firms with a plan to raise their productivity growth rate to 3% or more on average over three years can have its property tax reduced to zero for up to three years. The government is also using public procurement to promote innovation in SMEs, whose share of R&D is about 5%, compared to around 30% in the OECD area. Policies to spur competition are needed to encourage reallocation and increase firms' incentives to adopt digitalisation and other key technology. The most effective policies in this regard include (Andrews et al., 2018):

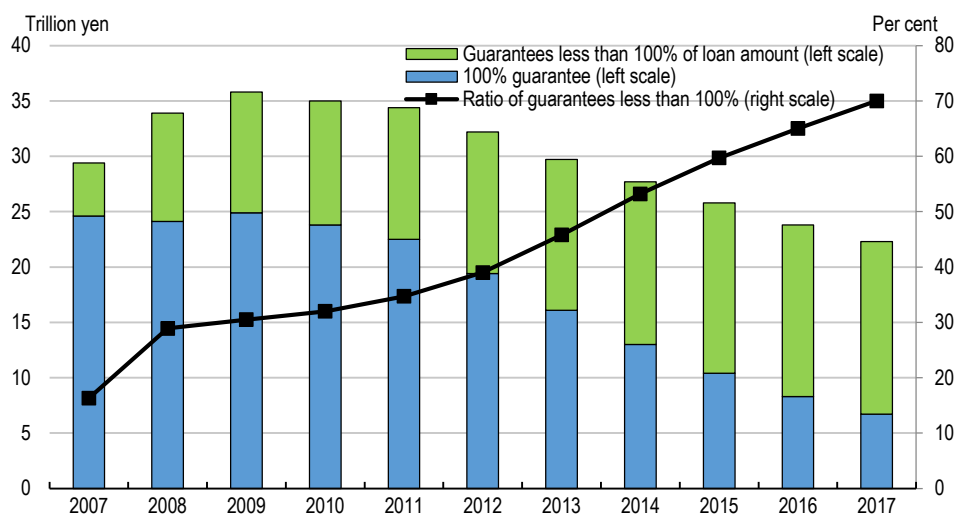
- Lower barriers to international trade and inward FDI.
- Employment flexibility, which facilitates the expansion of innovative firms and the downsizing of lagging firms.
- Better insolvency regimes to promote productivity by strengthening market selection and the reallocation of resources to more productive uses.
- Venture capital investment, which promotes the creation of innovative firms.
- Low corporate income tax rates to promote firm creation.

Another factor holding back productivity is that Japanese SMEs show little growth, limiting the gains from economies of scale. For example, the average number of employees at manufacturing firms that are more than 10 years old is less than ten compared to more than 70 in the United States (Crisciolo et al., 2014). Structural change led by new firms that continuously displace obsolete firms can raise productivity. High public support

discourages small firms from growing and losing the benefits associated with SME status. A recent study found that the thresholds on capital in the definition of SMEs significantly discouraged investment by firms just below the limit (Tsuruta, 2017b). Another factor impeding the growth of SMEs is a quantitative and qualitative lack of human resources (Ministry of Economy, Trade and Industry, 2018).

SMEs receive substantial government support, although improved economic conditions have reduced public credit guarantees for SME loans from a peak of JPY 36 trillion (7.5% of GDP) in FY 2009 to JPY 22 trillion (4.2%) in FY 2017 (Figure 30). In addition, the share of guarantees covering less than 100% of the loan amount rose from 30% to 70% over that period. Guarantees of 100% weaken market forces as banks have little incentive to monitor such loans. In 2018, the major 100% guarantee programme, Safety Net Programme No. 5, was reformed by reducing the share of loans covered to 80%. One major concern is government pressure on banks to loan to SMEs. The 2009 SME Financing Facilitation Act required banks to review the terms of their loans to SMEs in response to requests by the borrowers. Although the law lapsed in 2013, the Financial Services Agency has continued to encourage financial institutions to modify the terms of loans to SMEs.

Figure 30. The amount of guaranteed loans has fallen along with the share guaranteed



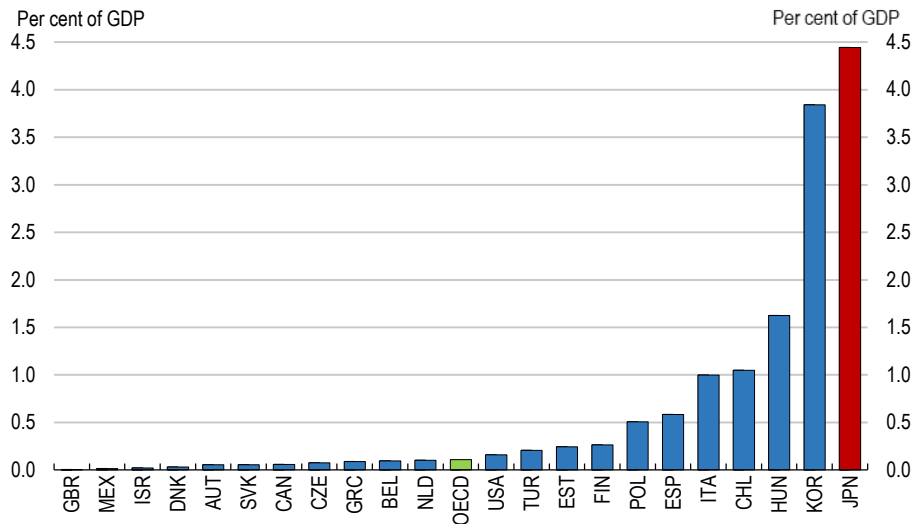
Source: Ministry of Economy, Trade and Industry.

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Despite the decline, government guarantees for loans to SMEs in Japan remained exceptionally high at 4.4% of GDP in 2016 (Figure 31), reflecting the fact that the proportion of loans to SMEs is also high as a share of GDP. The share of SME loans that is guaranteed is 9%, compared to 13% in the United States and 14% in Korea. High levels of public support can delay restructuring by keeping non-viable enterprises afloat. This distorts resource allocation by limiting the scope for entry of new firms and expansion of innovative firms. Public support for SMEs has other negative side effects, such as hindering the development of market-based financing. SMEs tend to prefer government loans, as they carry relatively low interest rates compared to the risk. Moreover, government credit guarantees reduce the burden of collateral and personal guarantees. Financial institutions are content to enjoy stable profits at low risk thanks to credit guarantees, thus reducing incentives to develop credit evaluation and risk management skills for SME lending.

Therefore, providing public support for SMEs can also increase adverse selection and moral hazard from the side of the banks.

Figure 31. Government credit guarantees for SMEs in Japan are exceptionally high



Source: OECD (2018d).

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Table 13. Implementation of OECD recommendations on SME policies

Earlier OECD Survey recommendations	Action taken or planned
Increase the productivity of SMEs by strengthening R&D links between firms and universities.	In 2018, the guideline for the strategic basic technology advancement/collaboration support projects was revised and its coverage expanded to include R&D projects related to AI and IoT between SMEs and universities and government research institutes.
Facilitate the exit of non-viable firms by reducing the use of personal guarantees. Make greater use of the Guidelines for personal Guarantees Provided by Business Owners to expedite out-of-court settlements for failed SMEs.	The 2014 Guidelines for Personal Guarantees Provided by Business Owners* promotes loans without personal guarantees. In FY 2017, 34% of loan from public financial institutions and 16% from private ones did not require personal guarantees by business owners.
Promote second chances for failed entrepreneurs by making the personal bankruptcy system less stringent	The growing share of loans without personal guarantees is expanding second chances for failed entrepreneurs.
Implement the planned reform of the credit guarantee system to strengthen market forces and keep public guarantees of SME loans on a downward trend.	The public credit guarantee system was revised in April 2018. Public credit guarantees for SME loans fell from a peak of 7.5% of GDP in FY 2009 to 4.2% in FY 2017. The share of guarantees covering less than 100% of the loan amount rose from 30% to 70% over that period.
Focus SME support on overcoming market failures that limit private financing rather than supporting mature firms.	Firms over ten years old received only 3% of public credit guarantees for their loan.

The succession issue is a major concern; around two-thirds of Japan's 3.8 million SMEs will have an owner age 70 and older by 2025. Among owners in their 60s, over half have not designated a successor. The government is trying to match SMEs with elderly owners to potential buyers, and provides grants, preferential tax treatments, and low-interest loans and loan guarantees for business succession. It is important to maintain a focus on promoting viable firms rather than trying to preserve even non-viable SMEs. The large share of older SME owners creates succession issues but also opportunities to achieve economies of scale. The government has set a goal of raising the exit and entry rates from

around 5% to around 10%. In addition, the retirement of elderly managers of SMEs has been found to have a positive effect on sales, assets, employment, investment and cash holdings (Tsuruta, 2017a).

Green growth policies to improve well-being and promote sustainable growth

Japan's energy intensity fell by 18% over 2010-17 and is now one-fifth below the OECD area (Figure 32, Panel A). Japan's success in achieving high energy efficiency reflects in part the Top Runner Programme, which sets mandatory energy efficiency targets for products, including vehicles and household appliances, sold in Japan. Japan has also made much progress in boosting material productivity and cutting final disposal, reducing municipal waste well below the OECD average (Panel B). Only a small proportion of the waste is landfilled, though recycling remains modest.

CO₂ emissions in 2016 were 5% lower than in 2000 despite the nuclear accident caused by the 2011 Great East Japan Earthquake. CO₂ emissions peaked in 2013, as imported coal and gas replaced nuclear power, and then fell by 8% by 2016, reflecting a reduction in electricity demand, an increase in renewables and the re-starting of some nuclear power plants that were closed following the nuclear accident. Carbon intensity is now in line with the OECD average.

More than 90% of greenhouse gas (GHG) emissions in Japan are CO₂ emissions. Electricity generation accounts for almost half, reflecting electrification of energy demand and reliance on fossil fuels, notably coal. One important strategy for an effective climate mitigation policy is further electrification in combination with decarbonisation of power generation. Increased energy efficiency also plays a role, particularly in sectors where electrification is difficult or uneconomic. Renewables accounted for less than 5% of total primary energy supply in 2015 (Figure 32, Panel D), the fourth-lowest share in the OECD. Renewables share of electricity generation increased from 12% in 2010 to almost 17% in 2017.

More ambitious climate policy would have many benefits

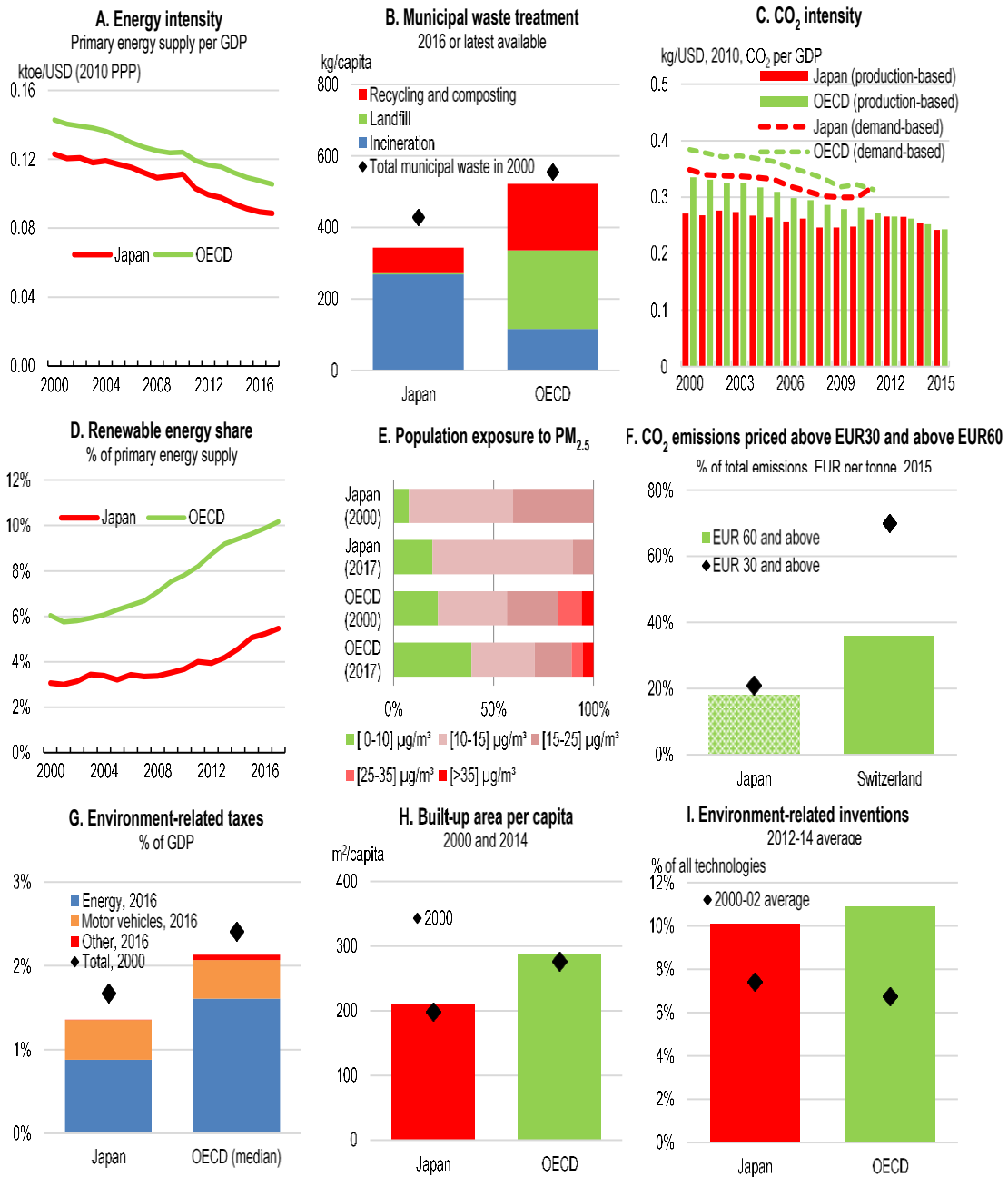
The 2015 Paris Agreement commits countries to limit global warming to well below 2 degrees Celsius and to pursue efforts to limit it to 1.5 degrees. The International Energy Agency's Sustainable Development Scenario (SDS), which is fully aligned with the Paris Agreement and is at the lower end of a range of scenarios projecting a global temperature rise of 1.7-1.8 degrees, sees global energy-related CO₂ emissions falling by 46% by 2040. In this ambitious scenario, energy-related CO₂ emissions in Japan are around 570 Mt in 2030 (49% below 2017) and 300 Mt in 2040 (73% below 2017) (International Energy Agency, 2018). An alternative scenario of the Intergovernmental Panel on Climate Change finds that worldwide CO₂ emissions resulting from human activity should reach net zero around 2050 to limit global warming to 1.5 degrees. Uncertainty remains substantial around how much CO₂ can be emitted before emissions reach net zero (Intergovernmental Panel on Climate Change, 2018).

Japan's Nationally Determined Contribution under the Paris Agreement aims to reduce GHG emissions by 26% relative to the 2013 level by 2030. Japan has also committed to cutting GHG emissions by 80% by 2050, while promoting economic growth.

Most of Japan's population is exposed to small particle pollution above the WHO-recommended limit of 10 micrograms per m³ (Figure 32, Panel E). Premature mortality from air pollution is high for a high-income country, estimated at more than 500 deaths per

million people, and has increased strongly since 2010 (Roy and Braathen, 2017). In part, this reflects high population density and the large share of elderly in Japan.

Figure 32. Green growth indicators



Source: OECD Green Growth Indicators database.

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Some countries have set up comprehensive long-term low-emissions strategies to guide expectations and investment decisions (United Nations Climate Change, 2018). While Japan has a plan for achieving its 2030 target, it lacks a detailed strategy for 2050, although the 5th Strategic Energy Plan, which began in 2018, provides some guidelines. Japan needs

a comprehensive programme, including innovative low-carbon technologies, further reform of the electricity sector and continued improvements in energy efficiency.

Based on its 5th Strategic Energy Plan, Japan is promoting the development of technologies to improve power generation efficiency and drastically reduce GHG emissions, in part through carbon capture, utilisation and storage (CCUS). This is welcome, as achieving the Paris Agreement objective will require such technologies to neutralise emissions from sources for which no mitigation technologies have been identified, including industrial processes, and achieve net negative emissions.

Japan is a leader in environment-related innovation, with about three times as many inventions per capita as in the OECD area. Japan has a long-term innovation strategy, the Energy and Environment Innovation Strategy (NESTI 2050) and a Basic Environmental Plan, which is revised every six years. It sets out long-term environmental priorities, including policies to foster sustainable materials use, protect biodiversity and improve environmental risk management. Planned cross-sectoral measures include developing low-carbon cities (Ministry of Land, Infrastructure, Transport and Tourism, 2014). The government aims to largely eliminate CO₂ emissions by passenger vehicles, which will boost electric vehicle production. Decarbonising electricity generation would provide a strong foundation for decarbonising transport.

Japan is producing hydrogen-fuelled cars, which have a longer range than electric cars. More broadly, the government aims to create a “hydrogen society”. Hydrogen can be deployed in nearly all end-use sectors, can be produced with renewable energy and does not emit GHG when used. However, zero-carbon hydrogen use is projected to remain more expensive than liquefied natural gas over the next 20 years, though there is much uncertainty (International Energy Agency, 2018).

Policies to reach 2030 targets rely on higher efficiency as well as expanding nuclear energy and renewables

Japan’s 2016 Plan for Global Warming Countermeasures emphasises action by industry, based on the introduction of best available technology. In addition to the Top Runner Programme, mandatory building codes for new buildings will be introduced in 2020. The government also plans to use the Joint Crediting Mechanism with developing countries to appropriately count as Japan’s reduction. The government has established a regulatory framework to promote the use of non-fossil energy sources and the effective use of fossil fuels. To reach its 2030 CO₂ emission targets, Japan has set a carbon intensity target in electricity generation and has tightened standards of thermal efficiency in power plants. In addition, Japan is promoting the development of technologies to improve power generation efficiency.

Decarbonising electricity supply is a key challenge, particularly given the uncertainty following the 2011 nuclear accident. Before 2011, nuclear power provided around one-third of total electricity. The 2015 Long-term Energy Supply and Demand Outlook envisages raising nuclear power’s share from about 3% to 20%-22%. This would necessitate re-starting a significant number of nuclear power plants, which requires the approval of the fully independent Nuclear Regulatory Agency (NRA). The NRA, created following the 2011 nuclear accident, has imposed nuclear safety standards that are among the most stringent in the world, making the extent of the expansion of nuclear power uncertain (Climate Action Tracker, 2018). Public opinion remains ambivalent as the decontamination of areas affected by the nuclear accident continues and evacuation orders may remain in effect until 2021 (Ministry of Environment, 2018). Renewable energy’s

share in electricity generation is to rise from 17% to 22-24% by 2030. Nuclear and renewable energy are supported by the non-fossil value trading market, which requires electricity retailers to procure 44% of their supply from non-fossil sources by 2030.

If the targeted share of nuclear power is not achieved, a wide range of efforts would be needed to meet Japan's 2030 emissions reduction target. These should include further boosting the supply of renewable energy, increasing energy efficiency and shifting away from coal toward natural gas.

Planned coal-fired power plants may lock in high carbon infrastructure

The share of coal in electricity generation is expected to remain large, at 26% in 2030, compared to 32% in 2015. Although Japanese coal-fired power plants have the highest efficiency in the world, they remain a high-carbon source of electricity. Japan will promote high efficiency and next-generation coal power generation as well as the phase-out of below ultra-super-critical efficient coal power generation. The government has introduced stringent efficiency requirements for new plants. As many as 30 new coal-fired power plants are planned.

Even with the planned efficiency improvements, Japan faces a major challenge in reconciling its continued reliance on coal with its commitment to reduce emissions by 26% by 2030 (International Energy Agency, 2016a). To decarbonise coal-fired electricity generation, it would need to be combined with carbon capture, use and storage (CCUS). Since there is uncertainty about the scope for scaling up CCUS, relying on it extensively is a risk for achieving climate mitigation objectives (Intergovernmental Panel on Climate Change, 2018). Japan should thus carefully evaluate the construction of new coal-fired power plants, while promoting energy security and economic efficiency.

Investing more in renewables can boost Japan's competitiveness

Japan needs to increase the share of renewable energy. Producing electricity with utility-scale solar photovoltaic plants in Japan is becoming more competitive with coal-fired power, particularly if pricing of CO₂ emissions is taken into account. For example, at a price of USD 50 per tonne of CO₂, the estimated cost of utility-scale solar PV is lower than coal before 2030, even including the estimated cost of electricity storage (International Energy Agency, 2018). Given that the downward trend in the cost of producing electricity from renewable sources has consistently exceeded expectations, the cost of renewables could decline even faster than expected. In contrast to the sharp falls in the cost of renewables, carbon capture and storage (CCS) technologies have not experienced cost reductions over the past ten years (Intergovernmental Panel on Climate Change, 2018). Japan has a policy target of lowering capture costs and is conducting pilot projects in Tomakomai Hokkaido and R&D development projects in the field of carbon capture, which accounts for about 60% of the total CCS cost.

Expanding renewable electricity generation may also have some non-price advantages, such as enhancing energy security, when combined with adequate storage and micro-grids (International Energy Agency, 2016b). Flexibility mechanisms other than storage can help cope with the intermittency of solar and wind. Japan has significant potential to develop offshore wind, which is less intermittent, though deep waters close to shore would likely require the use of floating turbines, a technology still in its infancy. A bill passed in 2018 takes concrete steps to promote offshore wind. This development is very welcome.

Feed-in tariffs (FITs), launched in 2012 to support renewable energy generation, have increased Japan's solar PV capacity from 4 gigawatt (GW) in 2010 to 49 GW in 2017 and led to high local photovoltaic production penetration rates (International Energy Agency, 2016a). However, this sector confronts challenges such as higher costs resulting from FIT surcharges, inadequate diversification of renewable sources and grid constraints. The government revised the FITs and introduced reverse tendering for large-scale solar energy projects in 2017 (Ministry of Economy, Trade and Industry, 2017a). Prices fell, but are still higher than in other countries. Measures in other countries to diminish uncertainty for investors regarding, for example, access to land and grid connections have reduced costs (International Energy Agency, 2016b). Japan also provides generous FITs for biomass use in newly constructed power plants. However, the rules that biomass must be obtained from sustainably managed sources have exceptions, such as for imported palm kernel shells, raising concerns about sustainability. It is important that all imported biomass be from sustainable sources (Aikawa, 2016).

Japan needs to reform energy markets further to make the most of renewables

The Japanese power system is fragmented into ten areas, operated by vertically- integrated incumbent monopolies with limited grid integration and little commercial incentive to foster a rapid uptake of renewables. The Organisation for Cross-regional Coordination of Transmission Operators (OCCTO), created in 2015, is in charge of transmission operations. It is essential that OCCTO continue to support the development of a competitive environment that is more open to renewable electricity generation and approaches grid integration in a neutral way (International Energy Agency, 2016a). Incumbents are required to set up legally separate companies for transmission and distribution from 2020. Regulations also prohibit discriminatory treatment of competitors and sets rules limiting the positions that key individuals can hold across the legally separated entities. Many details on how the markets will function are still being developed. There may still be incentives for the incumbents to discriminate against market entrants (Fuentes, 2009). Regulations need to be implemented effectively to limit this risk.

The integration of increasing renewable energy can also be achieved through stronger regional integration of grids, the use of higher-resolution prices (including prices closer to real-time and locational prices that reflect grid constraints) and appropriate allocation of transmission and distribution networks costs, as well as the use of smart grids and storage (International Energy Agency, 2016b). Already, intra-day and day-ahead wholesale markets have been introduced and smart meters are being deployed. Remuneration of electricity produced from intermittent renewable sources should be designed to respond to market prices so providers have incentives to maximise market value (International Energy Agency, 2016b). Japan's island geography increases the technical challenge of grid integration of variable renewable electricity.

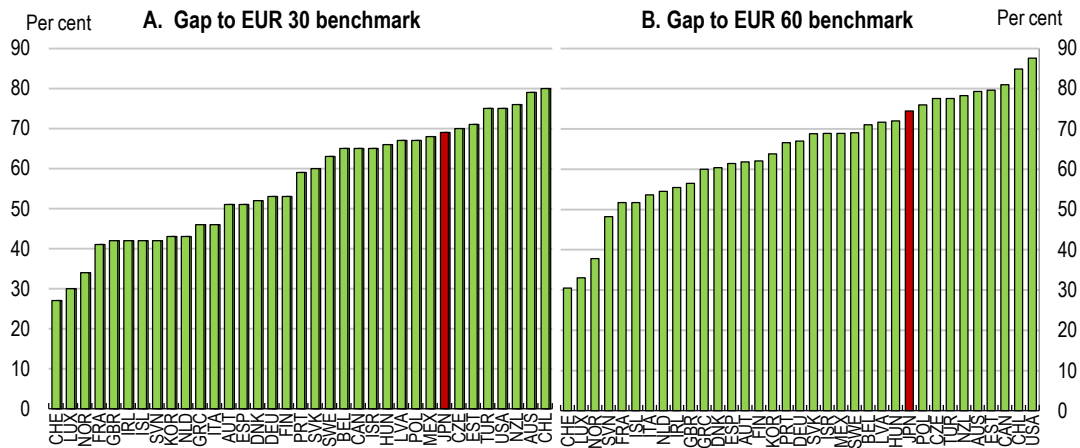
The scope for increasing carbon taxation is large

Carbon pricing is a cost-effective way to reduce emissions. Evidence from various countries suggests that carbon pricing need not hurt competitiveness, at least at the moderate levels introduced thus far in most countries (Arlinghaus, 2015; Calel and Dechezleprêtre, 2016; Dechezleprêtre et al., 2018).

Although electricity prices are high, focusing only on effective carbon prices, Japan prices most of its CO₂ emissions well below estimated climate-cost benchmarks (Figure 33). Carbon pricing in Japan mostly results from excise taxes on various fossil fuels. In addition,

a tax for climate change mitigation was introduced in 2012 and raised since then to around EUR 2 per tonne of CO₂. Tokyo and Saitama prefecture introduced emissions trading systems (ETS), but they only cover a minor share of national emissions.

Figure 33. The carbon pricing gap in Japan is relatively large



Note: The carbon pricing gap measures the difference between a benchmark value and the actual effective carbon price for every percentile of emissions, summing all positive differences, for each country. The actual effective carbon price is computed from the taxation of fossil fuels and the prices of tradable emission permits. The benchmark value of EUR 30 is a low-end estimate of climate-related carbon costs. The benchmark value of EUR 60 is a midpoint estimate of the carbon costs in 2020 and a low-end estimate for 2030. The figure for Japan does not include the increase in the tax for climate change mitigation in 2016, which raised the carbon tax by about EUR 0.70 to around EUR 2.

Source: OECD (2018b).

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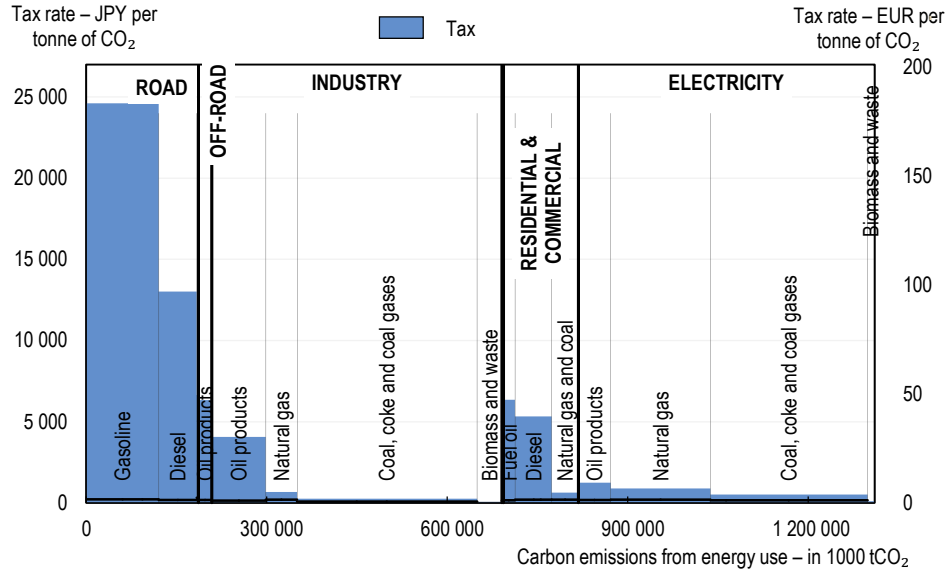
Effective carbon prices are particularly low for coal (Figure 34). As in other OECD countries, transport fuel is taxed more than other fuels, which can also reflect other costs, such as road congestion, accidents and air pollution. Transport fuels are taxed less than in most OECD countries, and diesel less than petrol, although it contributes more to air pollution.

Carbon pricing policies need to take into account the specific circumstances of Japan. In particular, industrial electricity prices in Japan are high, even though energy taxes are rather modest (Figure 35). The high share of fossil fuels in electricity generation could result in strong short-term impacts on energy prices if carbon prices were raised quickly. A gradual rise in the effective carbon price, while limiting disruptions and a negative impact on competitiveness in specific sectors and locations would be a policy option for Japan to achieve emission reductions cost-effectively and further increase Japan's high level of energy efficiency.

International experience indicates that raising the level of carbon pricing would generate tax revenues, contributing to an improvement in the fiscal position. Offsetting the negative effect of increasing taxes on fuel and electricity for low-income households may require using a third of the revenues for income-tested cash transfers (Flues and van Dender, 2017).

Figure 34. Energy taxes are particularly low on coal

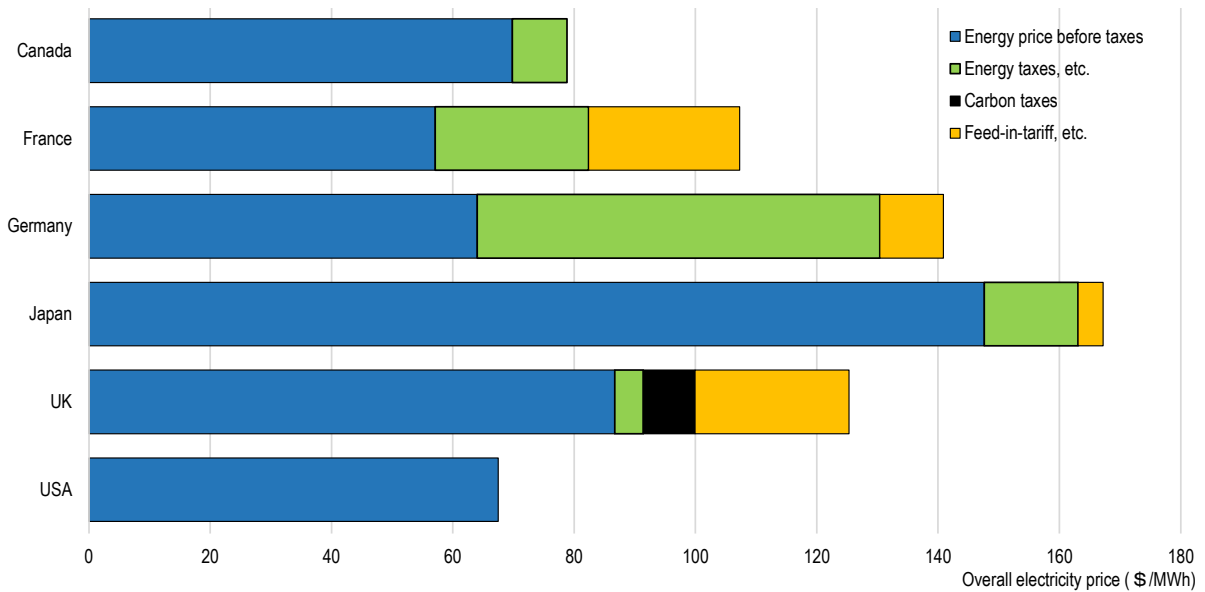
Effective tax rates on energy use in national currency and EUR per tonne, including electricity output taxes, 2015



Source: OECD (2018g).

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Figure 35. Prices for electricity in the industrial sector are high in Japan



Source: Ministry of Economy, Trade and Industry.

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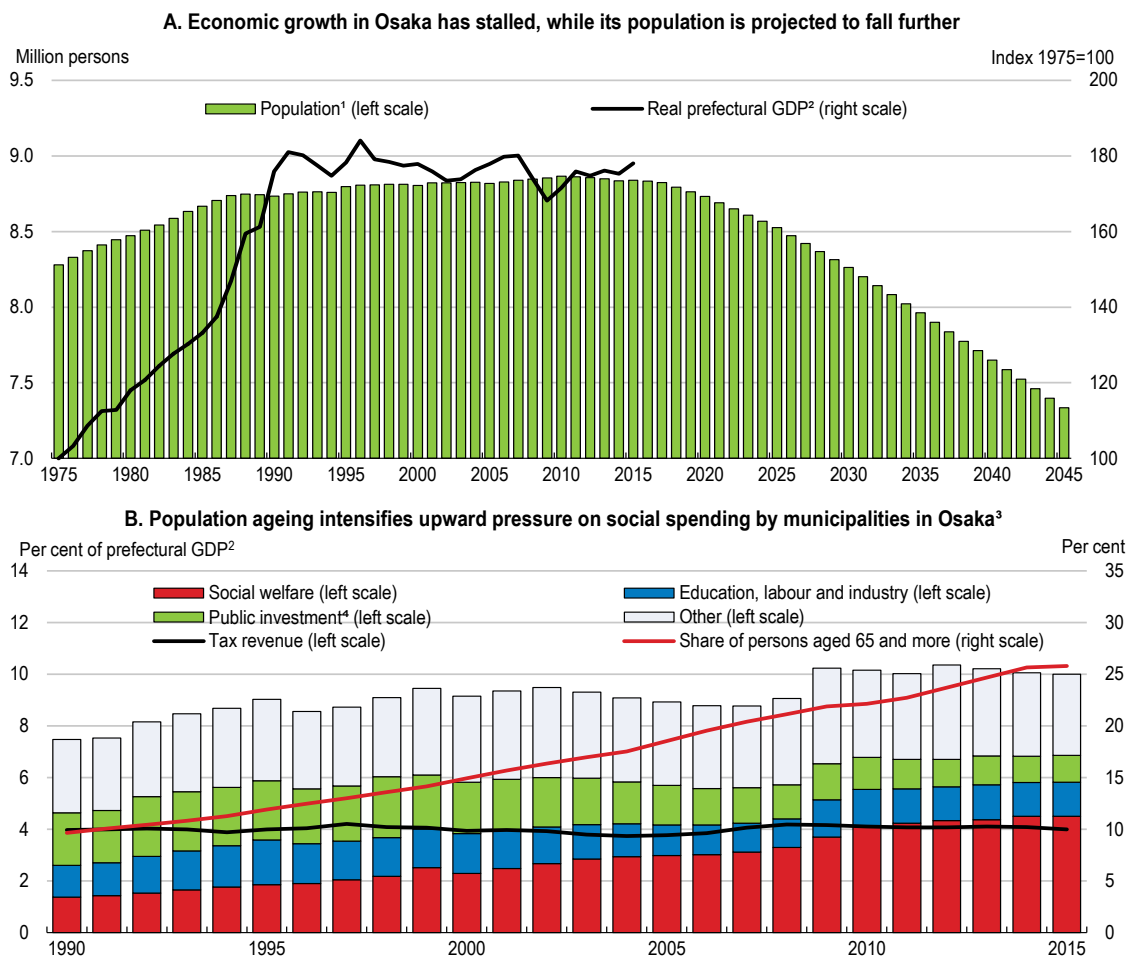
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Annex A1. Osaka: meeting the challenges of sustaining growth and providing social services in the face of population ageing

Osaka Prefecture is the third largest in Japan in terms of population and home to Japan's third-largest city. As in many areas of Japan, Osaka's population is falling and ageing. The share of persons aged 65 and above rose from 9.7% in 1990 to 27.2% in 2017 and is projected to reach 36.2% by 2045 (Figure A1.1). Osaka's population, which peaked in 2010, is projected to fall from 8.8 million in 2017 to 7.3 million in 2045. While economic growth stalled as population growth decelerated in the 1990s, the rising share of the elderly is intensifying spending pressure on social welfare (Panel B). Revitalising the economy and ensuring the sustainability of public services are major challenges for Osaka.

Figure A1.1. Ensuring economic and fiscal sustainability is a challenge for Osaka



1. The projections from 2018 onward is from the National Institute of Population and Social Security Research.

2. The numbers, which are based on different base years and different standards of the system of national accounts, are connected based on their growth rates.

3. Aggregated numbers of the municipalities in Osaka Prefecture.

4. Including maintenance costs.

Source: Cabinet Office; Ministry of Internal Affairs and Communications; National Institute of Population and Social Security Research; OECD calculations.

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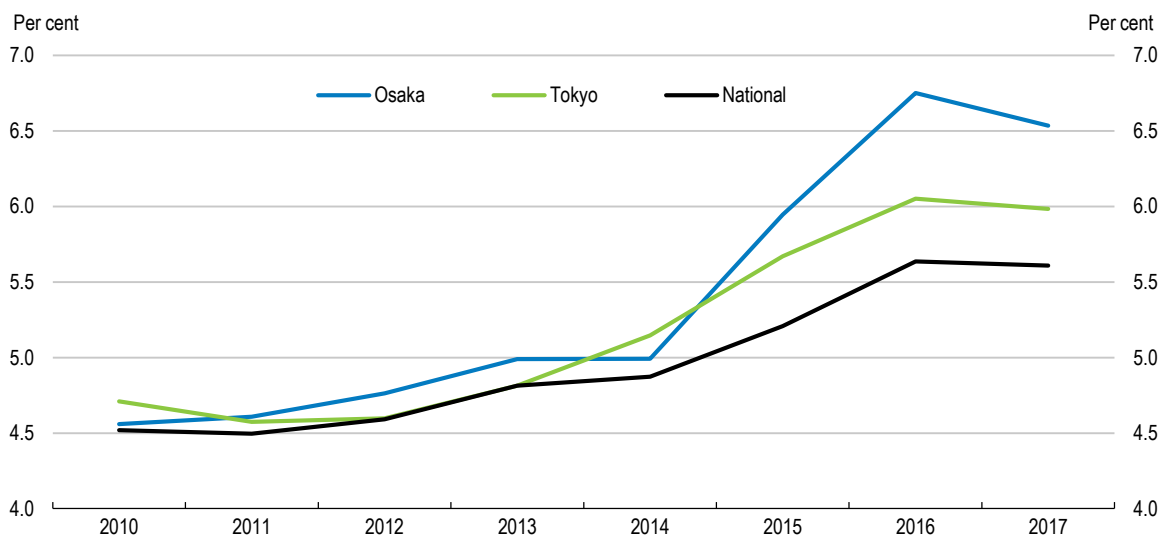
Rapid population ageing brings opportunities as well as challenges. Osaka's legacy as a national centre for pharmaceuticals during the past 400 years gives it a special opportunity

to link rising medical needs driven by population ageing to local innovation and business dynamism. In 2004, the national government approved Osaka Prefecture’s proposal to designate a district in its northern area as a Structural Reform Special Zone to promote the creation of a biomedical innovation cluster (2005 *OECD Economic Survey of Japan*). Reforms introduced in the zone included lifting the ban on businesses run by professors at national universities to foster collaboration between business and academia and accepting more foreign researchers.

This initiative resulted in important advances in medical technology, such as the “heart sheet” developed by Professor Yoshiki Sawa at Osaka University Graduate School of Medicine and TERUMO, one of the biggest Japanese medical device companies. This innovation regenerates cardiac function using a sheet made with cultured myoblast cells obtained from the patient’s thigh muscle. The heart sheet became the first application using the expedited approval system in the Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices, which was passed in 2014 to shorten Japan’s long “drug lag” (2009 *OECD Economic Survey of Japan*). Professor Sawa and his team continue to develop the heart sheet technology.

In addition to the national special zones, Osaka Prefecture promotes growth through local special zones in which the local corporate income tax rate is cut to as low as zero for approved life science or alternative energy businesses. Moreover, it closely coordinates with municipal incubation centres and the Osaka Chamber of Commerce and Industry to provide hands-on support for start-ups. These initiatives have helped lift Osaka’s firm entry rate above Tokyo’s and the national average (Figure A1.2).

Figure A1.2. The firm entry rate in Osaka is higher than in Tokyo



Source: Ministry of Health, Labour and Welfare.

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The start-up friendly environment also contributed to creating unique business ideas. In 2017, a renovation company and five other start-ups launched a project named “Sekai (world) Hotel” in a deteriorating traditional shopping street located in an area that had become a popular destination as the number of foreign tourists surged. Faced with a shortage of accommodations for tourists, Osaka lifted the ban on guesthouses in its National

Strategic Special Zone in 2016 (2015 *OECD Economic Survey of Japan*). The Sekai Hotel used this opportunity to turn uninhabited houses in the area into guesthouses. The project also attracts tourists to local shops by collaborating with local merchants to make the entire street a hotel with restaurants, cafés, and spas (Nikkei Asian Review, 2017). Furthermore, Osaka is hosting the World Expo 2025, with the theme “Designing Future Society”, which will attract more tourists.

While start-ups are increasing, Osaka faces a severe labour shortage, with a job openings-to-applicants ratio of 1.77 at end-2018, exceeding the national average of 1.63. Given that Osaka’s labour force participation rate of women aged 30-39 in 2015 was the third lowest among Japanese prefectures at 60.8%, improving the work environment for women is key to coping with the labour shortage. One priority is to expand childcare capacity in Osaka. In addition to the national plan to add childcare capacity for 320 000 children by 2020 (see Chapter 1), Osaka has been utilising the National Strategic Special Zone to expedite the qualification of childcare staff by improving the exam system. Osaka is also establishing childcare centres in municipal parks. Such measures helped to reduce the waiting list for childcare from 1 434 children in 2016 to 677 in 2018. Another option would be to accept more foreign workers based on the amendment of the Immigration Control and Refugee Recognition Act in December 2018.

The prefectural government is also taking initiatives to ensure the sustainability of public services. *First*, following the National Health Insurance (NHI) reform in FY 2018 to shift the responsibility for insurance finance from municipalities to prefectures, Osaka immediately introduced a uniform premium rate across municipalities that will be phased in over six years to avoid abrupt changes. This eliminated a significant gap in annual premiums, which had ranged from JPY 79 999 (USD 711) to JPY 150 070 (USD 1 335) in FY 2016, and is expected to contribute to stabilising the finances of the NHI. *Second*, the Osaka Waterworks Vision developed in 2012 is promoting consolidation of all municipal waterworks. Around 30% of the water pipes in Osaka are older than the standard set by law, the highest share in Japan. Consolidation of waterworks is essential to achieve the optimal scale of operation needed to cope with the maintenance cost of ageing infrastructure.

Osaka’s initiatives underscore the importance of transforming economic and fiscal systems to meet the needs of an ageing population and adapt to new challenges. Regulatory reform provides firms and workers with incentives to respond to new economic needs created by a changing environment. Inter-jurisdictional co-operation among municipalities ensures efficient operation of public administration in the face of falling populations. Prefectural governments can play critical roles in advancing regulatory reform and in facilitating joint provision of local public services.

Annex A2. Progress in structural reform

This Annex reviews actions taken on recommendations from the 2017 OECD Economic Survey of Japan that are not covered in tables within the main body of the Key Policy Insights chapter. Recommendations that are new in this Survey are listed in the Key Recommendations box and at the end of the thematic chapters.

Recommendations in the previous Survey	Action taken since April 2017
Supporting output growth	
Raise the minimum wage toward half of the median wage and reduce the amount of unpaid overtime by firms.	The weighted mean of the regional minimum wage in 2018 increased by 3.1%. In 2017, the Labour Standard Inspection Office rectified unpaid overtime by 1 870 firms, resulting in the payment of JPY 446 billion of unpaid overtime to 205 235 workers.
Promoting green growth	
Rely on environmentally-related taxes and promote energy efficiency and the use of low-carbon energy sources to further cut greenhouse gas emissions.	A bill passed in 2018 takes concrete steps to promote offshore wind for electricity generation. To help electricity retailers achieve the requirement to procure 44% of their supply from non-fossil sources, the government established a non-fossil value trading market in 2018.
Boosting productivity for inclusive growth	
Make greater use of the Guidelines for Personal Guarantees Provided by Business Owners to expedite out-of-court settlements for failed SMEs.	The number of cases settled using the Guidelines for increased from 236 in FY 2016 to 298 in FY 2017 for private financial institutions and from 135 to 162 for public financial institutions.
Promote entrepreneurship by enhancing the availability of education, training and financing, particularly for women.	The Japan Finance Corporation will apply preferential interest rates to loans to women and to people under the age of 35 or aged 55 or older, who have started a business within the past seven years or so.
Scale back commodity-specific agricultural subsidies and promote farm consolidation to lower production costs and strengthen market forces in the farming sector.	Production quotas for table rice were abolished in FY 2018 to enable farmers to produce rice in response to demand without relying on government quotas. The Act on Promotion of Improvement of Agricultural Management Foundation was amended in May 2018 to facilitate the renting of farmland to Farmland Banks by those who inherit farms.
Continue to pursue regional and bilateral free trade agreements.	The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) entered into force at the end of 2018. The Japan-EU EPA entered into force in February 2019. Japan is working toward the steady implementation of both agreements and the expansion of CPTPP. Japan is also participating in RCEP negotiations.
Focus SME support on overcoming market failures that limit private financing rather than supporting mature firms.	Firms over ten years old received only 3% of public credit guarantees for their loans in FY 2017.
Encourage FDI inflows by addressing problems in the M&A market, corporate governance, regulation and employment flexibility.	The Working Group for Revising Regulations and Administrative Procedures under the Council for Promotion of Foreign Direct Investment in Japan completed its final report on the simplification of regulations and administrative procedures related to foreign companies' investments in Japan in April 2017. To promote corporate governance reform, the Stewardship Code and Corporate Governance Code were revised in 2017 and 2018, respectively.
Focus regulatory reform on administrative burdens on start-ups and regulatory protection of incumbents to encourage firm creation.	No action taken since the 2017 Survey.
Expand the use of ICT in education to prepare for the digital revolution.	Programming education will be compulsory in schools from FY 2020. The government is promoting the proactive use of ICT devices in educational activities.
Use the new guidelines in labour laws to reduce discrimination against non-regular workers.	Guidelines for equal or balanced treatments between regular and non-regular workers were announced in December 2018.

Recommendations in the previous <i>Survey</i>	Action taken since April 2017
Ensuring fiscal sustainability in the context of a shrinking and ageing population	
Improve the fiscal framework.	The Committee for Promoting the Integrated Economic and Fiscal Reforms under the Council of Economic and Fiscal Policy manages fiscal reforms using a Plan, Do, Check, Action cycle. A new timetable for expenditure reform was set out in 2018 based on "the New Plan to Advance Economic and Fiscal Revitalisation."
Scale back transfers from the working-age population to the elderly by raising co-payments and the ceilings on total co-payments for the elderly for health and long-term care, while taking account of equity implications.	For medical insurance, the review of High-Cost Medical Expense Benefit for those above age 70 was held in 2017 and 2018, from the perspective of inter-generational and intra-generational equality. Exceptions on the insurance premium reduction for those above 75 years old has been reviewed since 2017.
Expand the coverage of the Basic Livelihood Protection Programme, while reforming it to encourage work.	The government aims to increase the share of public assistance recipients who participate in the employment support programmes and who later move to work or receive income increase from 43.6% in December 2017 to above 50%.
Require local governments to pursue fiscal consolidation in tandem with the central government by reducing transfers from central to local governments and imposing spending rules.	Transfers from central to local governments remained on a downward trend in FY 2018. The issuance of bonds by local governments to address shortages of their general revenue will fall by 18% in FY 2019, continuing the downward trend in the amount of local government debt.
Enhance incentives for school consolidation to adjust to the falling number of children.	The government is providing information to each board of education on how to decide whether to consolidate their schools, including information regarding the effect of school consolidation on students and schools.
Focus increases in childcare capacity on urban areas facing shortages, in part by facilitating greater entry by private firms.	The government is promoting the building of small-sized childcare service centres and arranging the venues. This helped to reduce the number of children on waiting list by 6 000 in 2018 relative to 2017, with half of the decline in Tokyo prefecture. The number of childcare centres built by private firms is rising.
Lower public investment by carefully reducing public infrastructure in line with demographic changes and concentrating new investment on projects with the highest returns.	The government is encouraging each local government to develop maintenance plans for individual public facilities by FY 2020 and to revise their master plans for public facility management by FY 2021. Each year, the central government monitors the progress of the local government plans, including in consolidating infrastructure.
Maintain the financial viability of local public corporations through consolidation, expansion of business areas and increased user fees.	The government encourage each local public entity to prepare a management strategy and to make various management reforms, such as expanding their business areas and utilising private-sector vitality. The management strategy was developed for 47.9% of public enterprises by FY 2017, and is to cover 95% by FY 2020.
Raise taxes on capital income to increase the effective tax rate on high-income earners.	No action taken since the 2017 <i>Survey</i> .
Increase the coverage of firm-based social insurance and ensure better compliance with the public pension schemes.	Since April 2017, part-time workers in enterprises with fewer than 500 employees can be covered by Employee's Pensions Insurance based on agreements between employers and employees.