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BASIC STATISTICS OF JAPAN, 2015

(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE

Population (million)	127.0		Population density per km^2	340.3	(37.0)
Under 15 (%)	12.5	(18.0)	Life expectancy (years, 2014)	83.7	(80.6)
Over 65 (%)	26.8	(16.3)	Men	80.5	(77.9)
Foreign (%, 2014)	1.7		Women	86.8	(83.3)
Latest 5-year average growth (%)	-0.2	(0.6)	Latest general election	December 2014	

ECONOMY

Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	4 125		Primary sector	1.2	(2.5)
In current prices (billion YEN)	5 305		Industry including construction	26.8	(26.9)
Latest 5-year average real growth (%)	1.0	(1.9)	Services	72.0	(70.6)
Per capita (000 USD PPP)	38.4	(40.8)			

GENERAL GOVERNMENT

Per cent of GDP

Expenditure	38.9	(40.5)	Gross financial debt	215.9	(114.0)
Revenue	35.4	(37.9)	Net financial debt	118.4	(72.7)

EXTERNAL ACCOUNTS

Exchange rate (YEN per USD)	121		Main exports (% of total merchandise exports)	
PPP exchange rate (USA = 1)	103		Machinery and transport equipment	58.7
In per cent of GDP			Manufactured goods	12.4
Exports of goods and services	17.6	(54.8)	Chemicals and related products, not elsewhere specified	10.1
Imports of goods and services	18.0	(50.2)	Main imports (% of total merchandise imports)	
Current account balance	3.1	(0.2)	Machinery and transport equipment	28.2
Net international investment position (2014)	66.2		Mineral fuels, lubricants and related materials	20.5
			Miscellaneous manufactured articles	14.4

LABOUR MARKET, SKILLS AND INNOVATION

Employment rate for 15-64 year-olds (%)	73.4	(66.2)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	3.4	(6.8)
Men	81.9	(74.1)	Youth (age 15-24, %)	5.6	(13.9)
Women	64.7	(58.5)	Long-term unemployed (1 year and over, %)	1.2	(2.2)
Participation rate for 15-64 year-olds (%)	75.9	(71.3)	Tertiary educational attainment 25-64 year-olds (%)	49.5	(35.0)
Average hours worked per year	1 719	(1 766)	Gross domestic expenditure on R&D (% of GDP)	3.3	(2.4)

ENVIRONMENT

Total primary energy supply per capita (toe)	3.4	(4.1)	CO_2 emissions from fuel combustion per capita (tonnes, 2014)	9.4	(9.4)
Renewables (%)	5.3	(9.6)	Water abstractions per capita (1 000 m^3, 2011)	0.6	
Exposure to air pollution (more than 10 µg/m^3 of $PM_{2.5}$, % of population, 2013)	91.5	(72.3)	Municipal waste per capita (tonnes, 2013)	0.4	(0.5)

SOCIETY

Income inequality (Gini coefficient, 2012)	0.330	(0.309)	Education outcomes (PISA score, 2015)		
Relative poverty rate (%, 2012)	16.1	(11.1)	Reading	516	(493)
Median disposable household income (000 USD PPP, 2012)	22.0	(21.0)	Mathematics	532	(490)
Public and private spending (% of GDP)			Science	538	(493)
Health care	10.5	(9.0)	Share of women in parliament (%)	9.5	(28.6)
Pensions (2013)	12.3	(9.1)	Net official development assistance (% of GNI)	0.21	(0.37)
Education (primary, secondary, post sec. non tertiary, 2013)	2.9	(3.7)			

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.

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.

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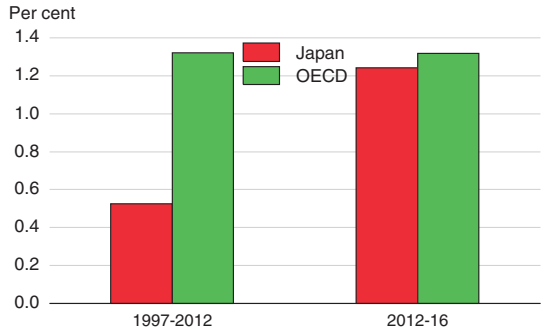
Executive summary

- *Growth has picked up*
- *The dispersion in labour productivity between firms limits inclusive growth*
- *Government debt continues to rise as a share of GDP*

Growth has picked up

Japan's per capita output growth has accelerated



Source: OECD Economic Outlook: Statistics and Projections.
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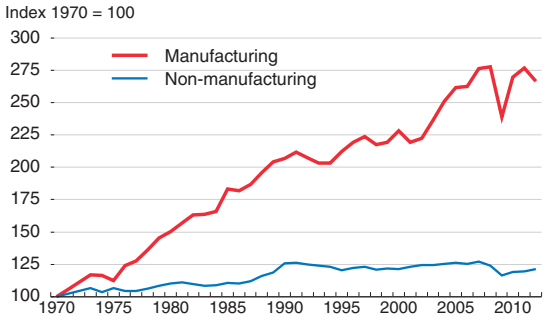
Over the past four years, output per capita grew almost as much in Japan as in the OECD area. Faster growth has been supported by job creation and a pick-up in wages in the context of increasing labour shortages and record high corporate profits. Fiscal packages are also supporting growth in 2016-17. However, domestic business investment has been held back by weak growth prospects as the population declines. Underlying inflation is still close to zero. While growth has picked up, more needs to be done for Japan to overcome two key challenges – a record high government debt ratio and an accelerating decline in its working-age population. To sustain per capita output growth and put the debt ratio on a downward trend, it is essential to successfully implement all three arrows of Abenomics.

The dispersion in labour productivity between firms limits inclusive growth

The productivity gap between manufacturing and services is widening

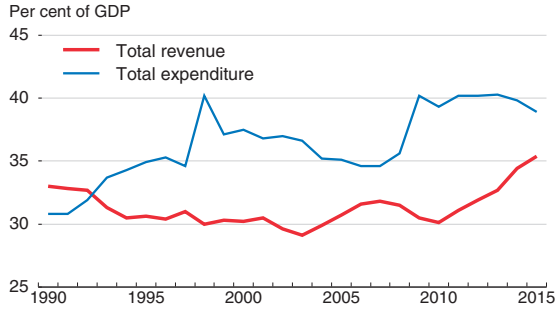


Source: Japan Industrial Productivity Database 2015.
StatLink http://dx.doi.org/10.1787/888933469257

Although key structural reforms have been launched as part of the third arrow of Abenomics, labour productivity remains around a quarter below the top half of OECD countries. Obstacles to entry and exit of firms limit the number of innovative new firms and trap labour and capital in low-productivity activities. The productivity gap between the service sector and manufacturing and between leading and lagging firms has widened, contributing to wage and income inequality. Labour market dualism is becoming even more entrenched, with non-regular workers now accounting for 38% of employment, driving up the relative poverty rate. Dualism, which especially affects women, drives up inequality and holds back productivity growth, as non-regular workers are paid low wages and receive little training.

Government debt continues to rise as a share of GDP

Government revenue has not kept pace with spending



Source: OECD Economic Outlook: Statistics and Projections.
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The 2014 consumption tax hike and spending restraint lowered the primary deficit in 2014-15. Nevertheless, the government debt ratio is on an upward track and government projections show that a primary deficit may persist through FY 2024. A rise in government bond yields, which are currently near zero, poses a risk to fiscal sustainability. Rapid population ageing is putting upward pressure on spending, increasing the already large transfers to the elderly population that raise concerns about inter-generational fairness. Healthcare spending is now the eighth highest in the OECD area, due in part to the burden of long-term care. Tax revenue is below the OECD average, reflecting a very low value-added tax rate and relatively little revenue from Japan's personal income tax.

MAIN FINDINGS	KEY RECOMMENDATIONS
Supporting output growth	
Wage growth remains muted despite the tightest labour market conditions in 25 years. The minimum wage relative to the median wage is one of the lowest in the OECD.	Raise the minimum wage toward half of the median wage and reduce the amount of unpaid overtime by firms.
Headline consumer price inflation fell close to zero in 2016 and lowered inflation expectations, with a negative impact on wage prospects.	Monetary easing should be maintained as planned until inflation is durably above the 2% target, while taking account of costs and risks.
Boosting employment and productivity to promote inclusive growth	
Despite the rising female labour participation rate, the employment rate of women is 17 percentage points below that of men, reflecting shortages of childcare, long working hours and a large gender wage gap.	Remove obstacles to female employment by increasing the capacity of childcare and improving work-life balance through a binding ceiling on overtime work.
The dispersion in productivity and labour income between firms is relatively large in Japan and has been widening. Firm entry and exit rates in Japan are well below other advanced economies and the number of entrepreneurs is low.	Increase the productivity of SMEs by strengthening R&D links between firms and universities. Facilitate the exit of non-viable firms by reducing the use of personal guarantees. Promote second chances for failed entrepreneurs by making the personal bankruptcy system less stringent.
Start-up firms in Japan tend to remain small rather than expanding and achieving economies of scale.	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 large wage gap between regular and non-regular workers is a primary cause of wage dispersion, relative poverty, and the large gender wage gap. Limited training of non-regular workers slows productivity growth.	Break down dualism by relaxing employment protection for regular workers and expanding social insurance coverage and training for non-regular workers.
Achieving fiscal sustainability	
Japan's gross government debt continues to rise into uncharted territory, reaching 219% of GDP in 2016, the highest in the OECD, raising the risk of a loss of confidence.	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.
The tax burden is below the OECD average and has not kept pace with spending. The tax and transfer system has a relatively low impact on income inequality and relative poverty in the working-age population.	Gradually raise the consumption tax rate. Enhance equity by introducing an earned income tax credit.
Pension benefits have increased due to the failure to apply macroeconomic indexation. The share of the population contributing to the basic pension system has fallen, particularly among young adults.	Fully apply macroeconomic indexation as soon as possible. Raise the pension eligibility age above 65.
Hospital stays in Japan are almost four times longer than the OECD average and Japan's per capita outlays on pharmaceuticals are relatively high.	Take long-term care out of hospitals, reduce long-term care insurance coverage for those with less severe needs and increase the use of generic drugs.
Promoting green growth	
Japan aims to cut greenhouse gas emissions by 26% from its 2013 level.	Rely on environmentally-related taxes and promote energy efficiency and the use of low-carbon energy sources to further cut greenhouse gas emissions.

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Assessment and recommendations

- *Recent macroeconomic developments and short-term prospects*
- *Removing barriers to labour participation in the context of population ageing*
- *Increasing productivity to promote inclusive growth*
- *Putting the government debt ratio on a downward trend*

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

In 2013, Japan launched Abenomics with three arrows – a bold monetary policy, flexible fiscal policy and a growth strategy – to overcome two decades of sluggish growth. Abenomics had an immediate positive effect (Table 1). Real output growth nearly doubled to an annual pace of 1.1% during the past four years, despite growing demographic headwinds, thanks in part to structural reforms (Table 2). On a per capita basis, real output growth nearly matched the OECD average. After declining over 1997-2012, nominal output has risen at a 2.1% annual pace during the past four years, boosted by positive inflation. Core CPI inflation has been above zero since 2014, the longest spell of positive inflation since 1995-98. This contributed to a decline in the government's primary deficit from 7.5% of GDP in 2012 to 3.1% in 2015.

Table 1. **Abenomics has resulted in faster output growth and higher inflation**

Annual average percentage change

	Nominal output growth	Inflation (GDP deflator)	Real output growth	Real output growth per capita	Real output growth per working-age population[1]	US real output growth per capita	OECD real output growth per capita
1997-2012	-0.5	-1.1	0.6	0.5	1.2	1.3	1.3
2012-16	2.1	0.9	1.1	1.2	2.3	1.3	1.3
Objective[2]	3.0	1.0	2.0	..	..	..	..

1. The 15-64 age group.
2. Based on a January 2013 agreement between the government and the Bank of Japan.

Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

Despite the acceleration in growth, Japan's challenges remain large. Its per capita income, which matched the top half of OECD countries in the early 1990s, is 19% below, reflecting falling labour inputs and low labour productivity (Figure 1). Rising government spending, driven by population ageing and frequent fiscal stimulus packages, boosted gross general government debt from 68% of GDP in 1992 to 219% in 2016 (Panel B), the highest ever recorded in the OECD. Net government debt is also far above the OECD average (Panel C). Even if the government's target of a primary surplus in FY 2020 were achieved, the gross government debt ratio would surpass 600% of GDP by 2060 in the absence of further fiscal consolidation (Fiscal System Council, 2015). Finally, core CPI inflation has fallen close to zero (Panel D).

The key message of this Survey is that successful implementation of all three arrows of Abenomics is necessary to promote inclusive growth and put the debt ratio on a downward trend:

- Bold structural reforms to boost productivity and make growth more inclusive.
- Measures to limit government spending combined with a steady increase in revenue.
- Expansionary monetary policy until the 2% inflation target is sustainably achieved.

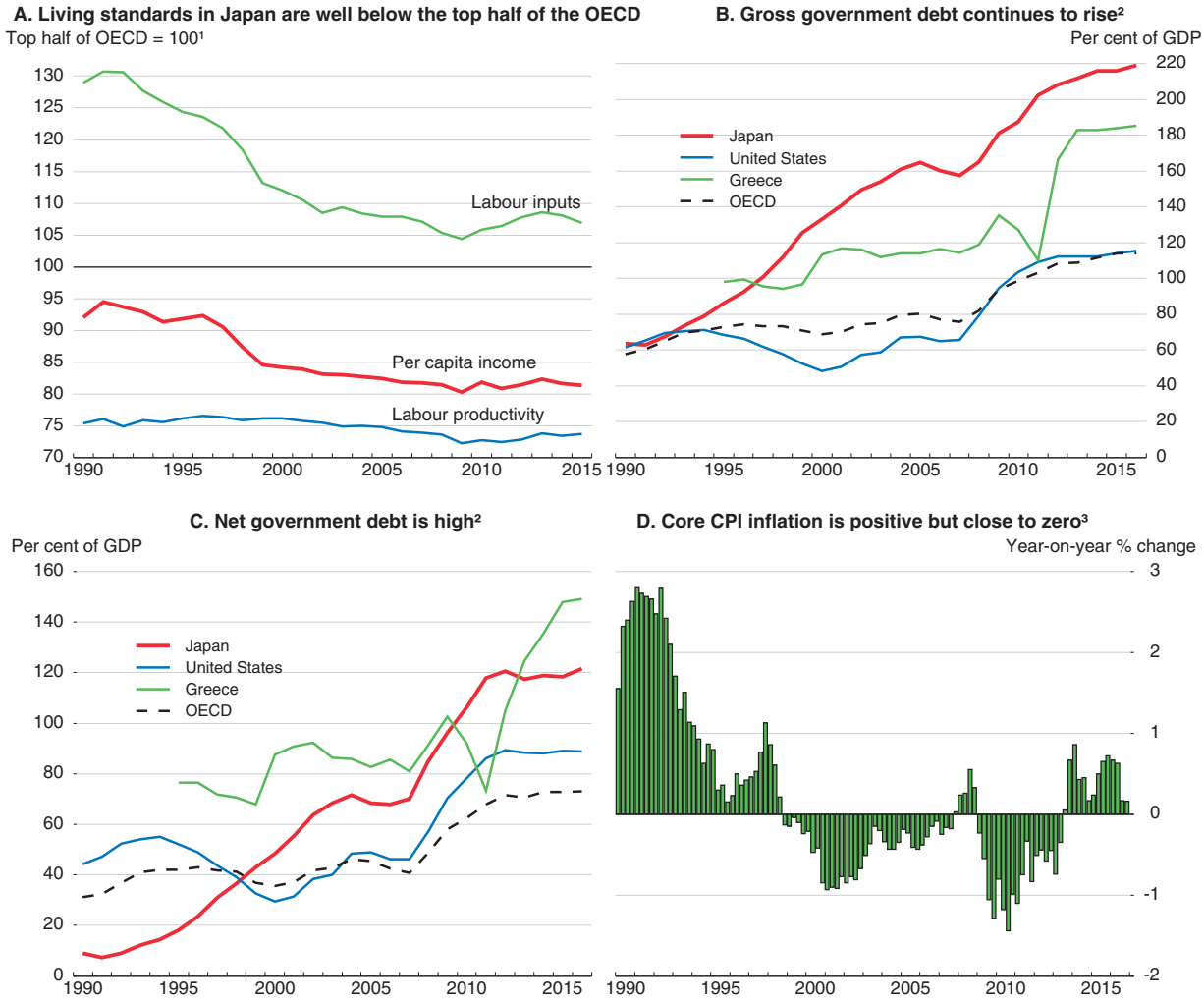
Table 2. **Ten key reforms in the Japan Revitalization Strategy**

Reform	Objective	Actions taken
1. Enhance corporate governance: aiming for sustainable growth in corporate value.	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 JPX-Nikkei Index 400 and a Stewardship Code were launched in early 2014. The Code has been accepted by more than 200 institutional investors. A Corporate Governance Code, requiring listed firms to have at least two independent directors on a "comply or explain" basis, is applied to more than 2 000 listed firms.
2. Reforms for management of public and quasi-public funds.	Steadily implementation of reforms for management of public and quasi-public funds, based on the recommendations presented by the expert panel.	The Government Pension Investment Fund (GPIF) decided in 2014 to increase the share of equities in its portfolio. Reform of its governance structure was legislated in 2016.
3. Promotion of venture business: creating an entrepreneur-friendly environment.	A '"venture ecosystem" (a virtuous cycle of venture funding and firm creation), leading to globally competitive firms.	The tax system for business angels was made more user-friendly and measures to promote crowd-funding were launched in 2014.
4. Corporate tax reform: improving the business environment for all companies.	Strengthen Japan's competitiveness as a global business location by cutting the corporate tax rate to a globally competitive level.	The FY 2016 tax reform reduced the combined corporate income tax rate from 32.11% in FY 2015 to 29.97% in FY 2016, with a further cut to 29.74% in FY 2018.
5. Stimulate innovation through science and technology and a "Robot Revolution": Japan as a technology frontier.	Promote scientific and technological innovation and develop infrastructure that links innovative technology with new business.	The budget for science and technology, which had been managed by a number of ministries, was centralised in the Council for Science, Technology and Innovation to promote effective R&D.
6. Enhancing women's participation and advancement.	Provide a working environment conducive to women with/caring for children and improve the business environment to enhance women's career advancement at workplaces.	Childcare places for 0.5 million children are being added over FY 2013-17 to eliminate waiting lists, together with after-school care places for 0.3 million school-age children. These measures have contributed to a 4.0 percentage point rise in the female employment rate since late 2012.
7. Enable flexible working practices: improving the talent pool.	Develop more creative working practices where performance is evaluated more highly than hours worked. Promote model cases of "diversified regular employment" focusing on job duties. Develop a transparent and globally-recognised labour dispute resolution system.	Subsidies aimed at maintaining jobs are being shifted to promoting labour mobility. Measures against overwork were reinforced.
8. Attract talent from overseas: a society where foreign workers play an active role.	Create an environment where skilled professionals from overseas can play an active role. Conduct a thorough review of the Technical Intern Training Program (TITP) for foreign workers in Japan.	The government will introduce the "Japanese Green Card for Highly Skilled Foreign Professionals" that substantially reduces the period of stay required before they can apply for permanent residence from the current five years. Foreign trainees will be eligible to extend their training period from three to five years.
9. Aggressive agricultural policy.	Aim to double the income of farmers and farming communities by making agriculture a growth industry. Draw on corporate experience while accelerating private-sector participation in agriculture.	Production quotas for table rice are being phased out over a five-year period by 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.
10. Healthcare industry and high quality services: a stronger healthcare industry and improved services.	Secure a sustainable social security system and revitalise the healthcare industry by establishing a structure to provide efficient and high-quality services as well as streamlining insurance benefits coverage.	A new scheme was introduced to accelerate the inclusion of new treatments in public health insurance. A new institution to manage R&D in healthcare was created.

Source: Government of Japan.

The government launched a plan in 2016 to promote the dynamic engagement of all citizens, based on a "virtuous cycle of growth and distribution". This requires broadening Japan's productive base to generate strong and sustainable productivity gains, leading to inclusive growth that distributes the dividends of increased prosperity fairly across society. Indeed, there is synergy between policies to boost productivity and promote inclusive growth.

Figure 1. **Japan has faced low growth, rising government debt and deflation**



1. Per capita GDP is calculated using 2010 prices and PPP exchange rates. Labour productivity equals GDP per hour of labour input. Labour inputs equal total number of hours worked per capita.
2. OECD estimate for 2016.
3. OECD measure of core, which excludes food and energy. Excludes the impact of the consumption tax hikes in 1997 and 2014.

Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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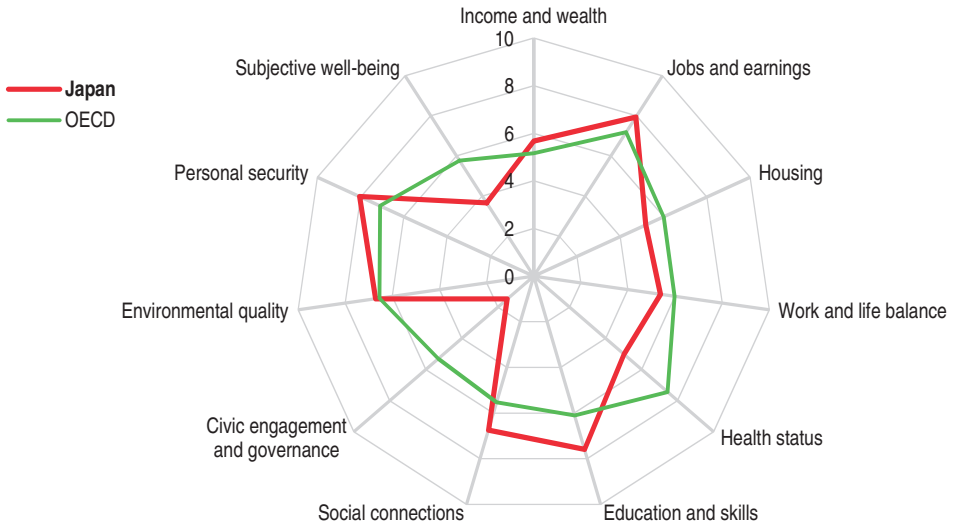
Such policies would improve well-being in Japan, which is strong in many respects (Figure 2). The probability of becoming unemployed is the lowest in the OECD and net household financial wealth is among the highest. The literacy and numeracy skills of Japanese adults are the highest in the OECD, as is personal safety. However, only 35% of Japanese adults perceive their health as good compared to the OECD average of 69%, even though life expectancy in Japan is among the longest in the world. Japan also scores poorly on housing conditions and work-life balance: 22% of those employed work more than 49 hours per week. Japan ranks well below the OECD average in subjective well-being. Well-being would also be enhanced by improving environmental quality, which is currently close to the OECD average (Box 3).

Figure 2. **How's life in Japan? A mixed picture**[1]



1. Each well-being dimension is measured by one to four indicators from the OECD Better Life Index set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 (worst) according to the following formula: (indicator value - minimum value) / (maximum value - minimum value) × 10.

Source: OECD (2016), *OECD Better Life Index*, *www.oecdbetterlifeindex.org*.

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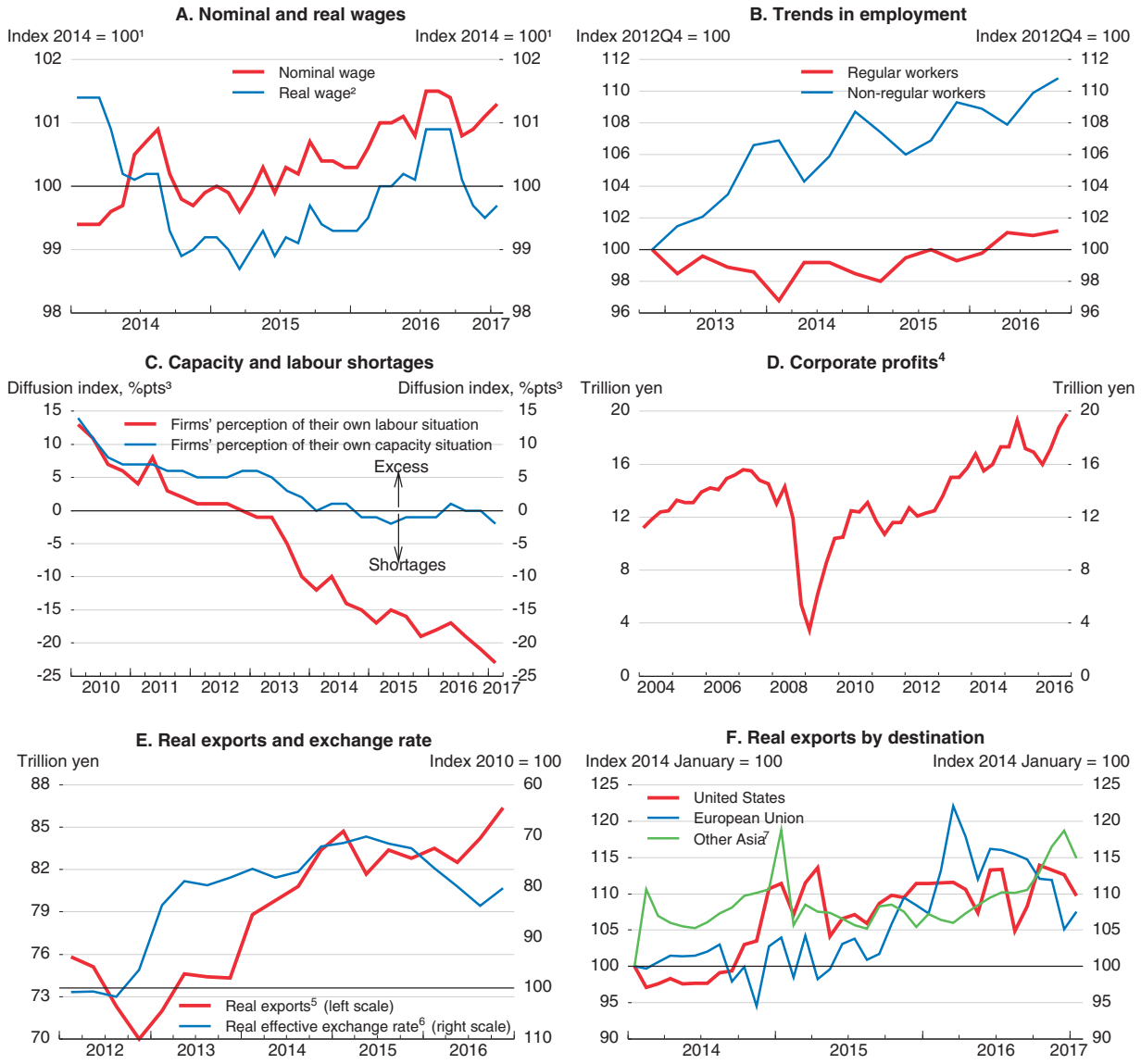
Recent macroeconomic developments and short-term prospects

Growth remained above potential in 2016, at 1.0%, with consumer spending supported by real wage growth (Figure 3). However, wage growth remains surprisingly muted despite the tightest labour market conditions in 25 years. With low labour mobility in the context of lifetime employment, wages tend to react slowly to the tightening of the labour market. In addition, wage bargaining has long reflected past inflation rather than inflation expectations. While wage growth was sluggish, consumer purchasing power was boosted by the fall of headline inflation into negative territory, due in part to declining oil prices (Figure 4). Even excluding energy and food, inflation is now close to zero. Household income was also boosted in 2016 by a 1.0% rise in total employment, the largest since 1997, primarily due to a marked rise in the number of non-regular employees since spring 2016 (Figure 3, Panel B), in the context of growing labour shortages (Panel C). Emerging capacity shortages are also supporting business investment, along with record high profit levels (Panel D), large cash hoardings, the cut in the corporate income tax rate and the rebound in exports in the second half of 2016 (Panel E). Stronger export growth was led by shipments to Asian countries, including China, and to the United States (Panel F).

In the first half of 2016, the economy was supported by the FY 2015 supplementary budget and the first supplementary budget for FY 2016, which totalled 0.8% of GDP. In October, the Diet approved a 7.5 trillion yen package (1.5% of GDP) for FY 2016-17. With three supplementary budgets in 2016, a third supplementary budget for FY 2016 in early 2017 and the decision to delay the consumption tax hike that had been planned for 2017, the stance of fiscal policy in 2016-17 is projected to be slightly expansionary even though slack is shrinking and the primary deficit remains large.

Figure 3. **Key macroeconomic indicators**



1. Seasonally-adjusted data based on establishments with 30 or more workers.
2. Deflated by the consumer price index, excluding imputed rent.
3. The diffusion indices show 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. A negative number thus indicates an overall shortage of labour and capacity. Numbers for the first quarter in 2017 are companies' projections made in December 2016.
4. Profits of non-financial firms, seasonally-adjusted.
5. National accounts basis.
6. Trade-weighted vis-à-vis 53 trading partners, calculated using consumer prices. A fall indicates yen appreciation.
7. Includes China, Thailand, Indonesia, Malaysia, the Philippines and the NIEs.

Source: Ministry of Health, Labor and Welfare; Bank of Japan; Ministry of Finance; OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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Projection and risks

Economic growth is projected to pick up to 1.2% in 2017 before slowing to 0.8% in 2018, with headline inflation rising to 1.1% in 2018 (Table 3). A fall in the saving rate to its pre-2013 level is projected to sustain private consumption, despite an easing in real wage gains

Table 3. **Macroeconomic indicators and projections**[1]

	2013	2014	2015	2016	2017	2018
Demand and output (volumes)						
GDP	2.0	0.3	1.2	1.0	1.2	0.8
Consumption						
Private	2.4	-0.9	-0.4	0.4	0.7	0.7
Government	1.5	0.5	1.6	1.5	0.3	-0.2
Gross fixed investment	4.9	2.9	0.1	1.0	2.6	0.5
Public[2]	6.7	0.7	-2.2	-3.0	0.2	-6.1
Residential	8.0	-4.3	-1.6	5.6	2.4	1.2
Business	3.7	5.2	1.2	1.4	3.4	2.4
Final domestic demand	2.8	0.3	0.1	0.8	1.0	0.5
Stockbuilding[3]	-0.4	0.1	0.6	-0.3	-0.2	0.0
Total domestic demand	2.4	0.4	0.7	0.5	0.8	0.5
Exports of goods and services	0.8	9.3	3.0	1.2	4.2	2.9
Imports of goods and services	3.3	8.3	0.1	-1.7	2.0	1.4
Net exports[3]	-0.4	0.0	0.5	0.5	0.4	0.3
Inflation and capacity utilisation						
World trade growth	3.4	3.9	2.6	1.9	2.9	3.2
Oil prices (spot Brent price in $)	105.8	97.6	53.8	44.1	55.0	55.0
GDP deflator	-0.3	1.7	2.0	0.3	0.3	0.9
Nominal GDP	1.7	2.1	3.3	1.3	1.5	1.7
CPI	0.4	2.7	0.8	-0.1	0.9	1.1
CPI[4]	0.4	1.2	0.3	-0.1	0.9	1.1
Core CPI[4]	-0.1	0.6	0.6	0.4	0.6	1.1
Unemployment rate	4.0	3.6	3.4	3.1	3.0	2.9
Memorandum items						
General government financial balance[5]	-7.6	-5.4	-3.5	-4.8	-5.3	-4.6
General government primary balance[5]	-7.0	-4.9	-3.1	-4.5	-5.0	-4.3
Gross government debt [5]	211.6	215.9	215.8	219.1	222.6	225.0
Net government debt[5, 6]	117.4	119.0	118.4	121.6	125.1	127.5
Household saving ratio (%)	0.3	-0.4	0.7	2.7	2.5	1.7
Current account[5]	0.9	0.8	3.1	3.6	3.6	3.9

1. This projection, which takes into account the second estimate for the fourth quarter of 2016, assumes an oil price of USD 55 per barrel for Brent and an exchange rate of 113.6 yen per US dollar.
2. Including public corporations.
3. Contribution to GDP growth (percentage points).
4. Excluding the impact of the consumption tax hike in April 2014. See footnote 1 to Figure 3. The core CPI is the OECD definition, which excludes both food and energy.
5. As a percentage of GDP.
6. Net debt is gross debt less assets held by the government.

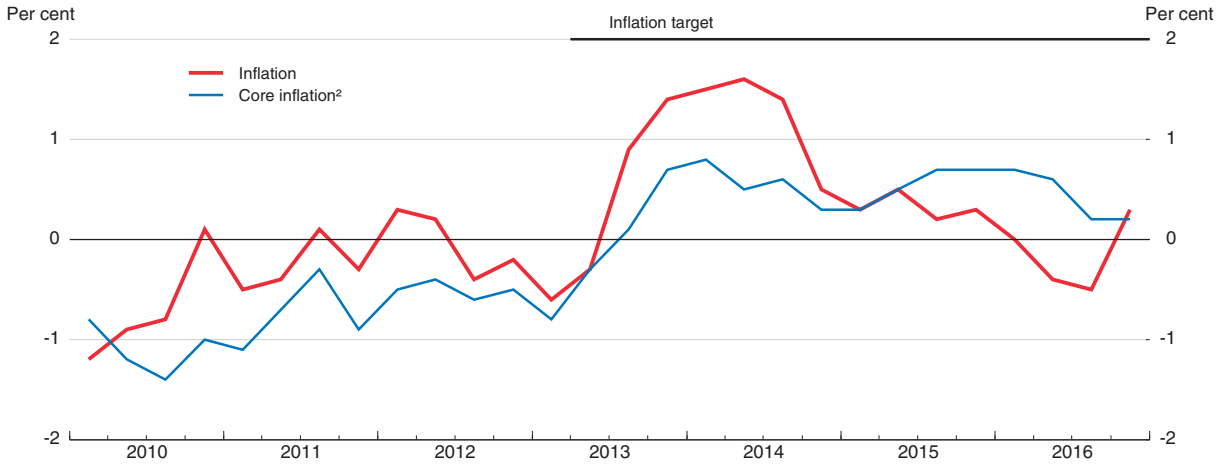
Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

in 2017-18 as the rise in inflation outstrips wage growth. The rebound in export growth is expected to continue with some pick-up in international trade and the decline in the yen since last October (Figure 5). In turn, this will support investment in the business sector, supported by the high levels of profitability and cash holdings. As fiscal stimulus fades, the downward trend in public investment will resume, although it will be partly offset by construction related to the 2020 Olympics.

The risks to the projections appear to be balanced. The major short-term uncertainty is the pace of wage growth. If firms raise wages more rapidly than projected, private consumption would be stronger. Real wages have lagged behind labour productivity growth over the past 25 years (Figure 6), reflecting in part the increasing proportion of low-paid non-regular workers. The gap between productivity and wage growth since 1990 in Japan is

Figure 4. **Consumer price inflation has fallen since 2014**

Excluding tax hike[1]



1. In April 2014, the consumption tax was raised from 5% to 8%. The tax hike added 2 percentage points to inflation in FY 2014 according to estimates by the Bank of Japan and the Cabinet Office.
2. OECD measure, which excludes food and energy.

Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database); Bank of Japan.

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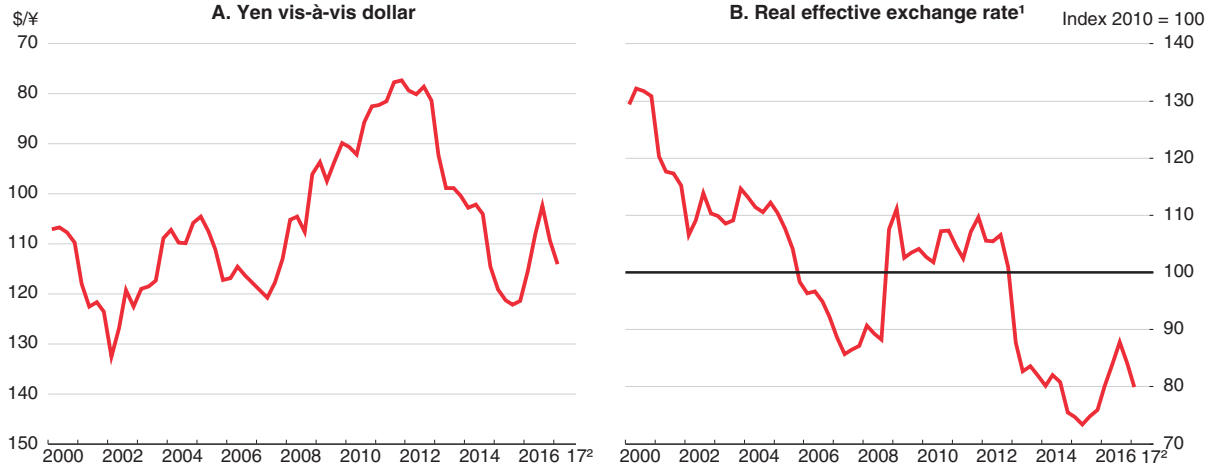
more than double the OECD average. The government has introduced tax incentives to encourage firms to boost wages, which were used by 90 600 firms in FY 2015. To raise wages, the government should further increase the minimum wage. While it has gone up by close to 10% in nominal terms over the past four years, it is still one of the lowest in the OECD at 40% of the median wage (Figure 7). The government is aiming to raise it by around 3% per year. In addition, firms should be required to compensate workers for all overtime work. In September 2016, 38% of employees who worked overtime were not paid for their extra hours (Research Institute for the Advancement of Living Standards, 2016).

Figure 5. **The upward trend of the yen during 2016 has been reversed**



1. Trade-weighted vis-à-vis 53 trading partners and deflated based on consumer price indices.
2. The average of January and February 2017.

Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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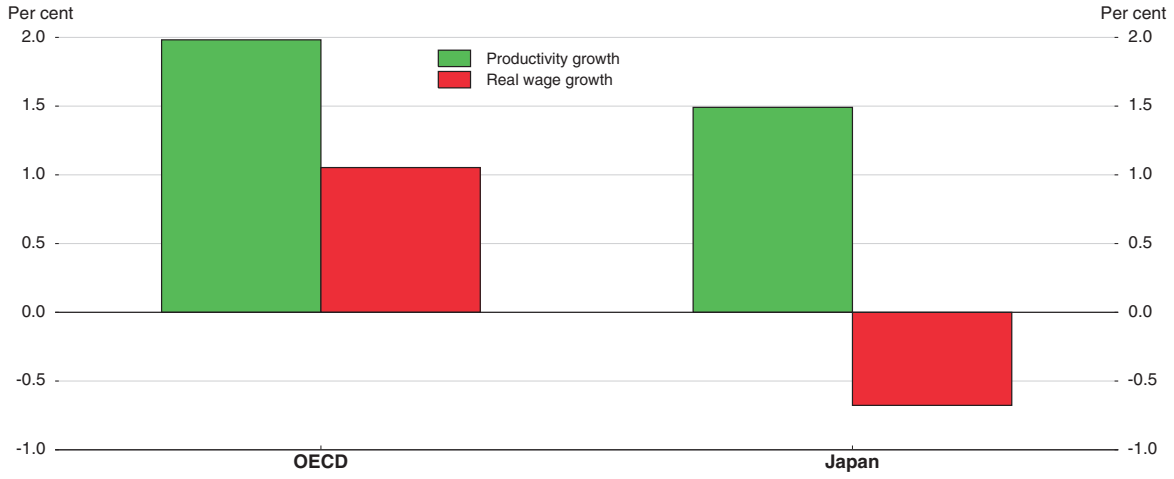
Figure 6. **The gap between the growth of productivity and real wages is large in Japan**

Annual average over 1990-2015



Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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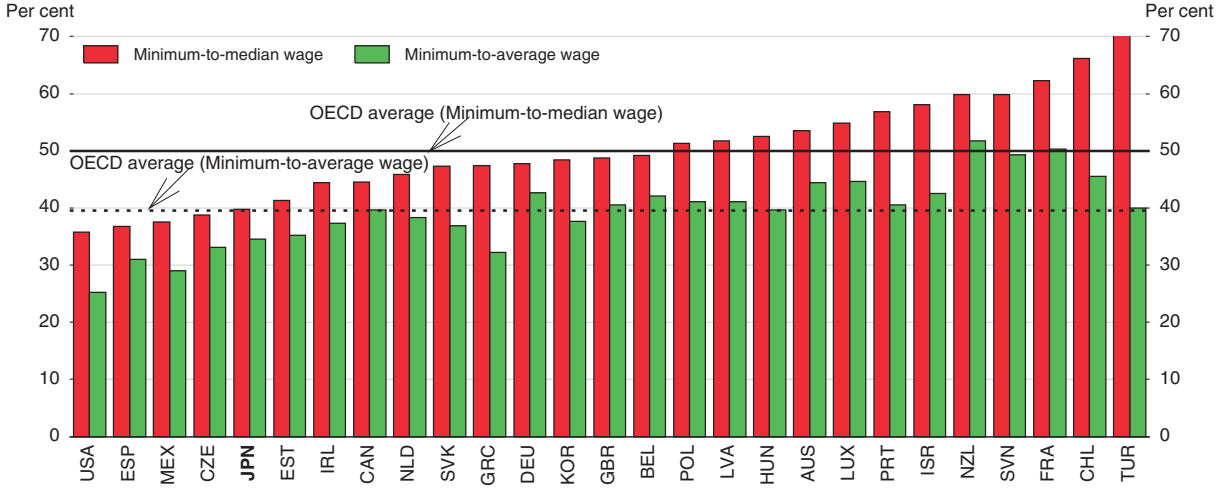
A domestic downside risk is that the improvement in consumer confidence will not be sustained, depressing private consumption growth. On the external side, the expected pick-up in world trade may falter. However, the recent yen depreciation (Figure 5), which has fallen 9% relative to the dollar since October 2016, may moderate that risk, while boosting corporate profits and inflation. Furthermore, the impact of interest rate increases in the United States on worldwide capital flows is uncertain.

Macro-financial indicators suggest that vulnerability in terms of growth sustainability, price stability, external position and financial stability remains contained (Figure 8). Japan does face vulnerabilities that are difficult to assess in the context of the projection (Table 4).

Figure 7. **The minimum wage in Japan is relatively low**

In 2015 or latest year



Source: OECD (2017e), *OECD Employment and Labour Market Statistics* (database).

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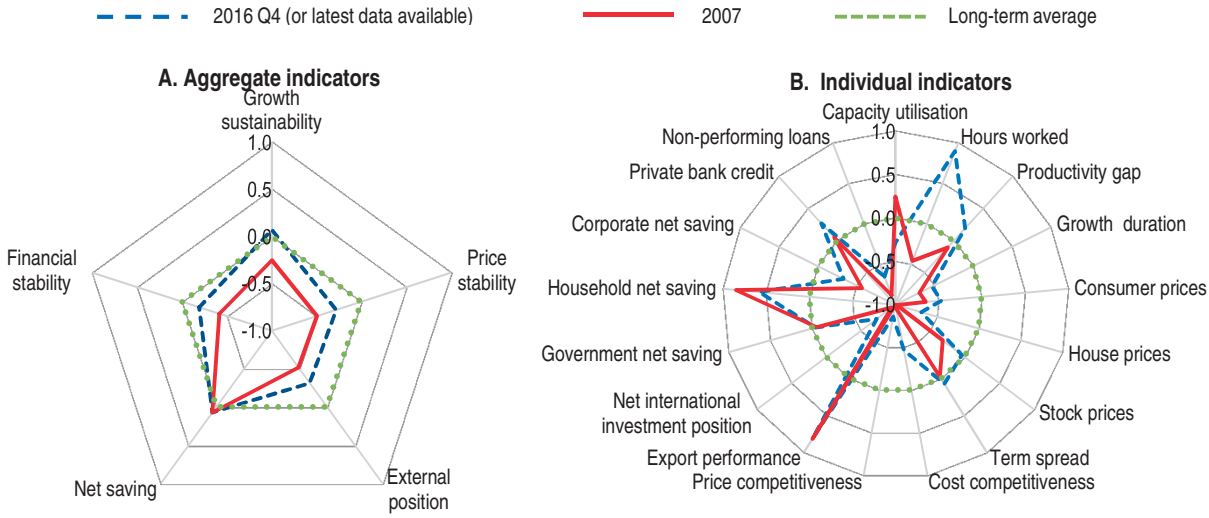
Figure 8. **Evolution of macro-financial vulnerabilities since 2007**

Deviations of indicators from their long-term averages (0), with the highest deviations representing the greatest potential vulnerability (+1), and the lowest deviations representing the smallest potential vulnerability (-1)[1]



1. Each aggregate macro-financial vulnerability indicator is calculated by aggregating (simple average) normalised individual indicators. *Growth sustainability* includes: capacity utilisation of the manufacturing sector, total hours worked as a proportion of the working-age population (hours worked), difference between GDP growth and productivity growth (productivity gap), and an indicator combining the length and strength of expansion from the previous trough (growth duration). *Price stability* includes headline and core inflation (consumer prices), and it is calculated by the following formula: absolute value of (core inflation minus inflation target) + (headline inflation minus core inflation). *External position* includes: the average of unit labour costs based on the real effective exchange rate (REER), and consumer price based REER (cost competitiveness), relative prices of exported goods and services (price competitiveness), current account balance as a percentage of GDP and net international investment position as a percentage of GDP. *Net saving* includes: government, household and corporate net saving, all expressed as a percentage of GDP. *Financial stability* includes: the average of the share of non-performing loans of financial institutions (non-performing loans), and private bank credit as a percentage of GDP (private bank credit).

Source: Adapted from OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database) and Thomson Reuters Datastream.

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Table 4. **Key vulnerabilities**

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 most important is related to Japan's unprecedentedly high level of government debt. A loss of confidence in fiscal sustainability could destabilise the financial sector and the real economy, with large spillovers to the world economy. A second vulnerability is increased trade protectionism, particularly given the export-driven growth since mid-2016 (Box 1). Finally, given Japan's location in one of the most seismically-active areas of the earth, it is always at risk of natural disasters.

Box 1. **The structure of Japan's international trade**

Japan ranks fourth in world exports and imports, which each accounted for about 16% of its GDP in 2016. The share of trade in Japan's GDP is about half of the OECD average, reflecting the large size of the Japanese economy. Moreover, only about 12% of employment in Japan is directly linked to international trade, compared to nearly 30% in some OECD countries. Nevertheless, international trade has played a key role in Japan's economic development. In recent years, Japan has become increasingly integrated in global value chains (GVCs), especially in Asia.

Asian countries (China, ASEAN and the NIEs) account for about half of both Japanese exports and imports (Table 5). Japan's participation in GVCs is driven by its exports of intermediate parts, particularly to overseas affiliates in China (OECD, 2016e). The final goods are shipped primarily to the United States and Europe (METI, 2016).

Table 5. **Japan's major trade partners in 2015**

Per cent of total in value terms

Imports		Exports	
China	24.8	NIEs[2]	21.7
ASEAN[1]	13.9	United States	20.1
Middle East	12.2	China	17.5
EU	11.0	ASEAN[1]	12.0
United States	10.3	EU	10.6
NIEs[2]	9.2	Middle East	4.2
Other	18.6	Others	13.9
Total	100	Total	100

1. ASEAN includes Indonesia, Cambodia, Thailand, the Philippines, Brunei, Vietnam, Malaysia, Myanmar and Laos. Singapore is included with the NIEs.
2. NIEs include Korea; Chinese Taipei; Hong Kong, China; and Singapore.

Source: Ministry of Finance.

Japan is a major exporter of high value-added goods, reflecting its strong R&D base that makes it one of the leading countries in the development of disruptive technologies (OECD, 2016e). Machinery – general, electronic and transport – accounted for more than 60% of its exports in 2015 (Table 6). Raw materials, mineral fuels and food accounted for more than a third of imports, reflecting Japan's lack of natural resources.

Table 6. **Commodity composition of Japan's international trade in 2015**

Per cent of total in value terms

	Imports	Exports
Food	8.9	0.8
Raw material and mineral fuels	29.4	3.2
Chemical, iron, nonferrous metals and textile products	18.9	22.5
General machinery	9.0	19.1
Electronic machinery	15.3	17.6
Transportation machinery	4.0	24.0
Other	14.5	13.0
Total	100.0	100.0

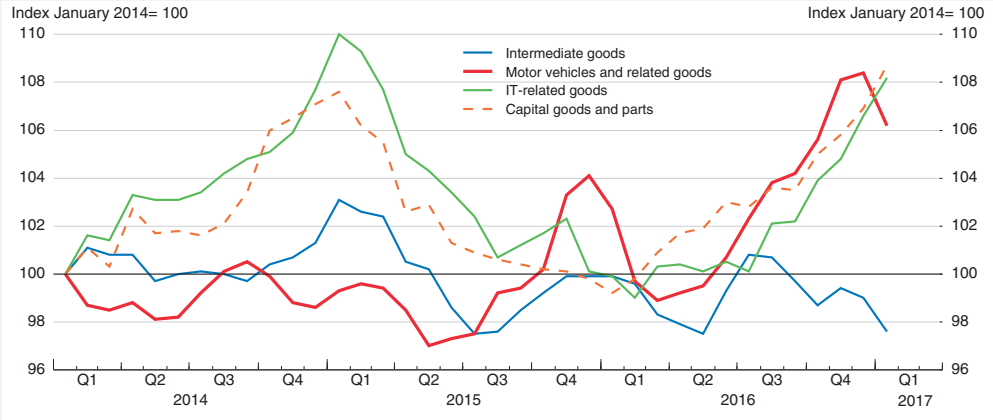
Source: Ministry of Finance.

Box 1. **The structure of Japan's international trade** *(cont.)*

Japan's exports of IT-related goods and motor vehicle and capital goods and parts have rebounded strongly since mid-2016 (Figure 9). In contrast, exports of intermediate goods have been sluggish. Such a trend is consistent with evidence of a slowdown in the growth of GVCs (World Bank, 2017b). GVCs are particularly vulnerable to protectionist measures, which impose unnecessary costs not only on foreign suppliers, but on domestic producers as well. The number of trade restrictions in G20 countries imposed since the 2008 global crisis reached 1 200 by the first half of 2016 (WTO-OECD-UNCTAD, 2016). The impact of protectionism on GVCs highlights the need for open, predictable and transparent trade and investment regimes.

Figure 9. **Real exports by type of goods**

Three-month moving average



Source: Bank of Japan.

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Ending deflation: Quantitative and Qualitative Easing with Yield Curve Control and negative interest rates

The Bank of Japan (BoJ) set a 2% target for consumer price inflation in 2013 (Table 7) and launched "quantitative and qualitative monetary easing" (QQE), which has more than tripled the monetary base (Figure 10). The central bank balance sheet has risen to 88% of GDP, much larger than in the United States and the euro area (Panel B). The new policy was a clear break from the past in terms of scale, decisiveness and ambition. QQE has affected prices and output through interest rates (Figure 11), inflation expectations and portfolio rebalancing.

Following the introduction of QQE, core inflation (excluding energy and food) rose rapidly, from -0.7% (year-on-year) in 2013Q1 to 0.9% in 2014Q1. However, the rise in inflation was partially reversed (Figure 4) by the weak demand following the consumption tax hike in 2014, falling oil and commodity prices and slower growth in emerging economies (Bank of Japan, 2016a). Inflation expectations have fallen below 1% according to some measures.

The BoJ's share of outstanding government bonds has risen from 12% prior to QQE to around 40%. The scope for continued purchases of government bonds may be limited by financial institutions' need for "safe assets" (Arslanalp and Botman, 2015). Against this background, the BoJ introduced "QQE with Yield Curve Control," which is designed to help the BoJ reach the yield curve that it deems necessary to achieve the 2% inflation target and

Table 7. **A chronology of major monetary policy measures in Japan since 2013**

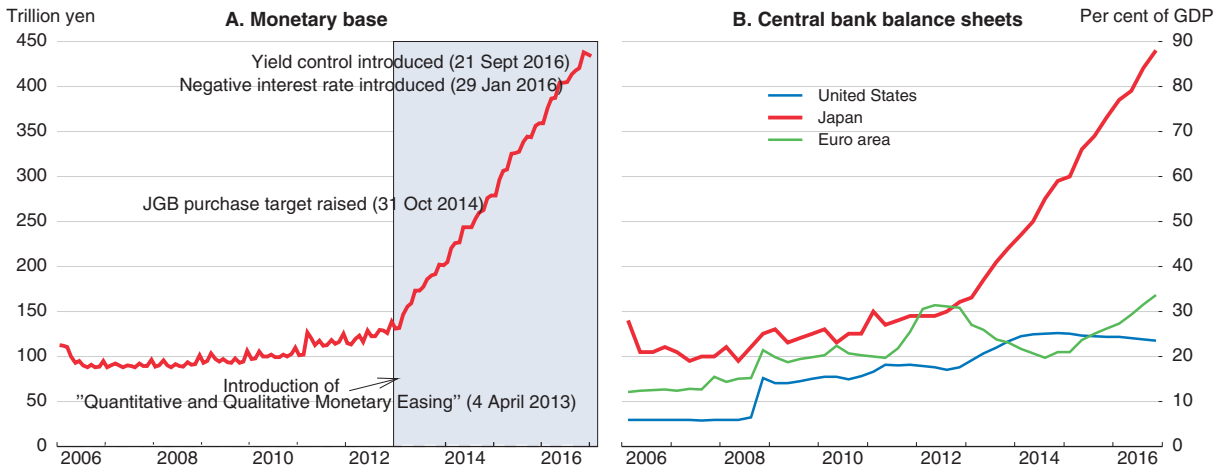
2013	**January**	The BoJ sets a 2% price stability target that it aims to reach "at the earliest possible time".
	March	Haruhiko Kuroda becomes the governor of the BoJ.
	April	The BoJ launches "quantitative and qualitative monetary easing", which aims to double the size of the monetary base by end-2014 by purchasing government bonds at a rate of 50 trillion yen (10% of GDP) per year.
	April	In the *Outlook for Economic Activity and Prices*, CPI inflation (excluding fresh food) is projected to be 1.9% in FY 2015.
2014	**July**	In the *Outlook for Economic Activity and Prices*, the projection for CPI inflation (excluding fresh food) is maintained at 1.9% in FY 2015.
	October	The BoJ accelerates its purchases of JGBs to an annual pace of 80 trillion yen and extends the average remaining maturity of JGB purchases to around 7-10 years (from 7 years).
2015	**January**	In the *Outlook for Economic Activity and Prices*, 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.
	October	In the *Outlook for Economic Activity and Prices*, the projection for CPI inflation (excluding fresh food) in FY 2016 is cut to 1.4%, and the 2% target is to be reached "around the second half of FY 2016".
	December	The BoJ decides to extend the average remaining maturity of its JGB purchases from about 7-10 years to about 7-12 years from the beginning of 2016.
2016	**January**	The *Outlook for Economic Activity and Prices* 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 banks' deposits at the central bank.
	April	The *Outlook for Economic Activity and Prices* states that the 2% inflation target will be met during FY 2017.
	July	The BoJ expands its purchases of ETFs from 3.3 trillion yen (0.7% of GDP) per year to 6 trillion yen (1.2% of GDP) and doubled its lending in dollars to USD 24 billion, while leaving its policy interest rate and the pace of government bond purchases unchanged.
	September	After a comprehensive review of monetary policy, 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 *Outlook for Economic Activity and Prices*, 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 will be met "around FY 2018".

Source: Bank of Japan.

allow it to adjust more flexibly to economic and financial conditions (Bank of Japan, 2016b). The new framework has two components:

- The BoJ will keep the 10-year government bond yield at close to 0%, though how long it will maintain the target level depends on economic activity, prices and financial conditions going forward.

Figure 10. **Quantitative and Qualitative Easing has sharply increased Japan's monetary base**



Source: Bank of Japan; Thomson Reuters Datastream.

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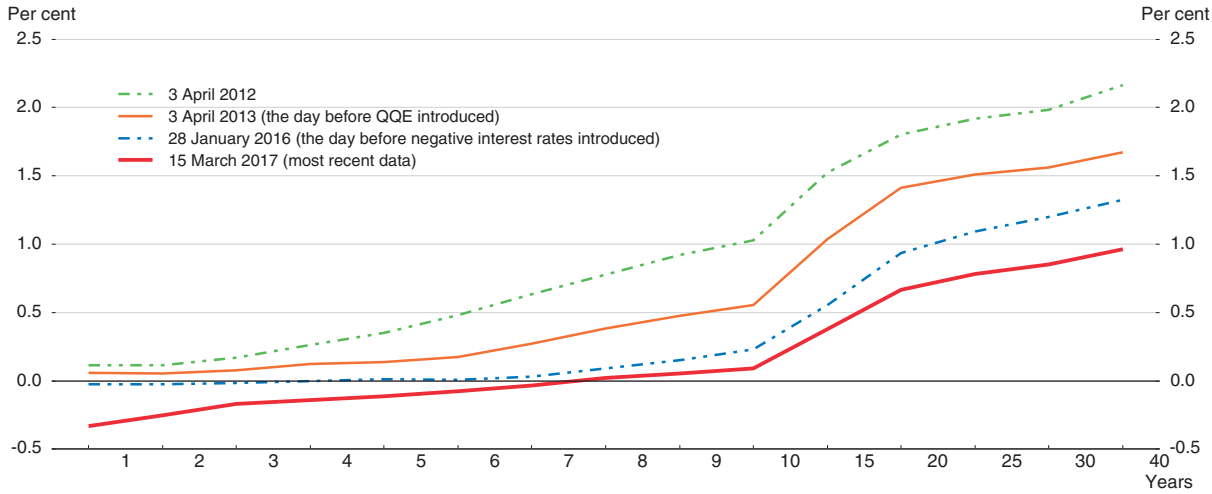
Figure 11. **Quantitative and Qualitative Easing has reduced interest rates across the yield curve**[1]



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

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- The BoJ made an "inflation-overshooting commitment" to continue expanding the monetary base until inflation exceeds the 2% target in a stable manner. This is intended to strengthen inflation expectations.

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 already used by a number of European central banks. Bank lending attitudes have continued to become more accommodative since the introduction of negative interest rates and the yield curve shifted down further (Figure 11). Lower government bond yields were passed through to corporate bonds and lending rates, thus helping boost residential investment. The potential costs and side effects associated with unconventional monetary easing, including asset price booms, large-scale purchases of assets that can lead to dominance by the central bank in the market segments where purchases take place, a negative effect on banks' profit margins, the ever-greening of non-performing loans and the challenge of exiting quantitative easing, are discussed in Box 2. Furthermore, effective structural reform to boost growth and policies to maintain confidence in Japan's public finances will also be important.

Box 2. **Potential costs and side effects associated with unconventional monetary easing**

With policy interest rates in the United States, Japan, the euro area and the United Kingdom close to zero following the Great Recession, additional stimulus has been provided primarily by reducing long-term interest rates *via* quantitative easing. In addition, negative interest rates have been introduced in a number of countries. 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):

- Excessive risk-taking can fuel asset price booms that risk financial instability in the future.
- Large-scale purchases of assets can lead to dominance by the central bank in the market segments where purchases take place and could result in less liquid markets and other efficiency losses.

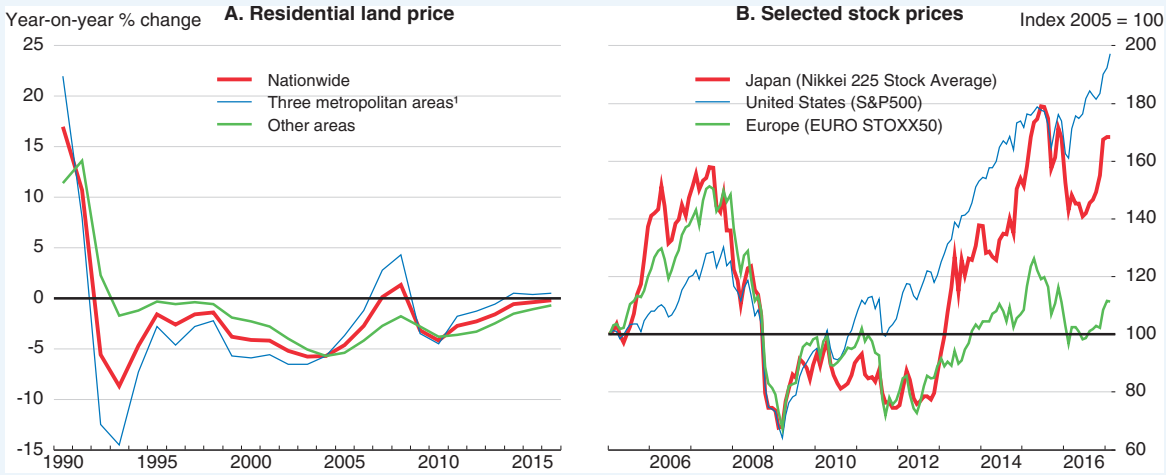
Box 2. **Potential costs and side effects associated with unconventional monetary easing** *(cont.)*

- Negative interest rates can reduce bank lending margins, squeezing their profits and limiting credit growth.
- The ever-greening of *de facto* non-performing loans, encouraged by low interest rates, may undermine creative destruction and productivity gains in the economy.
- Asset purchases can lead to exit challenges, notably the risk of bond market instability and central bank financial losses.

An evaluation of the potential costs and side effects in Japan

Asset price booms: Government bond prices have risen significantly as interest rates have fallen across the yield curve (Figure 11). In August 2016, 80% of government bonds had negative yields, including bonds with a maturity of ten years. With the adoption of QQE with Yield Curve Control in September 2016 and higher global growth prospects, long-term yields with maturity of nine years and beyond are now in positive territory. Residential land prices fell each year over 1992-2016, but appear to be stabilising (Figure 12). Equity prices have rebounded (Panel B), reflecting record high profits. While the price-earnings ratio is rising, it is now around 16, the lowest among G7 countries. The BoJ's purchases of ETFs, which invest in equities, have had a positive effect on equity prices. The BoJ is now the largest shareholder of 54 companies in the Nikkei 225 (Iwata et al., 2016). In September 2016, the BoJ decided to put more weight on TOPIX-based ETFs, which invest in all listed firms in the Tokyo Stock Exchange's first section. As with other investors, the BoJ's voting rights are delegated to the ETFs' asset managers. The BoJ invests only in ETFs that observe the Stewardship Code. Finally, declines in corporate bond yields have been modest.

Figure 12. **Asset price trends in Japan are improving**



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; Thomson Reuters Datastream.

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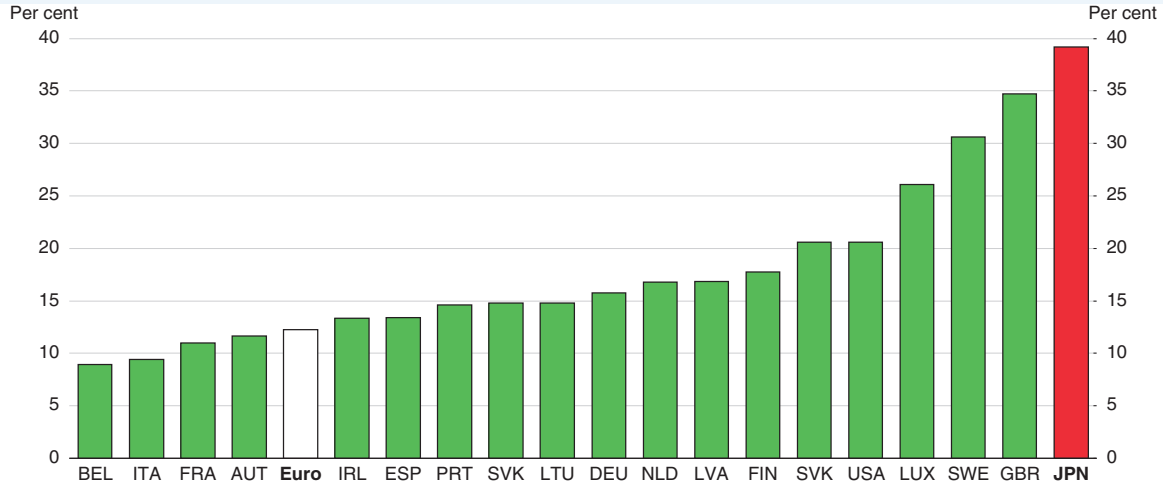
Central bank dominance of asset markets: The BoJ's balance sheet has expanded sharply (Figure 10), with its holdings of domestic government bonds rising from 12% prior to the launch of QQE to around 40%, the highest in the OECD area (Figure 13). With fewer trades taking place among private agents, liquidity in the government bond market has been reduced (Bank of Japan, 2016a). The BoJ conducts periodic surveys of the government bond market. The negative impact on the government bond market may be limited by the shift

Box 2. **Potential costs and side effects associated with unconventional monetary easing** *(cont.)*

Figure 13. **The Bank of Japan's holdings of domestic government bonds are high**

Government bonds held by central banks as a percentage of government debt securities as of September 2016



Source: OECD (2016g).

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to QQE with Yield Curve Control in September 2016, which targets bond yields rather than the amount of bond purchases. Under the new policy framework, the BoJ may need to buy less government bonds than before.

Negative interest rates: In recent years, banks' returns on assets have been below pre-crisis levels and the return on equity in many banks is below the estimated cost of equity in Japan (IMF, 2016). However, the direct impact of negative interest rates on banks is limited, as the share of bank reserves subject to negative rates is only around 4%. Consequently, the average interest rate on bank reserves is still positive and banks continue to earn positive interest income (OECD, 2016f). The share price of the Japanese banking sector in January 2017 was 8% higher than when negative interest rates were announced. The lending balance of financial institutions increased by 2.2% in 2016 and picked up in early 2017. Prolonged low and negative interest rates, however, may pose greater challenges for pension funds and financial institutions offering life insurance policies that promise pre-crisis or fixed nominal returns. With the adoption of QQE with Yield Curve Control, the investment environment for insurance and pension products has become more favourable as very long-term interest rates have increased.

The ever-greening of de facto non-performing loans: While Japan's exit rate is low compared to other leading economies (Figure 21), it has declined only slightly since 2001. This does not suggest any marked increase in the ever-greening of problem loans.

Large asset purchases can lead to challenges of exiting QQE: The BoJ's large holdings of government bonds may make the exit from QQE difficult. However, with inflation close to zero, it appears premature to focus on the exit strategy, which will depend on economic and market conditions at that time. Looking ahead, in designing the exit strategy, Japan may benefit from the experience of other major economies exiting quantitative easing. However, given that the size of the BoJ's balance sheet relative to GDP is much larger than that of the Federal Reserve's or the ECB's, the exit will be a major challenge for the BoJ. The impact of exit is uncertain for financial institutions.

Conclusion

As in other economies, the use of unconventional monetary policy measures, including quantitative easing and negative interest rates, creates potential costs and side effects, as summarised in Table 8, which should be weighed against the benefits of such policies.

Box 2. **Potential costs and side effects associated with unconventional monetary easing** *(cont.)*

Table 8. **Summary of the potential costs and side effects associated with Japan's monetary policy**

Key potential costs and side effects	Assessment
Excessive risk-taking can lead to asset prices booms	Government bond prices have risen significantly as monetary easing lowered bond yields. Residential land prices appear to be stabilising while equity prices have risen in tandem with corporate profits.
Distortions in the government bond market due to the dominant role of the BoJ.	The shift to QQE with Yield Curve Control, which focuses on the 10-year bond yield, rather than the amount of purchases, may reduce concerns in this regard.
The impact of negative interest rates on the banking sector.	The profitability of banks is low, but they continue to earn interest income and the growth of lending by financial institutions remains robust. The impact on pension funds and life insurance companies may be a concern.
The ever-greening of *de facto* non-performing loans.	The firm exit rate, while low, has not shown any marked decline since 2001.
Asset purchases can lead to challenges of exiting QQE.	The exit strategy will be determined by economic and financial conditions at the time of exit. The BoJ has experience with its successful exit of quantitative easing in 2006.

Achieving the 2% inflation target should remain a top priority, while monitoring the potential costs and side effects noted in Box 2. 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, in part as deflation also has a negative impact on growth.

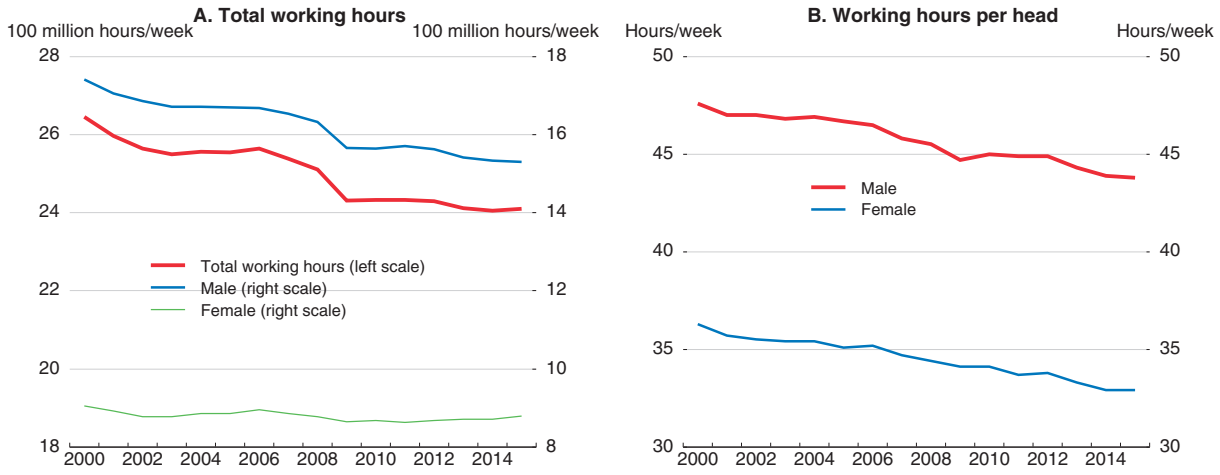
Removing barriers to labour participation in the context of population ageing

The female employment rate rose from 60.7% in 2012 to 64.7% in 2015, well above the 58.6% OECD average. Nevertheless, the gender gap in employment rates in Japan was large at 17 percentage points below that of men. Although female employment has been rising, total working hours of women have been steady, as the increase in part-time employment has reduced average working hours (Figure 14). Female employment is discouraged by a 27% gender pay gap, the third largest in the OECD, while only 9% of private-sector employees with management responsibility were female in FY 2014. The target of having women occupy 30% of "leadership" positions by 2020 is out of reach. Removing the obstacles that limit employment opportunities would increase fairness and inclusive growth by allowing women to fulfil their potential. Three major issues should be addressed as part of the government's "womenomics" initiative.

First, the shortage of childcare capacity in major urban areas should be reduced. The government is taking steps in this regard (Table 9). Still, its spending on early childhood education and care, at 0.5% of GDP, is less than half of some European countries. Public childcare centres should be supplemented by private-sector childcare by addressing a number of issues: i) relaxing rules on financing and tax disadvantages that discourage the entry of private firms and non-profit organisations; ii) reviewing the rationale for regulations set by some municipalities that exceed national standards, and thus limit entry by new suppliers (Suzuki, 2014); and iii) childcare personnel shortages, which could be filled in part by further promoting the return of qualified nursery teachers who are not currently employed in childcare centres.

Second, the tax and benefit systems should be reformed to make them neutral with regard to work decisions by secondary earners in households. If a second earners' income

Figure 14. **Total working hours have declined as part-time employment has increased**



Source: Cabinet Office.

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is below 1.03 million yen, the income is tax exempt and the main earner can claim a spouse deduction. This deduction primarily benefits higher-income households and gives many women an incentive to work part-time. The government is raising the exemption to 1.5 million yen (USD 13 300) in 2018 and limiting it to main earners with an annual income of less than 12.2 million yen. Over the longer run, and taking into account the impact of the increase in the threshold, the exemption should be phased out altogether.

Third, work-life balance needs to be improved by changing the culture of long working hours, which limits employment opportunities for women with family responsibilities. The Council for the Realization of Work Style Reforms will issue its findings by the end of March 2017. The number of overtime hours worked by regular workers has been on a rising trend during the past few decades. In practice, a company's management and labour union can agree to an unlimited amount of overtime. The government inspects workplaces where workers' monthly overtime exceeds 100 hours, already a level that may put workers at risk of *karoshi* (death by overwork). The government should introduce a binding ceiling on overtime hours. In addition to facilitating female employment, this may also increase fertility, as the two are positively correlated in the OECD. An overtime limit should be

Table 9. **Implementation of OECD recommendations to remove obstacles to labour force participation**

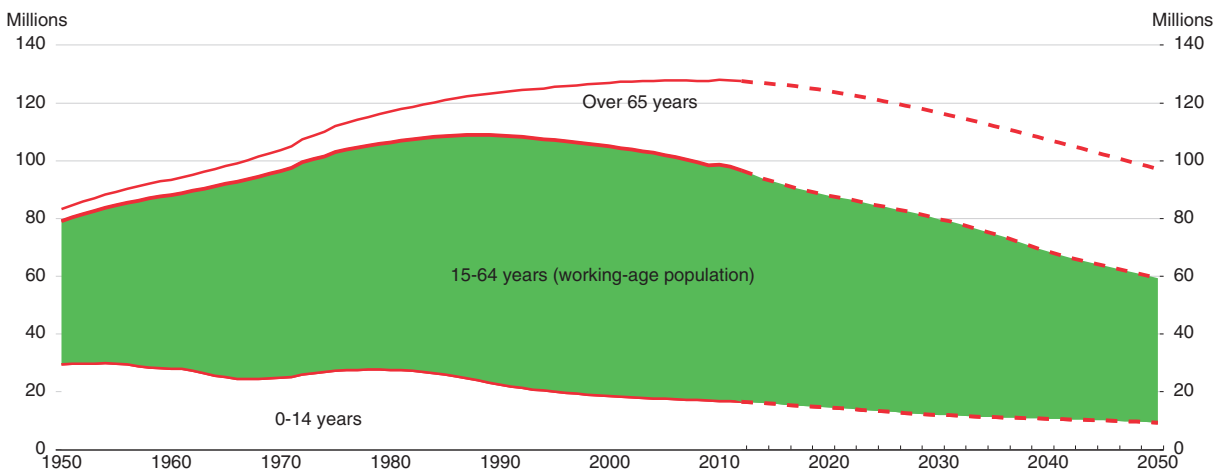
Earlier OECD recommendations	Action taken or planned
Increase the availability of affordable, high-quality childcare.	Childcare places for 0.5 million children are being added to eliminate waiting lists over FY 2013-17, together with after-school care places for 0.3 million school-age children by end-FY 2019.
Reform aspects of the tax and social security system that reduce work incentives for secondary earners.	To encourage second earners' labour supply, the government plans to raise the upper limits on second earners' earned income for the spouse deduction in 2018, with introduction of upper limits on first earners' earned income.
Encourage better work-life balance.	The government created the Council for the Realization of Work Style Reforms, which will issue its findings by end-March 2017.
Encourage greater use of flexible employment and wage systems to improve working conditions for older workers, in part by abolishing the right of firms to set mandatory retirement at age 60.	A FY 2012 revision to the labour law that requires firms to keep all workers who wish to work until 65 had been implemented in 99.5% of companies by June 2016.

accompanied by greater emphasis on labour productivity and an increase in wages so that workers can make a living without long hours of overtime. The legal ceiling would also need to address unpaid and unreported overtime. Finally, the government should lead by example in terms of changing habits and work culture.

In addition to promoting inclusive growth, removing obstacles to the employment of women would mitigate the economic impact of demographic trends. Indeed, Japan's future economic prosperity and the well-being of its people largely depend on how it manages the unprecedented demographic transition now underway. The population is projected to decline by almost 25% between 2010 and 2050 to below 100 million (Figure 15). At the same time, the share of the elderly (65+) will rise from around 26% in 2015 to almost 40%, remaining the highest in the OECD. This implies that the ratio of working-age persons (15-64) to elderly will fall from 2.3 to 1.3. Japan is already experiencing labour shortages as the job offer to applicant ratio has remained above one since 2011 and the share of firms reporting shortages has increased markedly (Figure 3). If the female participation rate were to converge to that of men by 2060, the labour force would be 10% larger than if participation rates were unchanged (Figure 16), thus helping to sustain per capita income levels.

Figure 15. **Japan's population is declining and ageing**

Million persons



Source: OECD (2017b), *OECD Demography and Population Statistics* (database).

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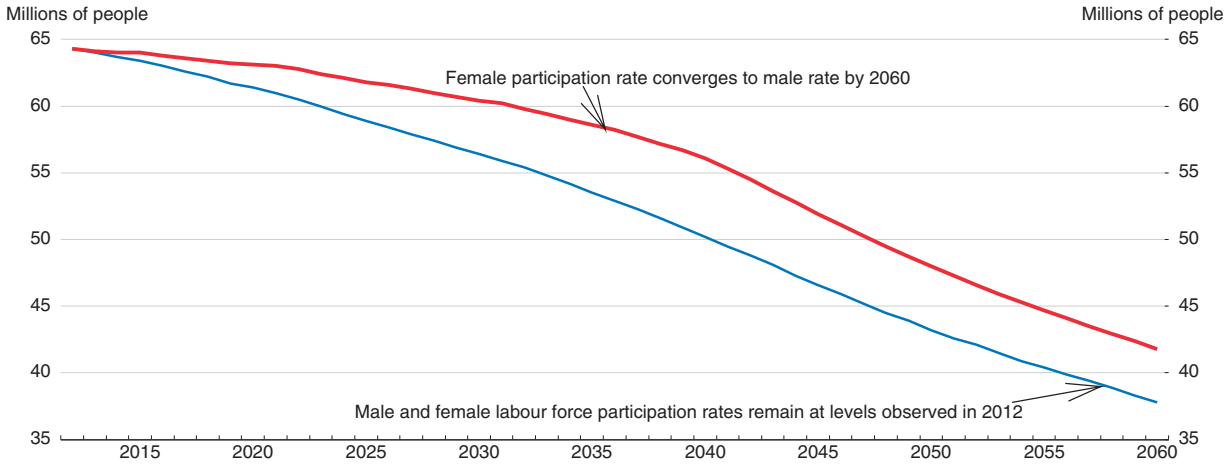
Removing obstacles to the employment of older people would also mitigate demographic pressures. The employment rate for the 60-64 age group rose from 52% in 2004 to 62% in 2015. Still, it is well below the 79% rate for the 50-55 age group. Most firms still impose mandatory retirement at age 60, reflecting steep seniority-based wage profiles and the high cost of dismissing regular workers. While retirees have the right to remain as non-regular workers, others leave the labour market. Given long life expectancy, mandatory retirement at age 60 is not appropriate. Accelerating the planned hike in the pension eligibility age to 65 and raising it further would encourage employees to work longer while also improving the sustainability of public pensions. The government should abolish the right of firms to set a mandatory retirement age and encourage a shift to flexible employment and a wage system based on ability rather than age.

Figure 16. **Increasing female employment can help limit the looming labour supply shortage**

Projected size of the labour force, working-age population (15-74)



1. In the baseline, both male and female labour force participation rates are projected based on average entry and exit rates for each five-year age group over the period 2003-12. In the other scenario, the male rate is calculated the same way.

Source: OECD projections based on OECD (2017b), *OECD Demography and Population Statistics* (database) and OECD (2017e), *OECD Employment and Labour Market Statistics* (database).

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Greater use of foreign workers would also slow the decline in the labour force. Japan's growth strategy set a goal of "a society where foreign workers play an active role". The number of foreign workers (including foreign trainees) topped one million for the first time in 2016, up from 0.7 million in 2013. Still, they account for only 1.6% of Japan's labour force, one of the lowest in the OECD. To boost the number of foreign workers, the government will introduce the Japanese Green Card for Highly Skilled Foreign Professionals, which substantially reduces the period of stay required before they can apply for permanent residence from the current five years. Also, foreign trainees will soon be eligible to extend their training period from three to five years. Finally, automation and greater use of robots can help offset a declining work force. In 2015, the government launched the Robot Strategy, and created the Robot Revolution Initiative to implement it.

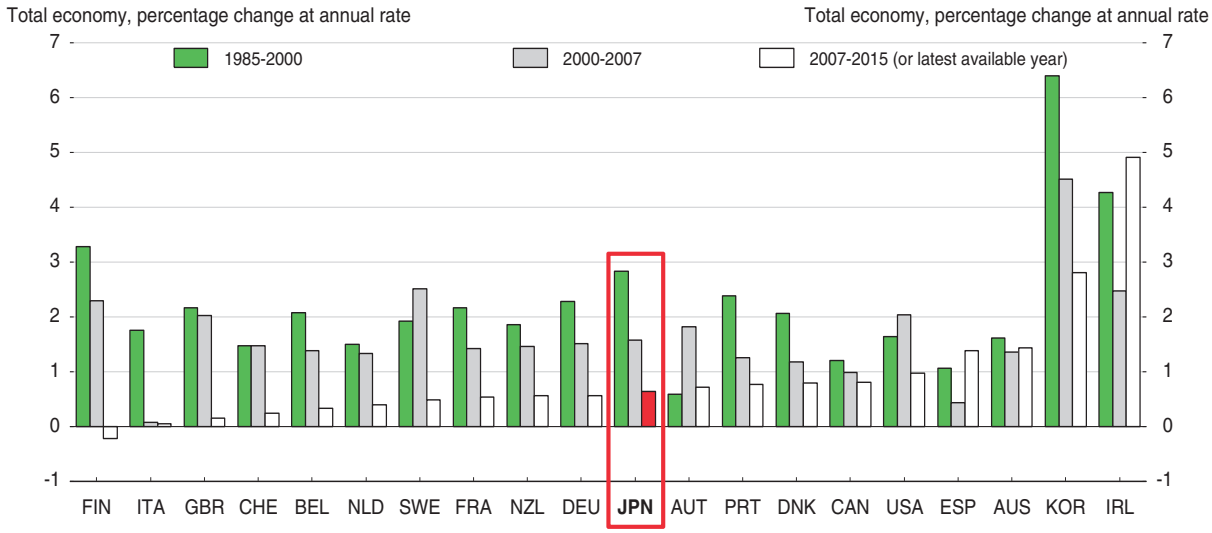
OECD research shows a wealth of evidence demonstrating that the medium and longer-term effects of migration on public finance, economic growth and the labour market are generally positive (OECD, 2016d). Immigration can increase tax revenue and social security contributions, raise the share of the population that is working and fill some skill gaps and specific bottlenecks. However, the benefits depend on the qualifications of migrants. Realising the economic benefits of migration requires significant investment in the education of new migrants, in part to master the Japanese language. Apart from the benefits on a national basis, the impact of migration on local areas can vary widely. In any event, international migration on a scale sufficient to substantially change the demographic picture is not feasible (OECD, 2016i).

Increasing productivity to promote inclusive growth

While sustaining the labour force is important, boosting labour productivity is the key to raising living standards and addressing the fiscal problem. With a negative contribution from labour inputs, productivity growth would have to exceed 2% to achieve the government's real growth target. However, in Japan, as in many OECD countries, productivity growth has

slowed in recent years (Figure 17). At the same time, income inequality and relative poverty in Japan are above the OECD average (Figure 18).

Figure 17. **Productivity growth has slowed in Japan, as in most OECD countries, since the 1980s**



Source: OECD (2017i), *OECD Productivity Statistics* (database).

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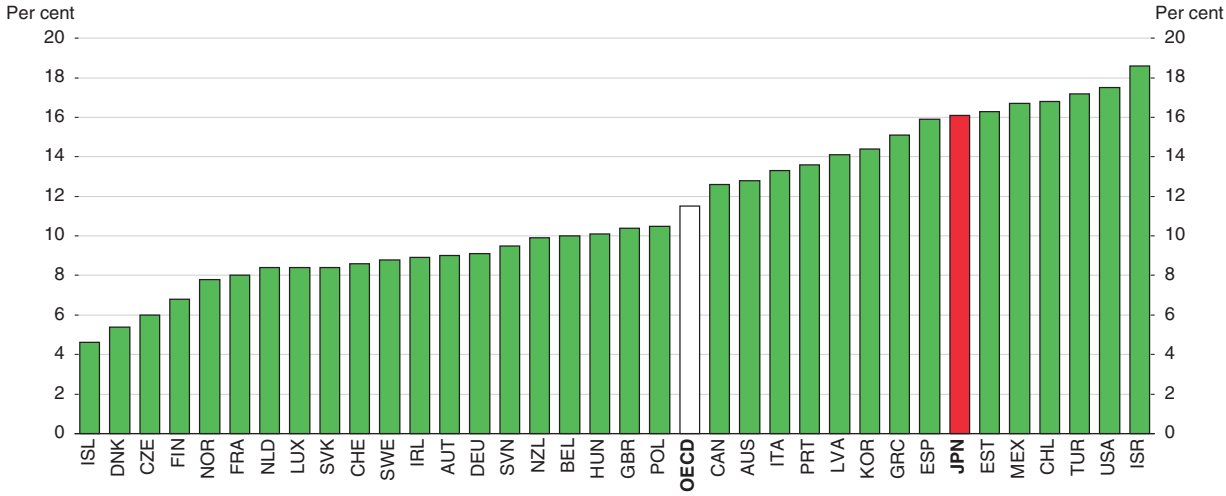
The global productivity slowdown is accompanied by an increasing divergence between leading and lagging firms. In the world economy, labour productivity at firms at the global frontier in manufacturing increased at an average annual rate of 2.8% over 2001-13, compared to only 0.6% for non-frontier firms (Figure 19, Panel A, left-hand side). The

Figure 18. **Relative poverty in Japan has risen to a high level**

In 2014 or latest year available



Note: Relative poverty is measured as the share of the population with an income less than half of the "median equivalent disposable income" (adjusted for household size). Values for Japan are based on the Comprehensive Survey of Living Conditions 2012. Another survey for Japan, the National Survey of Family Income and Expenditure, shows relative income poverty edging down from 10.1% in 2009 to 9.9% in 2014.

Source: OECD (2017g), *OECD Income Distribution* (database).

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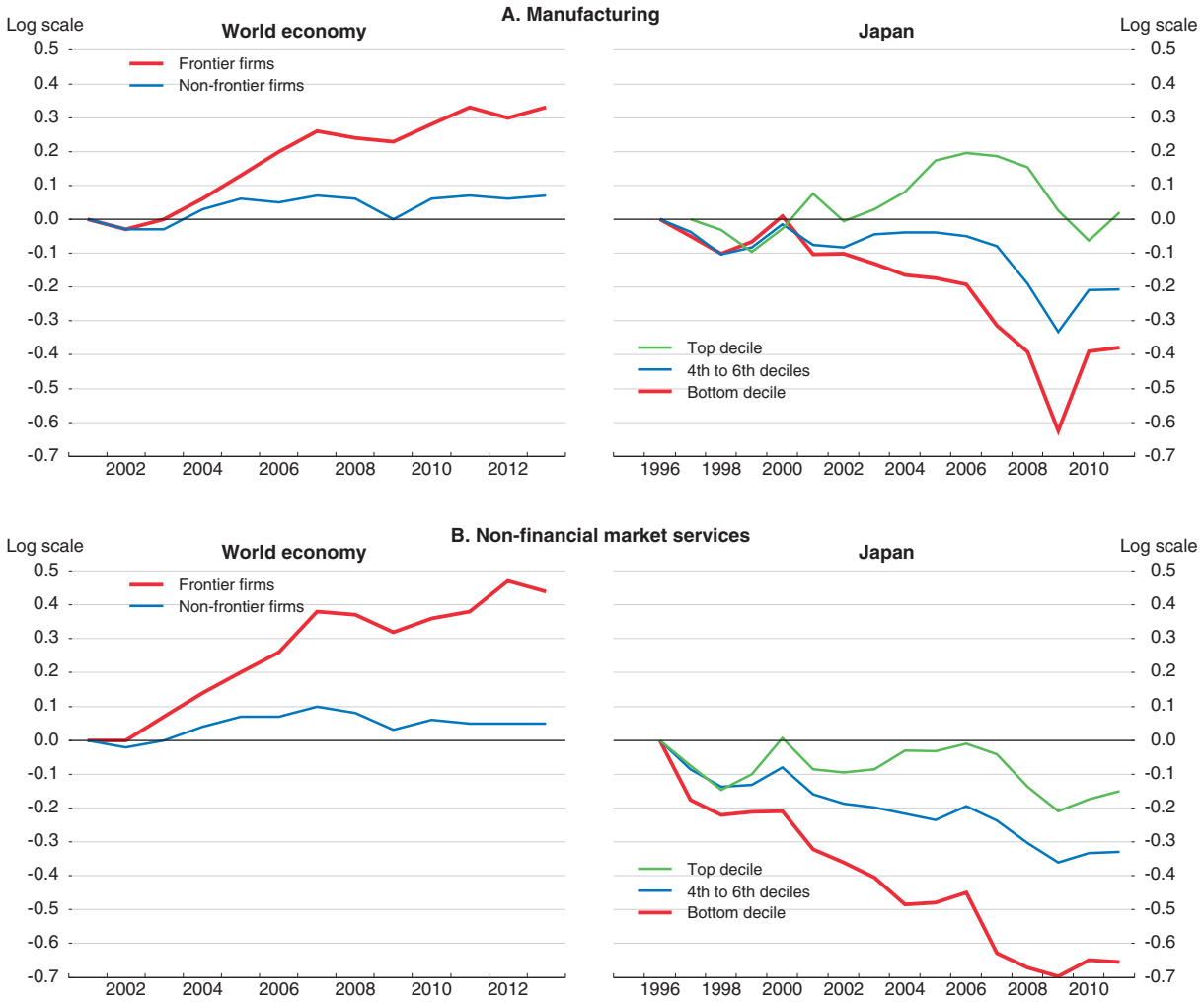
Figure 19. **Productivity at Japanese firms has diverged significantly during the past few decades**



Note: In the left-hand panels, which show the world economy, the global frontier is measured by the average of log labour productivity for the top 5% of companies in the world with the highest productivity levels within each 2-digit industry. Non-frontier firms are the average log productivity of all the other firms. Unweighted averages across 2-digit industries are shown for manufacturing and services, normalised to 0 in the starting year. The right-hand panels show the unweighted average of log labour productivity for Japanese firms in the bottom decile, between the 4th and 6th deciles, and in the top decile of the labour productivity distribution in any given year. The values are normalised at 0 in 1996. Data only includes firms with more than 50 employees. The lines indicate cumulated growth rates. A value of 0.3 indicates a 30% increase, while -0.2 indicates a 20% decline.
Source: Andrews et al. (2016); Berlingieri et al. (2017).

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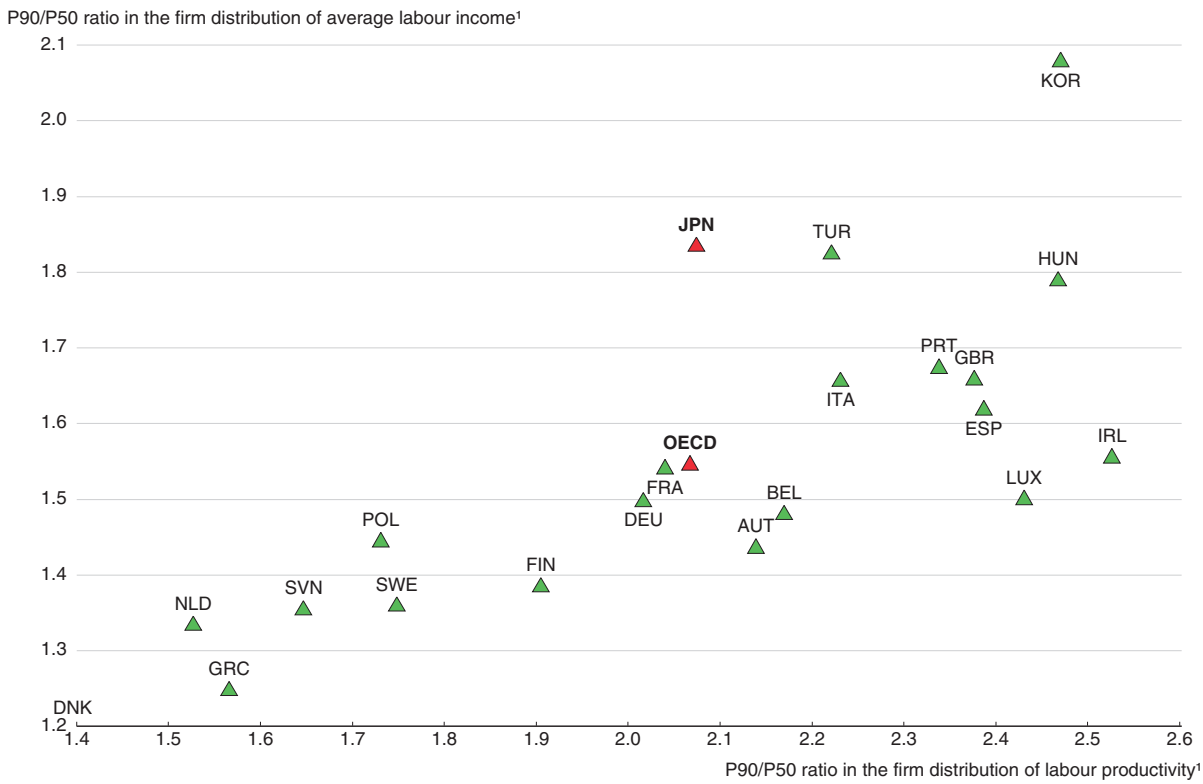
divergence is even more pronounced in services (Panel B, left-hand side). In Japan as well, the labour productivity gap between firms at the top, fourth to sixth and bottom deciles in both manufacturing and services has widened significantly (Figure 19, right-hand panels). This trend reflects several complementary factors: i) a decline in the diffusion of technology and knowledge from frontier firms to others; ii) poorly-performing firms that remain longer in the market, rather than exiting, thereby trapping resources in unproductive activities; iii) a greater concentration of high-skilled workers in certain firms; and iv) greater concentration of market power and rent-seeking by frontier firms that may have left non-frontier firms behind. Finally, productivity performance has been much weaker in Japan. While labour

productivity increased for both frontier and non-frontier firms in the world economy, it fell in Japan for all deciles (except the top decile in manufacturing, where it was constant).

The widening productivity gap between firms leads to more wage inequality; the dispersion between productivity in firms at the 90th and 50th percentiles in the OECD was positively correlated with the dispersion in average wage income in 2013 (Figure 20). The dispersion of productivity in Japan is slightly above the OECD average and that of average labour income is far above it. While Japan has taken a number of measures to boost productivity (Table 10), it still faces the challenge of broadening the productive base of its economy to generate strong productivity gains that lead to inclusive growth. This requires a comprehensive policy framework that narrows the gap between leading and lagging firms by improving exit policies, encouraging entrepreneurship and upgrading SME policies. Breaking down labour market dualism is another key priority.

Figure 20. **Labour income inequality is positively correlated with productivity disparities between firms**



1. This figure compares labour productivity and labour income at a firm at the 90th percentile to one at the 50th percentile in 2013.
Source: OECD (2016f).

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Reducing the gap between leading and lagging firms, while raising productivity

Improving exit policies

The widening gap between firms can be explained in part by poorly performing firms that linger in the market, trapping resources in unproductive activities. In 2013, Japan had a high number of non-viable firms, defined as failing to earn enough profits to cover interest payments for at least three years. The survival of such firms drags down productivity and congests markets. Their existence is estimated to have reduced investment and employment

Table 10. **Implementation of OECD recommendations to raise productivity**

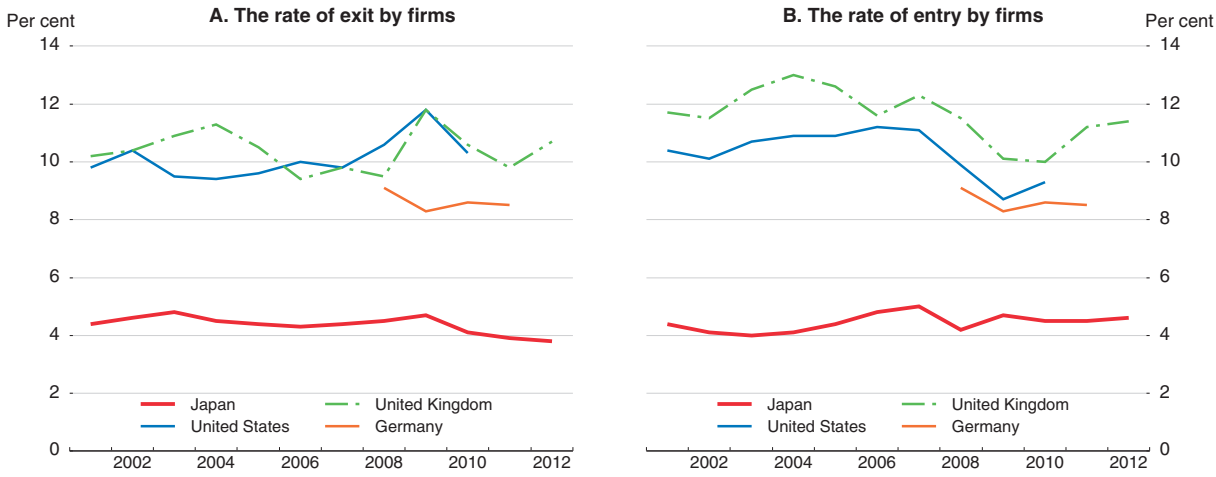
Earlier OECD recommendations	Action taken or planned
Upgrade corporate governance to increase pressure on management to increase profitability and act in shareholders' interests.	More than 200 institutional investors have adopted Japan's Stewardship Code. The share of companies in the first section of the Tokyo Stock Exchange with two or more independent directors rose from 22% in 2014 to 80% in 2016.
Reduce government support for SMEs to promote the restructuring of viable firms and the exit of non-viable ones.	Outstanding credit guarantees from the government for SME loans fell from 7.3% of GDP in 2009 to 5.2% in 2015. The share of guarantees covering 100% of loans declined from 69% to 40% over that period and the government plans further reform to strengthen market forces.
Revitalise venture capital investment to promote firm creation and innovation.	Since 2014, private companies can get tax deductions by investing in funds that are certified by the government as having the ability to support venture businesses.
Improve and expand market mechanisms in the electricity sector, including ownership unbundling to create a level playing field between regional monopolies and new entrants.	With the full liberalisation of the retail electricity market in 2016, about 400 new suppliers have entered the market. An independent regulator for the electricity sector was established in 2015 and a law mandating legal unbundling by FY 2020 was passed.
Strengthen the linkages between academia, the business sector and government research institutes.	In 2016, the government launched the Program on Open Innovation Platform with Enterprises, Research Institute and Academia (OPERA) to foster university-industry partnerships, funded by companies and the government.
Participate in high-level trade agreements, notably the Trans-Pacific Partnership and the Japan-EU Economic Partnership Agreement.	The Diet approved the TPP agreement in December 2016. Japan was the first of the 12 original TPP signatories to notify the Depositary in January 2017 that it had completed domestic procedures. Negotiations to create the Japan-EU EPA are continuing.
Promote the consolidation of farmland so as to cut production costs by lifting obstacles to land transactions.	The "farmland consolidation banks" had leased 101 000 hectares (2% of Japan's farmland) to business farmers by March 2016.

by a cumulative 2½ per cent and ¾ per cent, respectively, in Japan over 2008-13, thereby preventing the expansion of healthy firms (Adalet McGowan et al., 2017). In more recent years, the aggregate interest coverage ratio has improved, which may have reduced the number of non-viable firms.

The existence of non-viable firms reflects the low exit rate in Japan, which is only about half of that in other advanced countries (Figure 21). The growth strategy set a goal of raising both the exit and entry rates to around 10%. While Japan's corporate insolvency regime is highly efficient (World Bank, 2017a), the wide use of personal guarantees and the stringency of the personal insolvency regime are important impediments to firm exit. Almost 60% of SMEs rely on personal guarantees by the owner and 10.5% of them have guarantees by individuals outside the firm (Uesugi, 2010). Personal guarantees exceed the owner's assets in 78% of the cases (Mitsubishi UFJ Consulting, 2010). The orderly exit of non-viable firms would be facilitated by greater co-operation among the parties concerned using the Guidelines for Personal Guarantees Provided by Business Owners, which brings debtors and creditors together in an out-of-court setting. However, both government and private financial institutions should make greater use of the Guidelines and the government should diffuse information about them to banks.

The Guidelines state that banks should not require personal guarantees by SME owners in contracting new loans when SMEs fulfil certain conditions. This will improve lending practices and remove obstacles that limit early exit, restructuring, and second chances by SME owners. Since the implementation of the Guidelines in 2014, government financial institutions have raised the share of loans without personal guarantees from 15% to 33% by September 2016, while private banks increased the proportion of such loans from 12% in 2015 to 14% in 2016. The share of loans without personal guarantees should be increased further.

Figure 21. **Annual firm exit and entry rates in Japan are low compared to other advanced countries**



Source: Ministry of Economy, Trade and Industry (2014).

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As for existing personal guarantees, the Guidelines bring debtors and creditors together in an out-of-court setting. However, the Guidelines were used to dissolve personal guarantees in only 207 cases by private financial institutions and 61 cases by government financial institutions in FY 2015, and thus should be used more widely. For the Guidelines to be more effective, creditors should play a larger role in initiating the procedure at an early stage, as the owner/debtor is reluctant to resolve the firm and face personal bankruptcy.

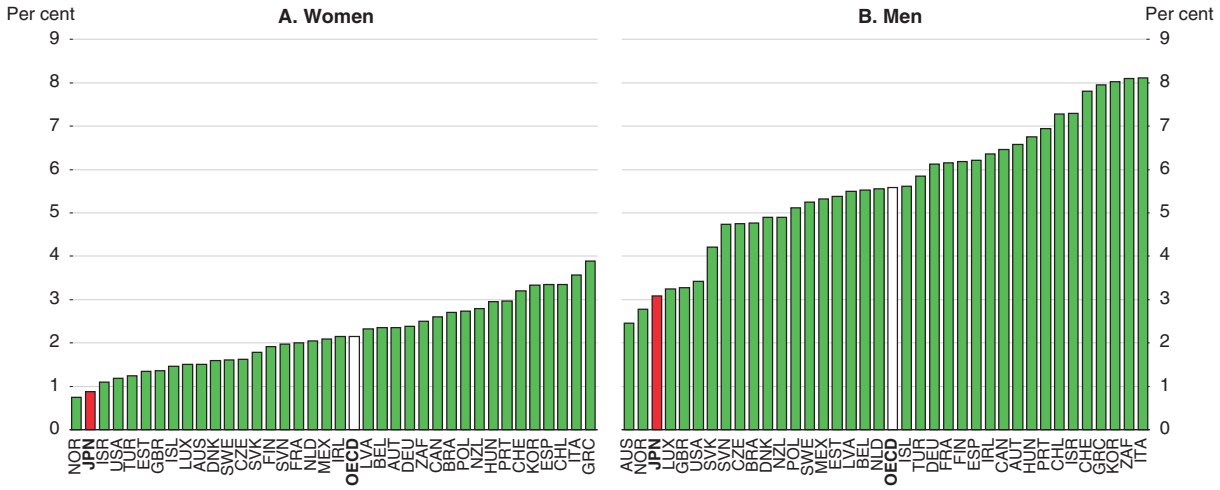
Facilitating the exit of non-viable firms would initially entail a rise in the number of displaced workers. Such a rise in displaced workers, however, should be considered in a wider context: in Japan, 8.0 million people found a job in 2014 (17.3% of the total number of workers) and 7.1 million left a job (MHLW, 2015). The chronic labour shortage in Japan does increase re-employment opportunities for those leaving jobs. Nevertheless, policies are needed to facilitate the re-employment of workers, including those who were employed at firms that exited. OECD evidence shows that active labour market policies are more effective in helping displaced workers following firm exit, compared with other categories of job seekers (Andrews and Saia, 2016). In addition, policies to encourage firm creation will help create new opportunities for displaced workers.

Promoting entrepreneurship and firm creation

The weakness of entrepreneurship is one reason for the low entry rate. Indeed, the number of entrepreneurs (as a share of those employed) is among the lowest in the OECD (Figure 22). New firms tend to play a key role in innovation and raising productivity (OECD, 2015b). Although regulatory barriers to entrepreneurship in Japan have fallen below the OECD average, they remain an obstacle due to the complexity of the licence and permit system (OECD, 2013a). Increasing entrepreneurship also requires improving its image; less than a third of the working-age population views entrepreneurship as a good career choice, the lowest in the OECD. The negative perception reflects a lack of perceived opportunities (7%, the lowest in the OECD), perceived capabilities (12%, the lowest) and a fear of failure (55%, the second highest) (Global Entrepreneurship Monitor, 2015).

Figure 22. **The share of entrepreneurs in Japan is low, especially among women**

Self-employed with employees (as a share of employed persons) in 2015



Source: OECD (2016a).

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The low capabilities in entrepreneurship suggest a need for additional education and training. Only 20% of the Japanese, the lowest in the OECD, agree that "school education had provided enabling skills and know-how necessary to run a business", compared to an OECD average of 52% (OECD, 2013a). Training is also a priority, as only 31% of men and 18% of women said that they had access to entrepreneurial training. In addition, reforming the personal bankruptcy system (see above) is essential to allow second chances for failed entrepreneurs. Another obstacle is difficulty in obtaining financing. The share of Japanese men who report that they have access to financing matches the OECD average, while it is below average for women. The range of financing instruments available to entrepreneurs, particularly risk capital, should be broadened. In 2015, venture capital amounted to only 0.02% of GDP, compared with more than 0.3% in some OECD countries. Developing the M&A market and shortening the time for initial public offerings (IPOs) would boost venture capital financing. Policies to increase firm creation should emphasise women, given their untapped potential for entrepreneurship.

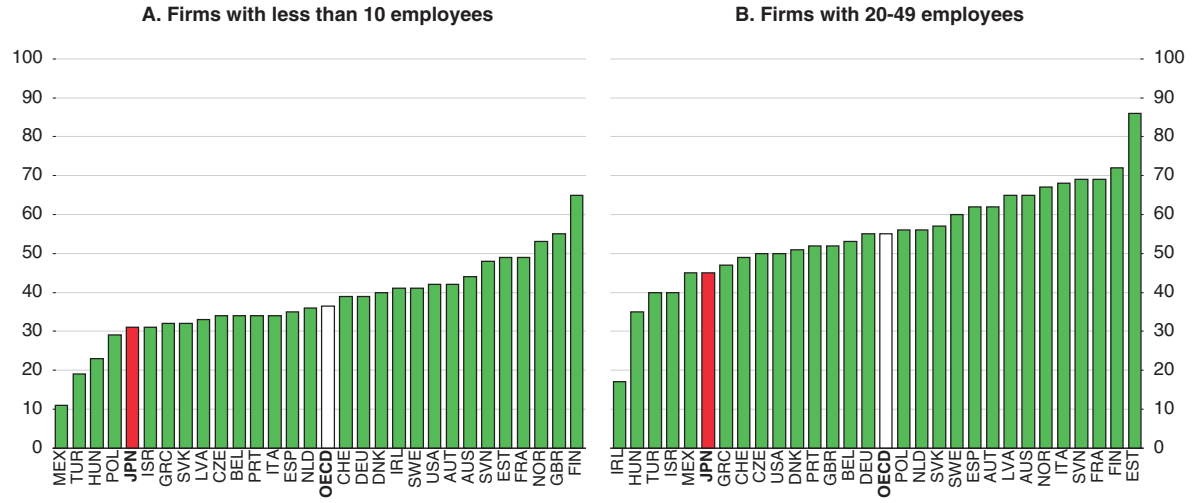
Improving SME policies

The inter-firm dispersion of productivity also reflects the wide gap between SMEs and large firms. SMEs have long suffered from low productivity and weak profitability. Labour productivity in firms with less than 50 employees relative to those with more than 250 employees is below the OECD average (Figure 23). Low productivity in the SME sector is linked to the weakness of services (2015 *OECD Economic Survey of Japan*), given that three-quarters of SMEs are in that sector. More than two-thirds of firms with less than 100 million yen (USD 0.87 million) in capital reported a deficit in FY 2014.

SMEs receive substantial government support, although improved economic conditions have reduced public credit guarantees for SME loans from a peak of 35.9 trillion yen (7.3% of GDP) in FY 2009 to 25.8 trillion yen in FY 2015. In addition, the share of guarantees covering 100% of loans declined from 69% to 40% over that period. Guarantees of 100% weaken market forces as they leave banks little incentive to monitor such loans. Further reforms

Figure 23. **Productivity in small firms in Japan is low relative to large firms**

Value added per person employed in 2013 relative to that in firms with more than 250 workers = 100



Source: OECD (2016a).

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are planned to strengthen market forces: i) banks applying for credit guarantees will have to supply loans to SMEs without personal guarantees by the borrowers; and ii) the largest 100% guarantee scheme (Safety Net Program No. 5) will lower its rate to 80%.

Despite the decline, government guarantees for loans to SMEs in Japan were exceptionally high at 5.2% of GDP in 2015 (Figure 24). However, given the heavy reliance on bank lending to SMEs, the share of SME loans that are publicly guaranteed is around 11%, compared to 12% in the United States and 15% in Korea. High levels of public support can delay restructuring by keeping non-viable enterprises afloat, which distorts resource allocation by limiting the scope for entry of new firms and expansion of innovative firms. Public support for SMEs can have other negative side effects. *First*, it hinders the development

Figure 24. **Credit guarantees for SMEs in Japan are exceptionally large**

Stock of guarantees in 2015 or latest year available

Source: OECD (2017a).

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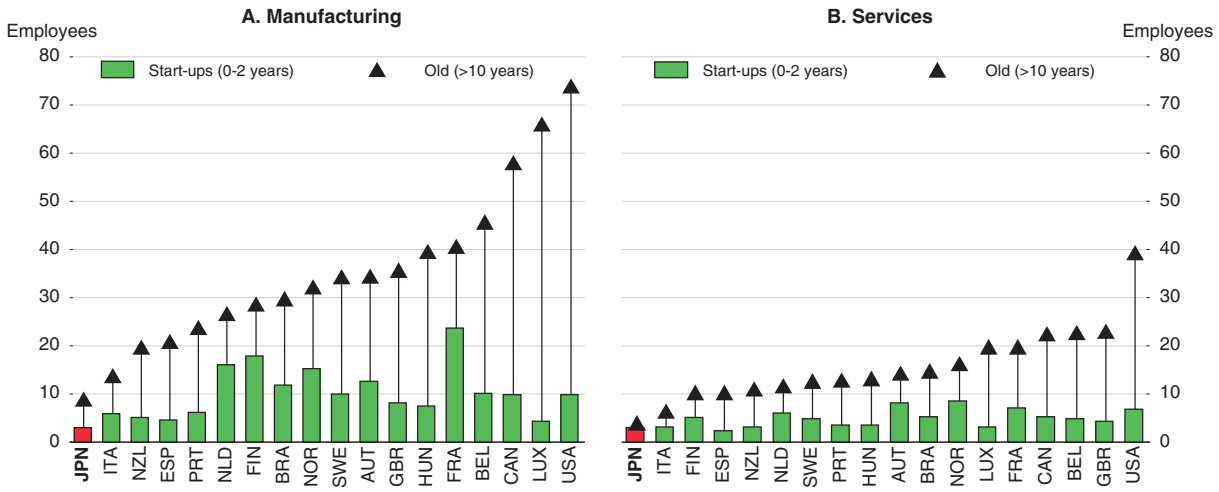
of market-based financing. *Second*, there is little evidence that government financial support improves SME performance (Ono and Uesugi, 2014; Lam and Shin, 2012). *Third*, compared to other OECD countries, SMEs in Japan show little growth, as measured by the difference in the number of employees in mature firms (more than ten years old) and new start-ups (Figure 25), which may reflect SME policies (Tsuruta, 2016). The creation and growth of innovative SMEs and the downsizing of non-viable ones would tend to increase productivity. At the same time, SMEs have an important role to play in local economies.

Figure 25. **Small firms in Japan tend to stay small**



Source: Criscuolo et al. (2014).

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The number of SME loans that are guaranteed should be reduced gradually towards the levels in other OECD countries and the coverage of credit guarantees should be reduced to encourage banks to actively monitor credit risks. Support should be focused on correcting market failures that limit access to finance rather than on supporting mature firms. Those market failures are concentrated among young firms and micro-firms, as the longer a SMEs' history and the larger its size, the lower its borrowing cost. However, mature and larger firms may also need support to cope with economic crises and natural disasters. Financial supervisors should require financial institutions to conduct regular credit reviews, publicly announce the results, and prompt the exit or restructuring of non-viable firms. The government should reduce pressure on banks to ease lending terms for SMEs. Such pressure would hinder the exit of non-viable firms and the growth of more efficient ones. As noted above, effective policies are needed to help workers displaced by firm exit.

Other policies to promote synergies between productivity and inclusive growth

Upgrading corporate governance

Japanese firms have long been characterised by low return on equity compared to their European and US counterparts. A better corporate governance system would improve the allocation of capital and monitoring of firm performance, allowing Japan to make better use of its high level of business R&D and human capital (Isaksson and Çelik, 2013). Better corporate governance would also facilitate the downsizing or closing of low-productivity activities and the shift of resources to high-productivity activities. The government introduced a Stewardship Code for institutional investors in 2014 and a Corporate

Governance Code for publicly-listed companies in 2015. More than 200 institutional investors have joined the Stewardship Code and the share of firms on the Tokyo Stock Exchange that have followed the Corporate Governance Code by having at least two independent directors rose from 22% in 2014 to 80% in 2016.

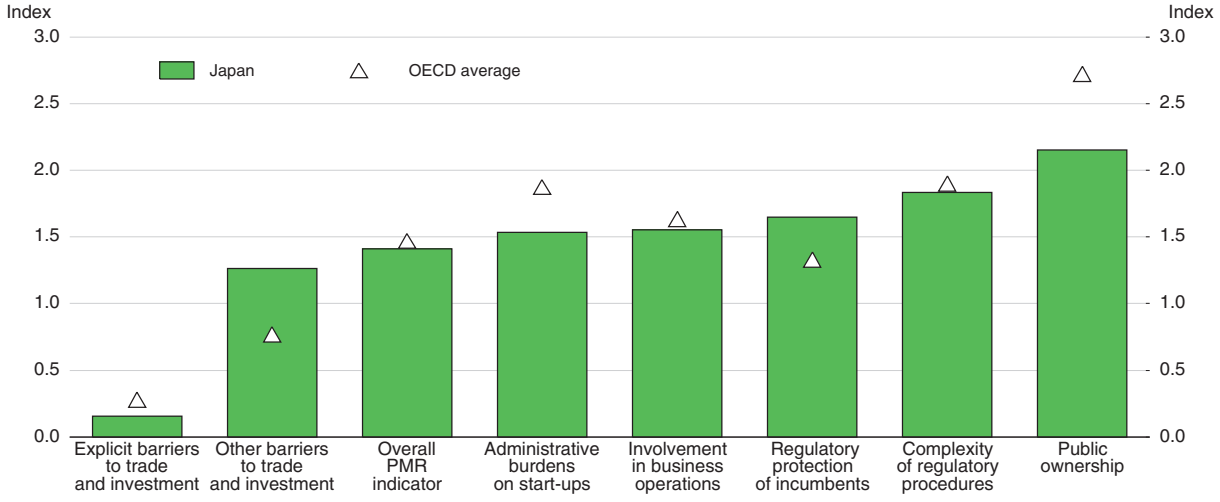
To realise the benefits of the new framework, the business sector, the Tokyo Stock Exchange and the government need to support its effective implementation. For the Stewardship Code to be more successful, the end asset owners could be further encouraged to join when appropriate. The Government Pension Investment Fund, which is by far the largest asset owner, has joined and outsourced its asset management activities to fund managers who have also adopted the Code. While other public pension funds and the Pension Fund Association have joined the Code, only one non-financial corporate pension fund has joined it thus far. A priority for corporate governance is to improve the performance of the board, in part by applying the principle that the boards "should analyse and evaluate its effectiveness as a whole… including the self-evaluations of each director" (TSE, 2016).

Accelerating the reform of product market regulation

Less stringent product market regulation (PMR) tends to raise aggregate productivity (Bouis et al., 2011). Reforms that lighten burdens on firms and increase the transparency of regulation support entrepreneurship and market entry. Less restrictive regulations can also narrow the gap between leading and lagging firms by allowing innovative new firms to attract the resources necessary to grow. Japan's PMR index in 2013 was slightly below the OECD average in 2013, but well above that of the leading countries (Figure 26). Priorities for regulatory reform in Japan include: i) reducing the high level of regulatory protection of incumbents; ii) reducing administrative burdens on start-ups toward the best-performing countries; and iii) reducing the complexity of regulatory procedures. Japan's 2016 Growth Strategy lists three priorities – National Strategic Special Zones (2015 *OECD Economic Survey of Japan*), corporate governance (see below) and labour market reform (see below).

Figure 26. **There is scope to align Japan's product market regulation with OECD best practice**

In 2013[1]



1. The OECD Indicators of Product Market Regulation are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition. Research shows that the indicators have a robust link to performance. The indicator, based on more than 700 questions, ranges from zero (most relaxed) to six (most stringent).

Source: OECD (2017h), *OECD Product Market Regulations Statistics* (database); Koske et al. (2015).

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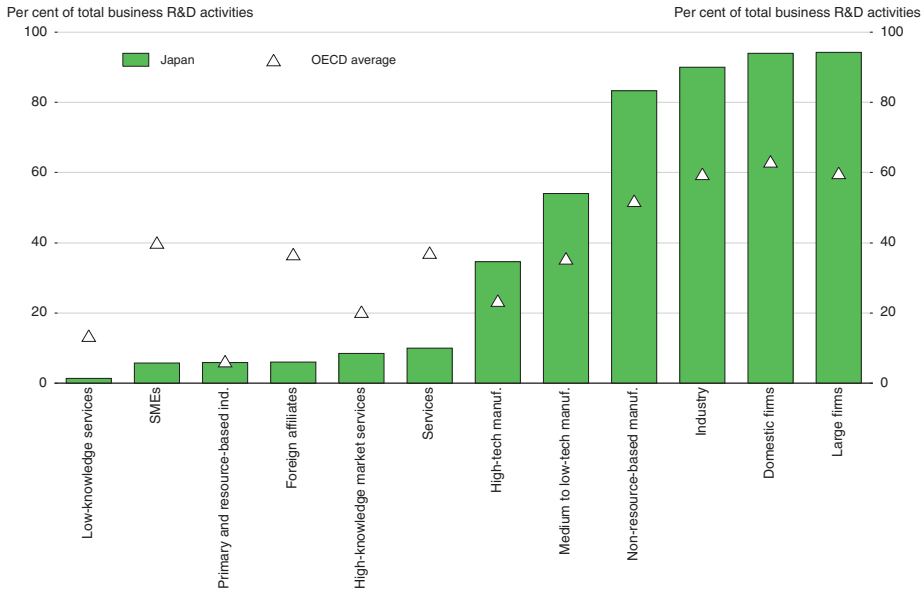
Improving the innovation framework

R&D spending in Japan was 3.6% of GDP in 2014, the third highest in the OECD, with the business sector accounting for three-quarters. R&D is concentrated in major corporations, while the share of SMEs is only 6%, compared to around 40% in the OECD (Figure 27). In 2010-12, the share of SMEs in Japan that introduced some form of innovation (47%) was significantly lower than in Switzerland (76%) and Germany (67%) (OECD, 2016e). In addition, R&D is focused in manufacturing, while that in services, both high and low-knowledge, is well below the OECD average (Figure 27). Innovation in Japan thus tends to widen productivity and wage gaps between manufacturing and services and between large and small firms.

Figure 27. **R&D spending is concentrated in large manufacturing firms**

In 2013



Source: OECD (2016h).

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Moreover, 99% of business-financed R&D is carried out in firms, leaving little room for co-operation with universities and government research institutes. R&D collaboration between universities and the business sector reduces the productivity gap between firms (Andrews et al., 2015). Such collaboration is especially important in SMEs and in services, as it provides smaller firms with direct access to sources of knowledge. Initiatives to encourage R&D collaboration between universities and firms are thus essential to raise both productivity and equality.

Upgrading human capital

Japan is a top performer in developing skills, but it falls short in using skills at work, which is equally important to translate skills into economic growth and productivity. This is particularly true for women, and even more so for younger cohorts with high education. Young women in Japan are more likely to have a tertiary degree than young men: in 2013, 61% of women aged 25-34 years had a tertiary degree compared with 56% of men. Japan ranked first in the OECD Survey of Adult Skills (PIAAC) in both literacy and numeracy skills of adult workers. However, the use of reading skills in the work place is close to the average, while use of numeracy skills is below average. Around 10% of Japanese workers are in jobs for which their literacy competency is higher than required (OECD, 2016e).

One reason is that women who attain a high level of qualification often work in jobs for which they are overqualified, particularly as non-regular workers. The PIAAC survey indicates that women in Japan face the highest probability of being overqualified at 32%, compared to the average of 20% in the countries that participated in the survey (OECD, 2013c). Overall, about one-fifth of Japanese workers report a mismatch between their existing skills and those required for their job, which is close to the norm in OECD countries for which data are available.

Skill mismatch and aggregate productivity are related through two channels: the impact on within-firm productivity and on the allocation of labour resources across firms. Trapping skilled labour in relatively low productivity firms makes it more difficult for more productive firms to attract skilled labour and gain market share. Mismatch thus slows the growth of new innovative firms, lowering aggregate labour productivity. Reducing the level of mismatch to the best practice in the OECD in each industry would boost overall labour productivity by around 4% in Japan (Adalet-McGowan and Andrews, 2015).

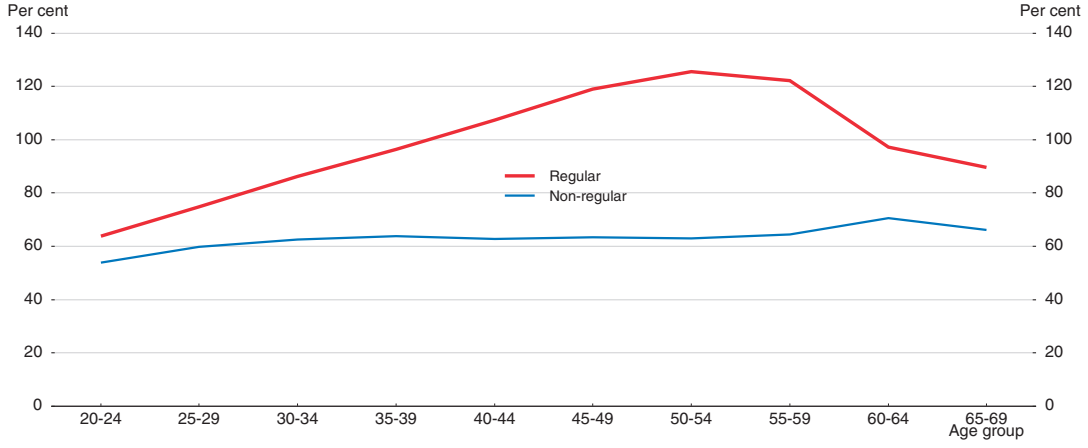
Reforming the labour market

Labour market dualism is the major cause of increasing income inequality in Japan (MHLW, 2012). Non-regular employment, a category that includes fixed-term, part-time and dispatched workers, rose sharply from 20.3% of total employment in 1994 to 37.5% in 2016. Firms hire non-regular workers to increase employment flexibility, given the difficulty of dismissing regular workers, and to lower labour costs. Non-regular employment is concentrated among women, who accounted for 68% of non-regular workers in 2015, as 56% of women working as employees are non-regular. The segmentation of the labour market into non-regular and regular workers is an obstacle to female employment. In addition, non-regular workers receive less training and opportunities for skill development than regular workers, reflecting the fact that many are temporary. This slows productivity growth and widens the productivity and wage gap between workers (Aoyagi and Ganelli, 2013).

After adjusting for type of job and educational attainment, the wage gap between full and part-time workers is 45% for men and 31% for women. The gap widens over time as regular workers build up seniority (Figure 28). For the 50-54 age group, regular workers make

Figure 28. **The wage gap between regular and non-regular workers is large**

Wage as a percentage of the average wage of regular employees[1]



1. In June 2015, excluding overtime payments and bonuses. Only 31% of non-regular workers received bonus payments in 2014, so the gap in take-home pay is even larger.

Source: Ministry of Health, Labor, and Welfare "Basic Survey on Wage Structure 2015".

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twice as much as non-regular workers. Among households with one earner, the poverty rate is 5% if the husband is a regular worker and 35% if he is a non-regular worker (Higuchi, 2013). The lower income of non-regular workers also discourages family formation and reduces the birth rate. Breaking down dualism requires a comprehensive strategy to lower employment protection for regular workers, in part by setting clear rules for the dismissal of workers, and to expand social insurance coverage and training programmes for non-regular workers, and raising the minimum wage (OECD, 2015a). Given the difficulty of reforming employment protection, Japan should follow the approach of Italy, which has "grandfathered" the existing rights of current employees, while introducing a single contract for new workers (OECD, 2017d).

Box 3. **Green growth challenges**

Japan's economy is less energy-intensive than the OECD average but the difference has narrowed (Figure 29). The energy mix has changed significantly since the 2011 Great East Japan Earthquake, resulting in the closure of nuclear reactors, which had supplied about a third of electricity. They were replaced by imported coal and gas, contributing to a 12% increase in GHG emissions over 2010-14, pushing emissions per GDP above the OECD average. Japan's Intended Nationally Determined Contribution aims to cut emissions by 26% from 2013 levels by 2030. Japan's planned energy mix is consistent with its GHG emissions target.

Reducing emissions depends to an important degree on nuclear energy, a low-carbon source, and the re-starting of nuclear power plants that are approved by the Nuclear Regulatory Authority. Today, only three reactors are in commercial operation. Nuclear safety requirements in Japan are now the most stringent in the world (OECD, 2016e). The regulator is reviewing 23 reactors for possible re-starting. Under the government plan, nuclear power will eventually produce 20-22% of electricity, about half of the pre-2011 target.

Renewables' share of Japan's total primary energy supply rose by less than 2 percentage points between 1990 and 2015 to reach 5.3%, about half of the OECD average (Panel B). The increase was driven by energy recovery from incineration of waste, while little use is made of solar or wind energy. The introduction of the Feed-in-Tariff system in 2012 has had little impact on the growth of renewables and the fixed long-term contracts at high prices under this system risk creating a serious financial burden on consumers and the government. The outlook for renewables also depends on the on-going reform of the electricity sector (2015 *OECD Economic Survey of Japan*).

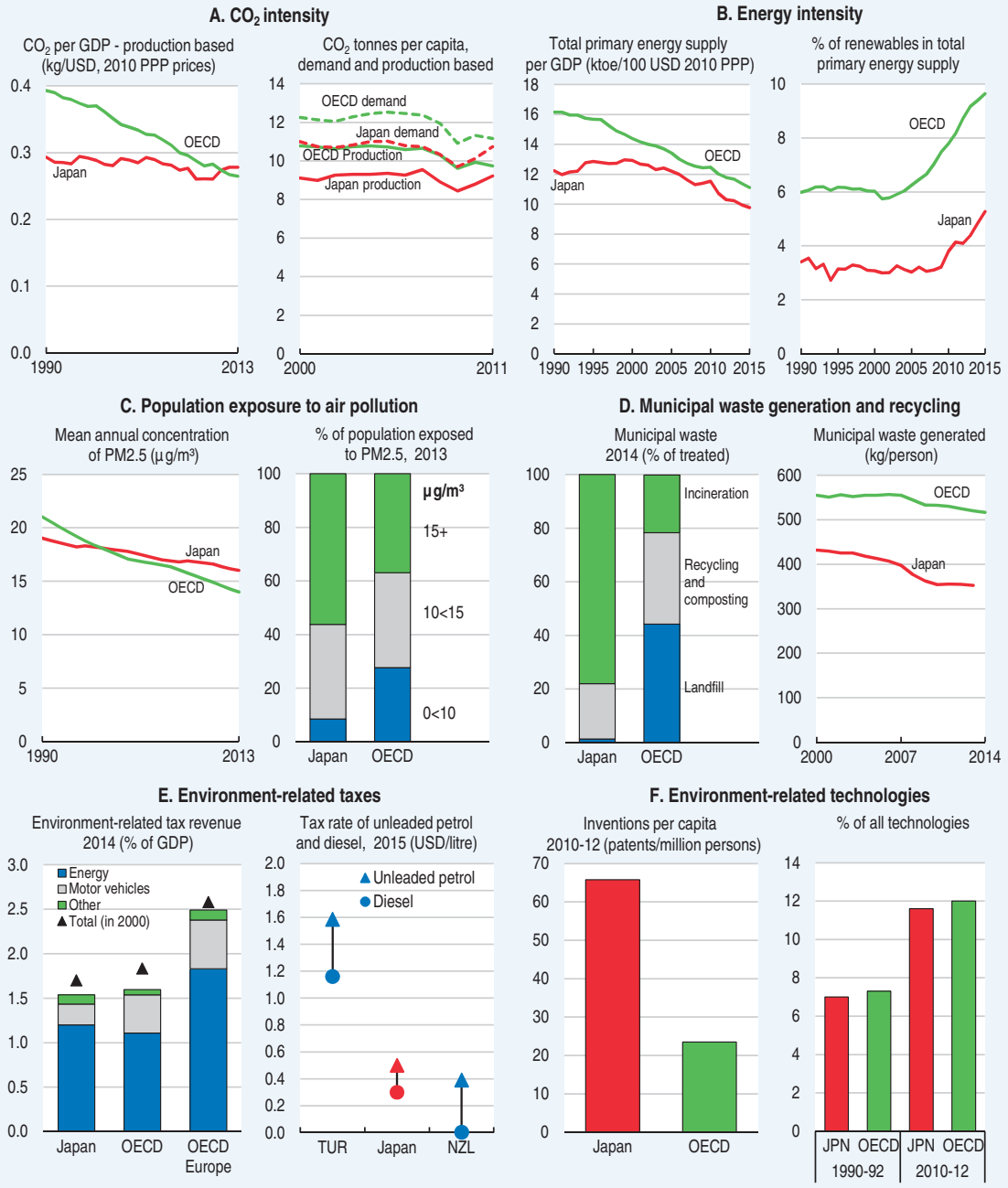
Japan is aiming at a significant improvement in energy efficiency comparable to that achieved after the oil shock. One of the tools to increase efficiency is further expansion of the energy efficiency standards set by the Top Runner Program, which is mandatory for manufacturers and importers. The Program, which was established in 1998, set efficiency targets over a time frame of three to ten years for cars and household electrical appliances, encouraging competition and innovation among manufacturers and importers. Construction materials were added to the Program in 2013 and nine products were included after 2013. The Top Runner Program is supplemented by the Efficiency Benchmark Program, which was extended to the distribution sector, including convenience stores, from FY 2016. It will be expanded to hotels and department stores from FY 2017. In FY 2018, it will cover 70% of energy consumption of all industries.

Extreme levels of annual exposure to air pollution are less frequent in Japan than in the average OECD country (Panel C). Nevertheless, average exposure to PM2.5 is higher than the OECD average. The overall trend is improving but falling behind the improvements made in most OECD countries.

Municipal waste generation is well below the OECD average, and the gap has increased since 2000 (Panel D). About one-third of such waste was sent to landfill in 1990 but now almost 100% is either recycled or incinerated. Landfill of other waste is also much reduced and nearly half is recycled, owing to regulations and promotion campaigns (OECD, 2010).

Box 3. **Green growth challenges** *(cont.)*

Figure 29. **Green growth indicators: Japan**



Source: OECD (2016c), *Green Growth Indicators* (database). For detailed metadata, *http://stats.oecd.org/wbos/fileview2.aspx?IDFile=02a134e1-c3ec-4c5c-9a05-4ebb41a60539.*

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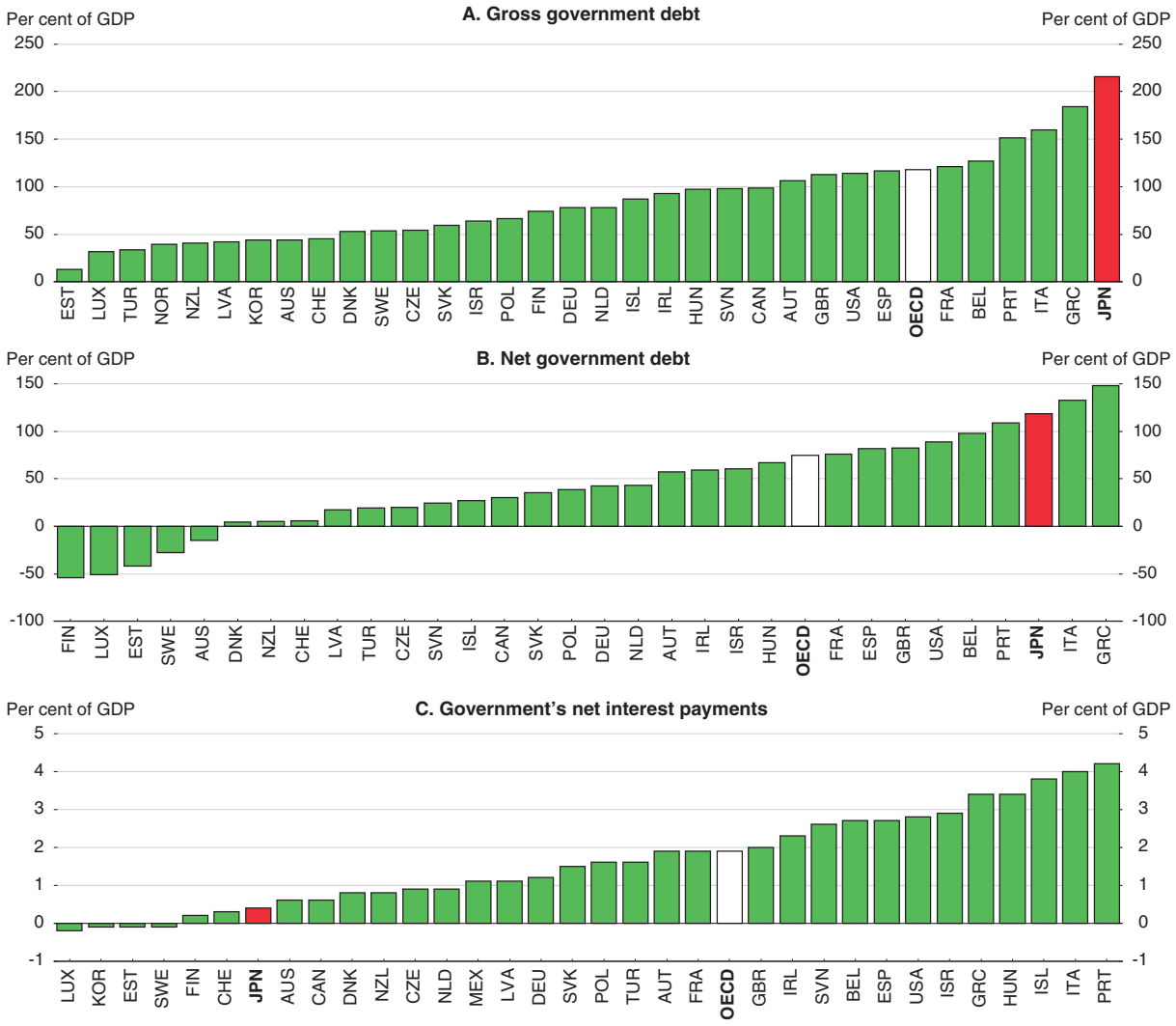
Environmentally-related taxes are also important to reduce GHG emissions and achieve other important environmental objectives, such as pollution reduction. Revenues from such taxes, primarily on energy and vehicles, have been stable in Japan at around 1.7% of GDP between 1994 and 2012, close to the OECD average (Panel E).

Putting the government debt ratio on a downward trend

Japan's gross government debt was 216% of GDP in 2015 (Figure 30), although net debt is substantially lower, given the government's large asset holdings. Nevertheless, net debt has also risen rapidly and was the third highest in the OECD at 118% of GDP in 2015 (Panel B). The primary deficit is projected to be close to 5% of GDP in 2017, further pushing up debt. The impact of high debt is mitigated at present by low interest rates, reflecting large-scale government bond purchases by the central bank, as well as persistent deflation, risk aversion and the home bias of investors. Indeed, net interest payments were only 0.4% of GDP in 2015, compared to the 2% OECD average (Panel C). However, the outlook for the government bond market once inflation reaches its target and central bank bond purchases are phased out is uncertain.

Figure 30. **Japan's government debt is the highest in the OECD but interest payments on the debt are low**

General government basis as a percentage of GDP in 2015



Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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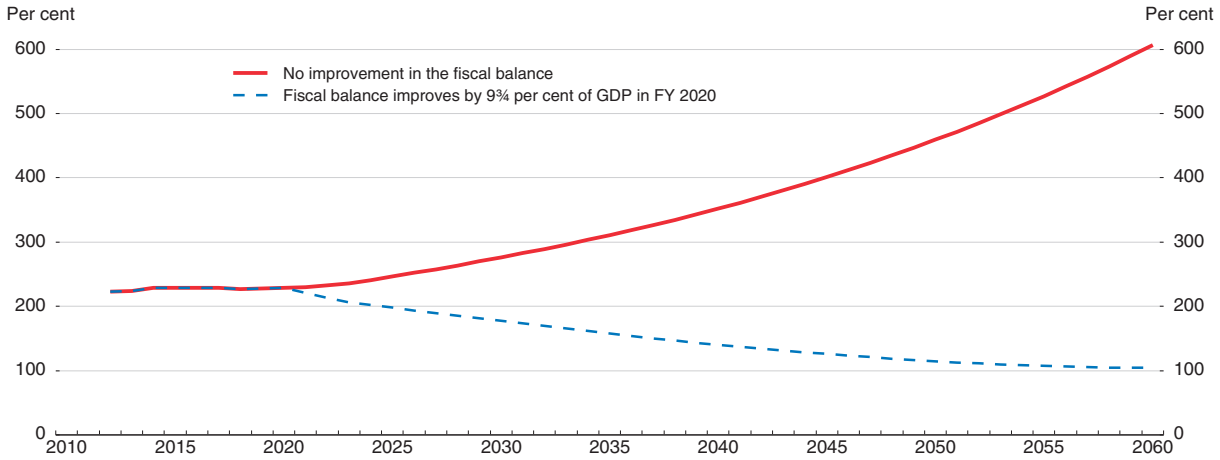
A simulation by the Fiscal System Council presents two alternative scenarios. Both assume that a small primary surplus (central and local governments) is achieved by FY 2020 and that government revenue and government spending that is not related to ageing remain constant as a share of GDP over FY 2020-60. Age-related spending is projected to increase from 24% to 31% of GDP over FY 2020-60, based on per capita benefit levels by age, taking changes in the population structure into account. In the first scenario, a primary surplus is followed by a fiscal consolidation of 9¾ per cent of GDP in FY 2020, reducing the government debt ratio to 105% of GDP in FY 2060 (Figure 31). In the second scenario, there is no fiscal consolidation over FY 2020-60, leading to a sharp increase in the debt ratio. This reaffirms the necessity of significant fiscal consolidation to ensure fiscal sustainability. The government has taken steps to raise revenue and reduce spending (Table 11), but much remains to be done.

Figure 31. **Long-run simulations of the government debt ratio**

General government basis; percentage of GDP on a fiscal year basis



Note: The economic assumptions for nominal and real growth and the long-term interest rate through FY 2024 are based on the "economic revitalization scenario" in the "Economic and Fiscal Projections for Medium to Long-term Analysis" by the Cabinet Office (July 2015 version). After FY 2024, assumptions are based on one of the cases in the "Actuarial Valuation of Employees' Pension Insurance and the National Pension in FY 2014" by the Ministry of Health, Labor and Welfare. The simulation is based on SNA 1993.
Source: Fiscal System Council (2015).

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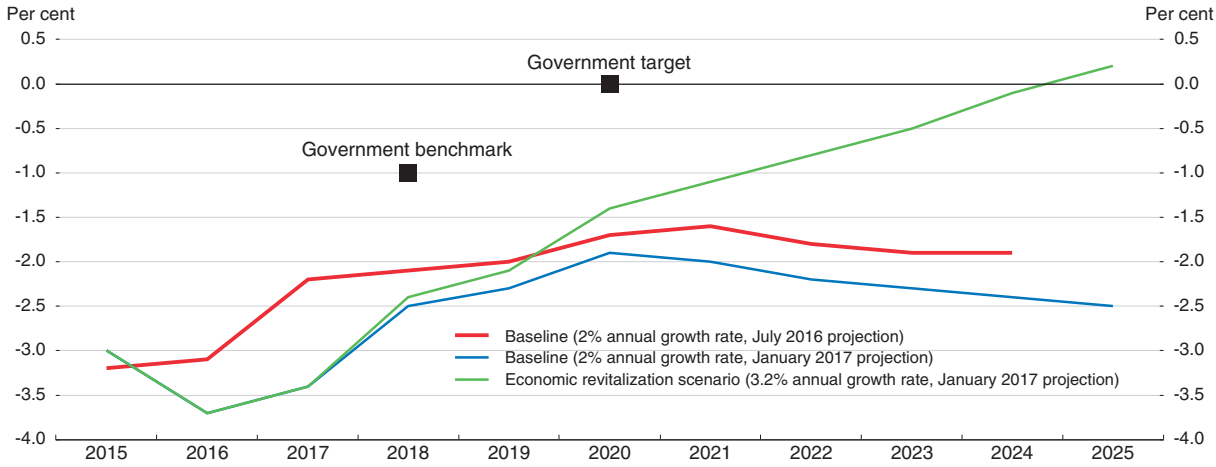
The government has a target of a primary surplus (central and local governments) by FY 2020. However, the government's most recent projection shows that the primary deficit of central and local governments may persist through FY 2024 (Figure 32). Under its baseline scenario, the primary deficit is projected to be 2.5% in FY 2025. It is important first to attain the fiscal plan's target of a primary surplus for central and local governments by FY 2020. The size of the primary surplus necessary to stabilise the debt ratio equals the level of debt multiplied by the gap between the nominal interest rate and nominal growth rate. If the gap were to match its average since 1980, Japan would need a primary surplus of around 2.5% of GDP (Table 12). With a primary deficit of 5% on a general government basis in 2017, the fiscal consolidation necessary to achieve a 2.5% primary surplus is around 7½ per cent of GDP.

Such a large-scale fiscal consolidation would be best achieved by a steady path of gradual consolidation that allows economic growth to continue. Achieving the 7½ per cent of GDP consolidation over a decade would imply a pace of ¾ per cent per year, which could be achieved by: i) a gradual hike in the consumption tax rate of 1 percentage point per year, boosting revenue by ½ per cent of GDP; ii) broadening the bases of the personal and

Figure 32. **Government projections show it failing to meet its fiscal targets**

Primary balance (central and local governments) as a percentage of GDP on a fiscal year basis



Note: The 2018 benchmark will be reviewed and addressed in light of the postponement of the consumption tax hike.
Source: Cabinet Office (2016b and 2017).

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corporate income tax and the inheritance tax for an additional ¼ per cent of GDP of revenue; and iii) freezing spending as a share of GDP, which may require spending cuts to offset increases in ageing-related spending.

The second objective of the government's fiscal plan is to put the government debt ratio on a downward trend from FY 2021. The simulation below (Figure 33) shows the path of the primary balance necessary to stabilise gross debt at 170% of GDP. Given the large gap between gross and net debt in Japan, this implies net debt of 72% of GDP, the OECD average in 2015. The simulation assumes consolidation at the ¾ per cent of GDP annual pace for various levels of the interest rate minus nominal growth (r-g).

- (r-g) at its long-term average of around 1% (for gross debt): this could result from an interest rate of 3% while nominal growth remains at the 2% rate of 2012-16. In this case, the primary surplus would peak at 10% in 2037 to reduce gross debt to 170% of GDP by 2048.
- (r-g) at -0.5%: this could be achieved by effective use of the third arrow to boost nominal growth above the interest rate. In this case, the primary surplus would peak at around 5% in 2031, stabilising gross debt at 170% in 2042.

Table 11. **Implementation of OECD recommendations to achieve fiscal sustainability**

Earlier OECD recommendations	Action taken or planned
Set out a detailed and credible plan to constrain government spending and raise revenues so as to achieve the target of a primary surplus by FY 2020.	The Economic and Fiscal Revitalization Action Program, announced in December 2015 and revised in 2016, contains 80 specific measures to reform major spending programmes.
Ensure the sustainability and inter-generational equity of the public pension scheme by increasing the pension eligibility age above 65 and fully applying macroeconomic indexation.	A carryover system for the macroeconomic indexation of pension benefits will be launched in FY 2018. Revisions that are cancelled in years of low inflation will be added later.
Reform social security to limit spending increases, particularly in health and long-term care, by increasing efficiency and raising co-payments, while taking account of equity implications.	In 2016, the government introduced the Health Technology Assessment for adjusting the price at which pharmaceuticals and medical devices are reimbursed by insurance. The number of hospitals adopting the Diagnosis Procedure Combination system increased from 1 505 in 2012 to 1 667 in 2016.

Table 12. **Fiscal assumptions to calculate the required amount of consolidation**

Improvement in the general government primary balance to stabilise the debt ratio (as a percentage of GDP)

Years	Average (r-g)[1]	Gross government debt ratio[2]	Primary balance target[3]	2017 primary deficit	Total required consolidation[4]
1980-2015	**1.2**	**215.8**	**2.5**	**-5.0**	**7.5**
1992-2015	1.7		3.8		8.8
1992-2002	2.8		6.1		11.1
2003-2015	0.8		1.7		6.7
Years	**Average (r-g)[5]**	**Net government debt ratio[2]**	**Primary balance target[3]**	**2017 primary deficit**	**Total required consolidation[4]**
1980-2015	**2.1**	**118.4**	**2.5**	**-5.0**	**7.5**
1992-2015	2.0		2.4		7.4
1992-2002	4.1		4.9		9.9
2003-2015	0.2		0.2		5.2

1. The average interest rate paid on gross government debt minus the nominal growth rate.
2. In 2015, the last year for which data are available.
3. The average (r-g) times the government debt ratio.
4. The primary balance target minus the 2017 primary deficit.
5. The average interest rate paid on net government debt minus the nominal growth rate.

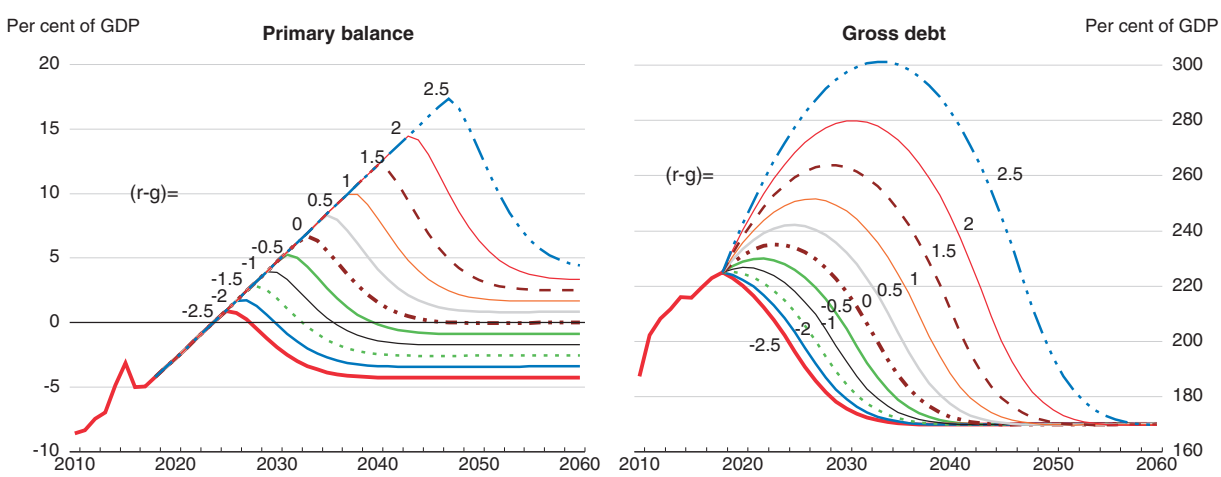
Source: Calculations based on OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

- An (r-g) of 2%: this could result from a rise in the risk premium, leading to an interest rate of 4%, while nominal growth remains at 2%. In this case, the primary surplus would peak at 14.5% of GDP in 2043, stabilising debt in 2054.

While these simulations are for illustrative purposes, the message is clear: stabilising net government debt at a level close to the current OECD average requires at least a decade of consolidation to achieve a large primary surplus. Faster output growth would reduce the size of the required fiscal consolidation effort, while higher interest rates would increase it. A slower pace of consolidation at ½ per cent per year would require a longer period of consolidation and take longer to stabilise the debt ratio.

Figure 33. **Sustained fiscal consolidation is needed to reduce and stabilise the government debt ratio**

The consolidation path is shown for different values of (r - g)[1]



1. A fiscal multiplier of -0.5 is associated with fiscal consolidation. This is consistent with Hamada et al. (2015), who estimate a multiplier for hikes in the consumption tax and the personal income tax of around -0.3 to -0.5.

Source: OECD calculations.

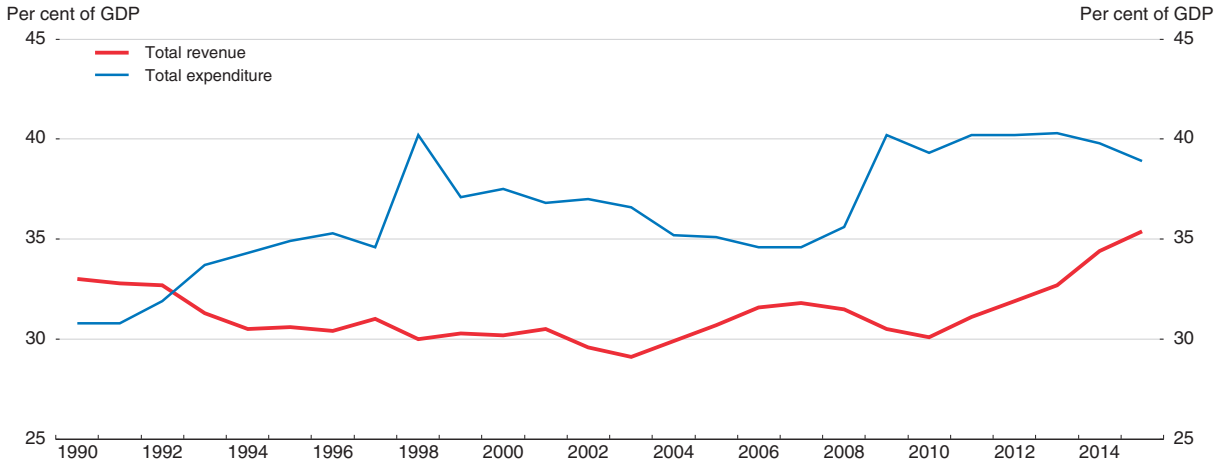
StatLink http://dx.doi.org/10.1787/888933469377

Achieving steady fiscal consolidation for a decade or longer requires political will and commitment, backed by public support. The sustainability of debt depends in part on whether the market believes that it is sustainable. To maintain confidence in Japan's public finances, the implementation of a more detailed and credible consolidation path that contains specific spending cuts and tax increases is essential. Such a commitment would be strengthened by improving the fiscal policy framework through a stronger legal basis for fiscal targets and expenditures (IMF, 2009). Many OECD countries have an independent fiscal council to improve policymaking, make clear the fiscal problems and help build public consensus for consolidation (OECD, 2012). Such an approach may benefit Japan as well, alongside a strengthening of the Council on Economic and Fiscal Policy.

Controlling the growth of spending while fostering inclusive growth

The origin of Japan's fiscal problem is the rise in spending from 31% of GDP in 1991 to as high as 40% (Figure 34). Since 1991, social spending increased rapidly from 11% of GDP to 23%, slightly above the OECD average. Around 80% of social spending is for pensions, health and long-term care – the second highest share in the OECD. Population ageing is projected to raise elderly-related social spending by another 7% of GDP over 2020-60 (Figure 35). A number of reforms are needed to slow the rise in spending.

Figure 34. **Government revenue has not kept up with rising expenditures**



Source: OECD (2017c), *OECD Economic Outlook: Statistics and Projections* (database).

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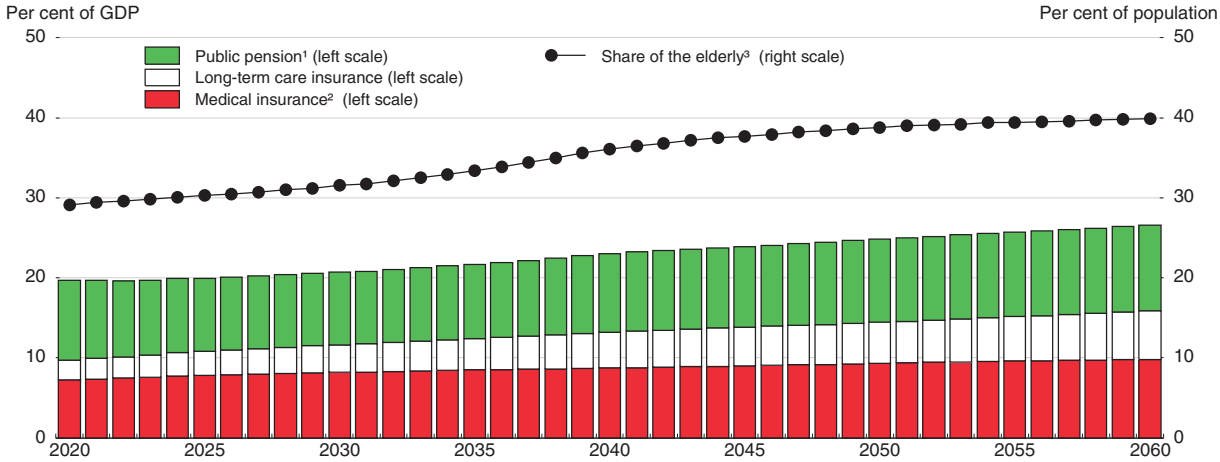
Policies to contain spending in the face of rapid population ageing

Transfers from the working-age population to the elderly are substantial: net average transfers to households with a person aged 60 and over were 1.9 million yen (USD 16 700) in 2009 (Figure 36), amounting to more than 40% of their disposable income. For households headed by a person under age 60, net transfers were negative, amounting to 1.1 million yen, 18% of their disposable income, with the heaviest burden on young adults. Over 1994-2009, the tax and social security burden as a share of disposable income rose, particularly among the working-age population (Panel B, left-hand side). Meanwhile, social security benefits increased significantly for the population aged 65 and over (Panel B, right-hand side). The transfers result in a high level of inter-generational inequality: a person born in 1940 receives 16.4% of lifetime earnings in net transfers, while one born in 2010 pays 12% (Panel C).

Figure 35. **Elderly-related social spending is projected to rise further**



Note: Fiscal System Council estimates based on the current framework, following the method of the European Commission (2012). Ageing-related spending is defined as programmes where per capita expenditure differs by age, such as pensions.

1. Public pension spending is based on the actuarial valuation by the Ministry of Health, Labor and Welfare (2014), Case C.
2. Medical assistance in the Basic Livelihood Protection Program is included in "medical insurance".
3. The population over age 65 as a share of the total population.

Source: Fiscal System Council (2015).

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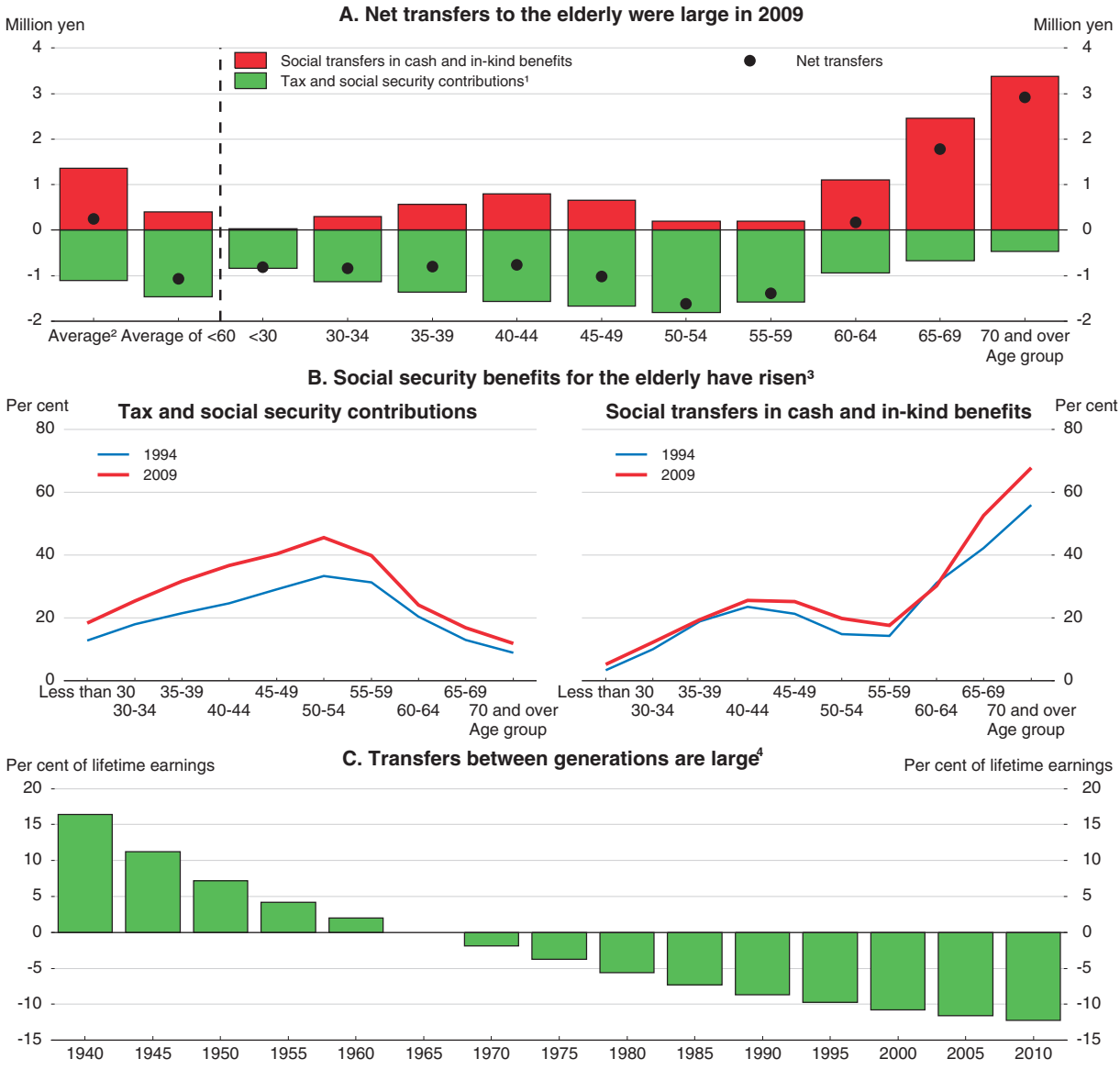
The large transfers significantly boost the income of older persons. For a household headed by someone aged 60 or over, disposable income was 95% of that for the under 60 age group (after adjusting for household size) in 2009 (Figure 37). In addition, older persons have relatively large assets: in households with a person age 60+, assets are nearly ten times the average household disposable income for the entire population, compared to only 4.3 times for households headed by a person under age 60 (Panel B). Social transfers and accumulated assets boost private consumption by the elderly above the working-age population (Panel A). Including in-kind benefits provided by the government, such as health and long-term care, "actual final consumption" of a household headed by someone over age 60 is one-third higher than for households headed by someone below age 60.

Keeping Japan's promises to provide pensions and health and long-term care to its current and future elderly citizens requires achieving fiscal sustainability. At the same time, it is crucial to protect the large number of elderly living alone and in relative poverty. Achieving social inclusion also depends on the well-being of the working-age population. The significant fall in the number of Japanese youth contributing to the basic pension and national health insurance, even though both are legally mandatory, suggests both increasing financial hardship and pessimism about the future. In a 2016 survey, only 21% of Japanese voiced optimism about the future of their country, with the major reason for pessimism being a perceived lack of measures to cope with the rapidly ageing and shrinking population (Geji, 2016). The following sections set out policy directions to achieve social inclusion and fiscal sustainability.

Health and long-term care. Healthcare spending (public and private), including long-term care, rose from 5.7% of GDP in 1990 to 10.8% in 2013, above the 9.0% OECD average, driven in almost equal measure by population ageing and rising costs per person. Over 2020-60, healthcare spending in Japan is projected to rise more than in major European countries that also face rapid population ageing. Japan's outlays in each category of

Figure 36. **The tax and transfer system redistributes income from the working-age to the elderly**



1. Includes the consumption tax.
2. For the total population.
3. As a percentage of average household disposable income.
4. For men covered by employee pension and health insurance and with a non-working wife. Employees' Pension Insurance premiums are assumed to rise steadily from 18.3% in FY 2017 to 23.8% in FY 2032, and to stabilise at that level. Other assumptions include: i) an investment yield of 2.5%; ii) 2% wage growth; iii) 1% inflation; and iv) lifetime wages of workers equal to 300 million yen.

Source: Hamada (2003 and 2012); Maeda and Umeda (2013), Suzuki (2014).

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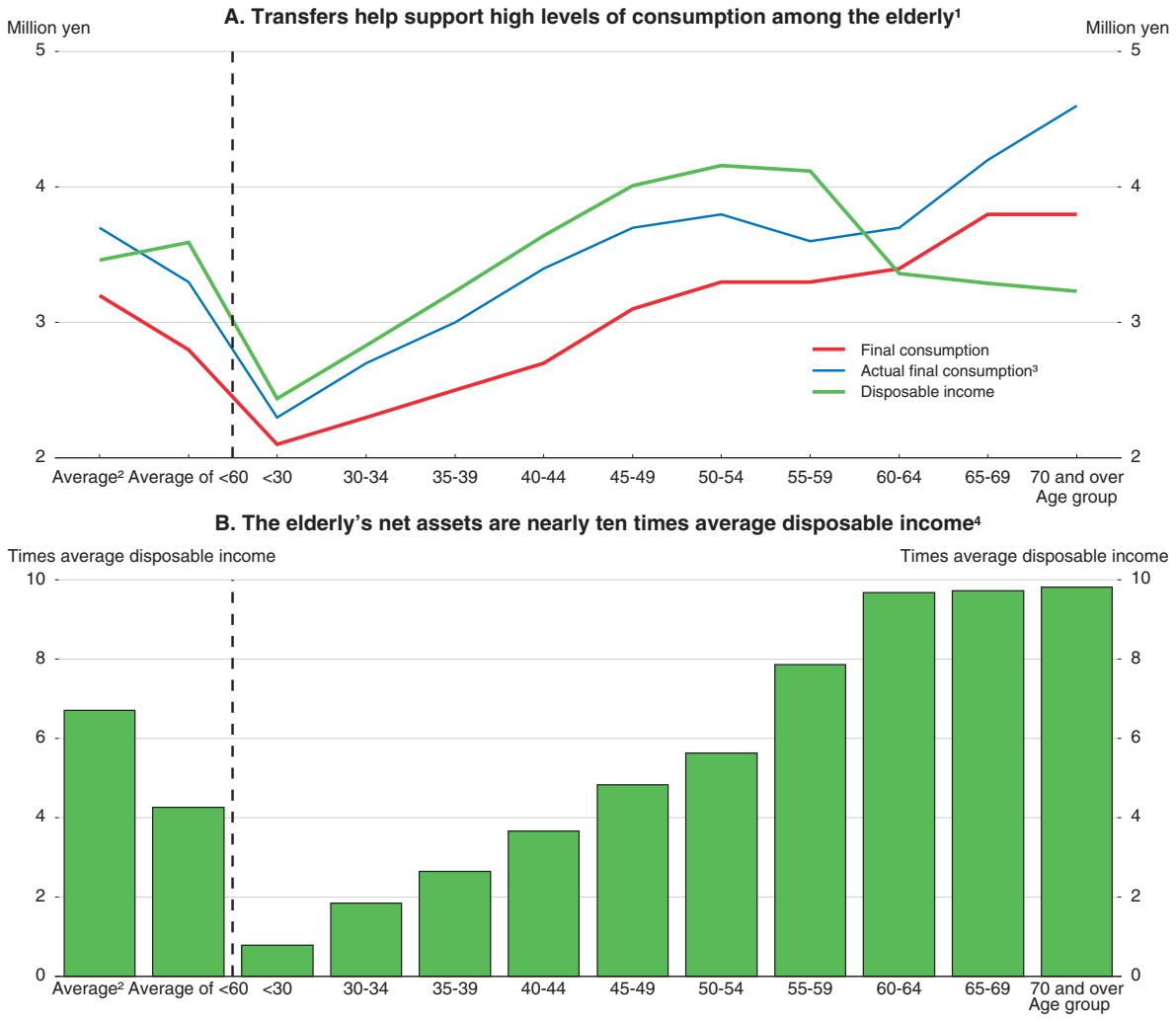
healthcare – medical goods, outpatient and inpatient care and long-term care – is already higher as a share of GDP than the OECD average, suggesting scope for savings.

Japan's per capita expenditure on pharmaceuticals is 47% above the OECD average. To reduce it, the use of generics should be expanded. Generics accounted for 34% of the pharmaceutical market in 2015 in volume terms in Japan, below the OECD average of 50%. Sales of generics should be increased by making them the standard for reimbursement by health insurance.

Figure 37. **Transfers and asset holdings support high levels of consumption among the elderly**

In 2009



1. Data are from SNA distribution statistics. Disposable income includes depreciation of fixed capital. Consumption (both final and actual final) includes imputed rent. Each series is on an equivalised basis (the square root of household size).
2. Average of total population.
3. Includes in-kind benefits provided by the government, such as health and long-term care and education.
4. As a ratio to average household disposable income.

Source: Hamada (2012).

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Japan stands out for its exceptionally frequent medical consultations, averaging 12.8 times per year per capita, almost double the OECD average (Table 13). Containing outpatient spending requires shifting from a fee-for-service to a pay-for-performance approach. In addition, out-of-pocket payments are low: private expenditures cover only 17% of the cost of consultations compared to the OECD average of 33%. Co-payments should be increased for both inpatient and outpatient care, especially for people aged 70 or more (as most pay only 10% versus 30% for the working-age population), while taking account of their income level.

The average hospital stay for acute care in 2014 was 16.9 days, the highest in the OECD (Table 13). The number of hospital beds in a prefecture is strongly correlated with the

Table 13. **International comparison of healthcare shows room for cost savings in Japan**

In 2014 or latest year available

	Number of doctor consultations per capita per year	Share of private expenditure on outpatient care (%)	Average total hospital stay[1]	Average hospital stay for acute care[1]	Total number of hospital beds[2]	Number of acute-care beds[2,3]	Number of long-term care beds[2,3]	Number of beds in long-term care facilities[2]
Japan	**12.8**	**17.1**	**29.9**	**16.9**	**13.2**	**7.9**	**2.7**	**6.2**
OECD average	6.8	33.3	8.3	6.4	4.7	3.6	0.6	7.3
Highest country	14.9	54.9	29.9	16.9	13.2	7.9	4.2	12.8
Lowest country	2.6	13.3	4.0	3.5	1.6	1.6	0.0	0.5

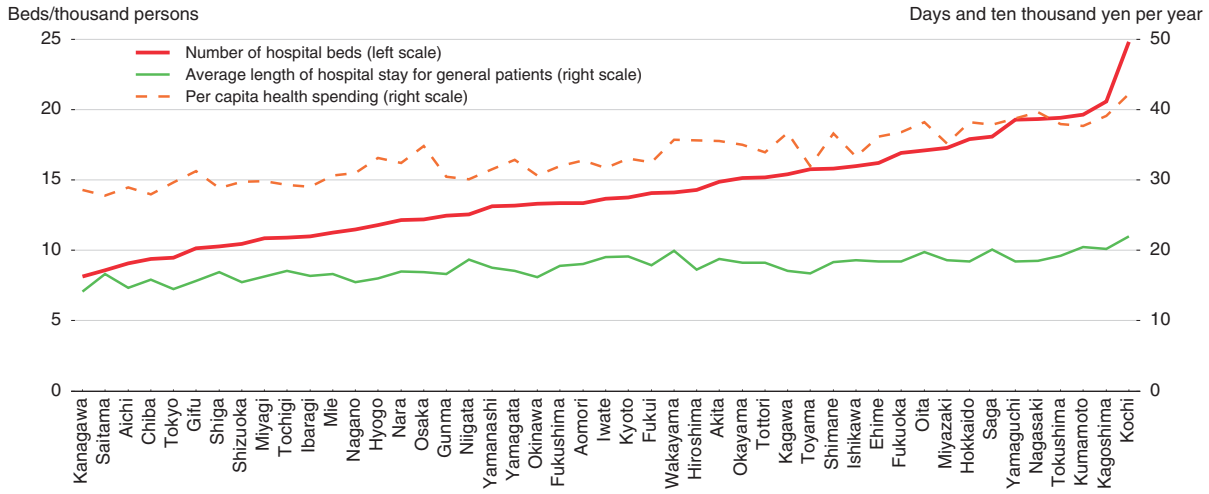
1. In days.
2. Per 1 000 population.
3. In hospitals.

Source: OECD (2017f), *OECD Health Statistics* (database).

hospitalisation rate, the average length of hospital stay and per capita healthcare spending (Figure 38). Reducing the number of hospital beds is thus a priority. Hospital costs could also be lowered by improving Japan's Diagnosis Procedure Combination (DPC), which sets standard treatment and fees for specific medical procedures. Its coverage of hospitals and medical procedures should be raised and fees based on the most efficient hospitals.

Figure 38. **The higher the number of beds, the longer are hospital stays, leading to greater health spending**

In 2014



Source: Cabinet Office, *Visualization Database*.

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A top priority is to take long-term care out of hospitals, which boosts the average hospital stay to 29.9 days, almost four times the OECD average (Table 13). In addition, only about half of hospital patients in acute-care beds receive healthcare, with the remainder just getting help with daily living (Tsutsui et al., 2015). Providing long-term care in hospitals is inefficient given its much higher cost. Long-term care insurance was introduced in 2000. Spending for long-term care was 2.0% of GDP in 2013 and it is projected to rise to 6.1% of GDP in 2060. About 18% of the elderly population is receiving care financed by the insurance, compared to the OECD average of 12%. Private expenditures covered 8.6%

of long-term care in 2013, about half of the 15.7% for healthcare spending in Japan. The coverage of long-term care insurance for the elderly with less severe needs should be reduced and responsibility for the system should be shifted from municipalities to prefectures. In addition, co-payment rates should be increased.

Public pension reform. Pension spending is projected to increase less than health and long-term care (Figure 35), owing to the 2004 reform that introduced "macroeconomic indexation", which adjusts pension benefits based on changes in the number of contributors and life expectancy. However, indexation has been applied only once. Macroeconomic and price indexation should be allowed to operate fully. The share of the population contributing to the mandatory basic pension has been low, at around 68% since 2002. The share of the population contributing is lower among youth and non-regular workers (Oshio, 2013). In addition, around a third of business entities legally required to participate in the Employees' Pension Insurance do not do so.

The Employees' Pension Insurance eligibility age will be raised to 65 by 2025 for men and 2030 for women, but will remain low compared to Japan's life expectancy of 83.7 years. Accelerating the increase in the eligibility age to 65 and raising it further would raise replacement rates (Table 14), improve intergenerational equality and boost output growth by increasing employment rates.

Table 14. **Raising the pensionable age leads to a large increase in the replacement rate**

Per cent

Cases[1]	Real GDP growth rate		Replacement rate[2] (%) in 2050 for pension eligibility age of:		
	FY 2014-23	FY 2024 onward	65 years	68 years	70 years
Case C	1.1	0.9	51.0	63.9	72.5
Case E	1.1	0.4	50.5	63.3	71.8
Case G[3]	0.2	-0.2	42.0	52.8	60.0
Case H[4]	0.2	-0.4	41.9	52.7	59.8

1. The table shows four of the eight simulations done by the Ministry of Health, Labor and Welfare (2014). Total pension benefit payments are fixed, resulting in variations in the replacement rate.
2. Pension benefit, including the impact of macroeconomic indexation, as a percentage of final earnings. The replacement rate was 62.7% in FY 2014.
3. For the retirement age of 65, the replacement rate is for 2058.
4. For the retirement age of 65, the replacement rate is for 2054.

Source: Adapted from the Ministry of Health, Labor and Welfare (2014).

Minimum income benefit reform. Japan's tax and benefit system has a limited effect on income inequality and relative poverty among the working-age population (2015 *OECD Economic Survey of Japan*). The key welfare programme, the Basic Livelihood Protection Program (BLPP), covers 1.6% of the population, only a small fraction of the population in relative poverty, although social insurance programmes also provide assistance. Limited coverage reflects strict eligibility criteria, which takes into account assets and the ability of family members to provide help. BLPP benefits are set on the basis of the consumption levels of the lowest-income families (the "minimum living standard"). Benefits are among the highest in the OECD, suggesting scope for broadening coverage and lowering benefits. Moreover, the high effective tax rate on persons leaving the BLPP to accept employment weakens work incentives. As argued in earlier *OECD Economic Surveys of Japan*, the top priority to reduce poverty and promote employment is an earned income tax credit (EITC), which

would reduce the number of working poor. Japan's share of households in relative poverty despite having two or more workers is the second highest in the OECD.

Controlling spending by local governments

Local governments are now required to pursue fiscal consolidation in tandem with the central government. Local spending has remained broadly unchanged in nominal terms during the past 20 years, as a decline in public investment was offset by social spending. Per capita expenditures in the highest-spending prefecture was 2.4 times greater than in the lowest-spending prefecture in 2014 (Figure 39), suggesting scope for savings. Differences in population density and the share of elderly explain some of the spending gap (Panel B). These factors will put further upward pressure on spending as accelerating population decline reduces density and the share of elderly continues to rise.

Local government tax revenue finances around a third of their spending, with other local revenue, such as user fees covering another third. Prefectures with high per capita spending have lower tax receipts. Central government transfers – notably the local allocation tax (LAT) – cover another third of local spending (Figure 39, Panel A). The LAT is higher in prefectures with higher per capita spending. The accumulated central government debt resulting from LAT was around 80 trillion yen (15% of 2016 GDP) since 1990 (MoF, 2015). The LAT is projected to rise by 1.5 times by 2030 (Cabinet Office, 2016c).

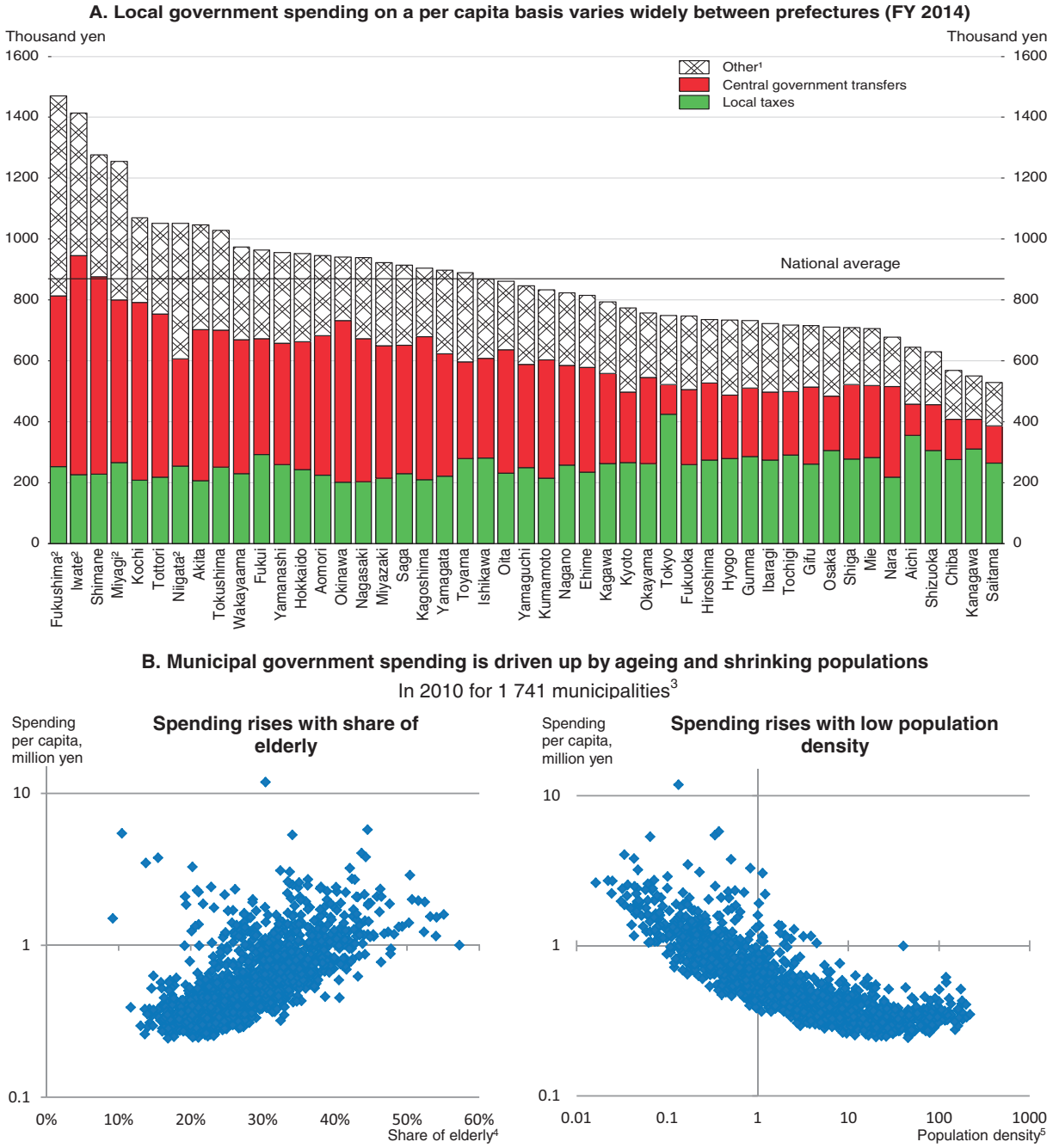
Achieving greater fiscal consolidation at the local government level requires greater fiscal discipline by strengthening fiscal rules, including spending limits, while reducing support to local jurisdictions facing financial troubles, so as to limit moral hazard. Financial markets should be allowed to play a more prominent role in disciplining local government behaviour through credit ratings in bond markets. This would require that the central government state clearly that it will not intervene as a lender of last resort to local governments and ensure that adequate information on local governments' outstanding debt and implicit liabilities is readily available. An effective solvency regime is also necessary.

One of the areas where local governments have scope for reducing spending is education, given the on-going fall in the number of school-age children. The decline in the number of children has outstripped that of teachers, reducing the ratio of students per teacher in primary and middle school close to the OECD average. The decline was intended in part to improve the quality of education, but also reflects disincentives for school consolidation in the LAT. Indeed, the cost savings of consolidation go primarily to national and prefectural governments, rather than to municipalities (Honda, 2012). By 2030, the school-age population (5-14) will shrink by another quarter, with the largest declines in prefectures with low class sizes, creating scope for school consolidation. A government study shows positive consequences of maintaining adequate class size on learning (MEXT, 2015).

Japan is an outlier in terms of its stock of public capital, which reached 107% of GDP in 2013, compared to between 34% and 65% of GDP in other OECD countries (Figure 40). The marginal return on additional public investment in Japan is estimated to be negative (Fournier, 2016). With public investment falling, the rising age of public infrastructure (Table 15) puts financial pressure on local governments (Panel B). Local authorities need to carefully select which infrastructure to keep open to limit maintenance costs in the context of a falling population.

Infrastructure maintenance costs should be reduced by promoting compact cities. Japan's National Spatial Strategy aims to develop compact cities through more effective

Figure 39. **Local government spending varies widely, influenced by ageing and population density**



1. Other includes local bonds, loan redemption income, transferred money, balances brought forward, user fees, commissions, etc.
2. Prefectures affected by the Great East Japan Earthquake (Fukushima, Iwate and Miyagi) received money from a fund financed by national treasury disbursements. The "other" category of Niigata prefecture is high because of the loan principal and interest income from the Niigata Prefecture Chuetsu Earthquake Reconstruction Fund.
3. Logarithmic scales, except for the horizontal axis in the left-hand panel.
4. Share of population aged over 65 in the total population.
5. In persons per square hectare.

Source: Cabinet Office (2016a); Cabinet Office, *Visualization Database*.

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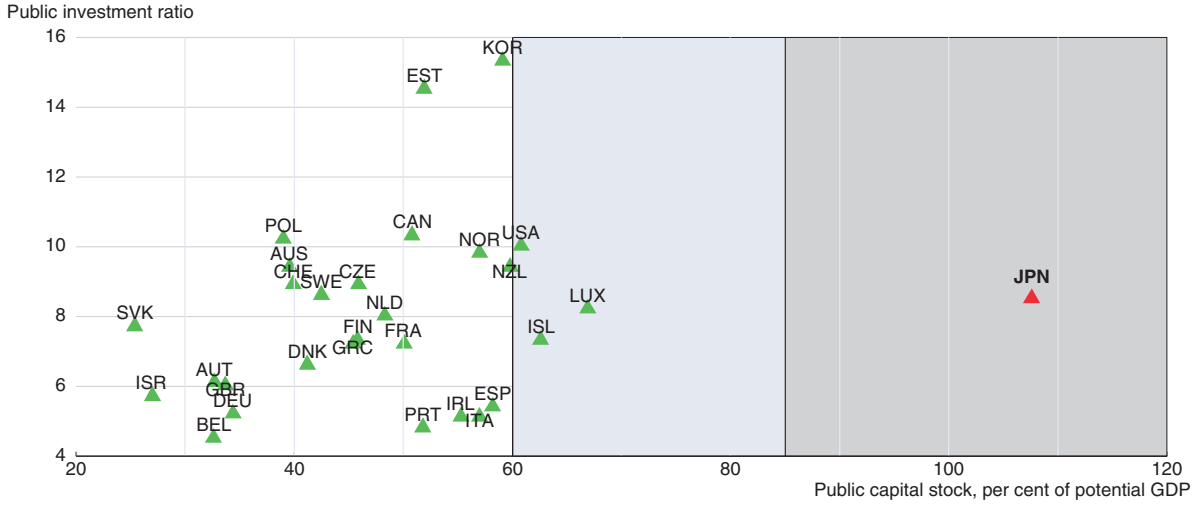
Figure 40. **Japan's stock of public capital is exceptionally large**



Note: Public investment is shown as a percentage of underlying primary public spending. The data on the capital stock, which are from the IMF Investment and Capital Stock Dataset, depend on the rate of capital depreciation. The IMF data can thus differ from national sources.
Source: Fournier (2016).

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application of land-use regulations (OECD, 2016i). Japan has launched Location Optimization Plans to encourage concentration of community amenities and housing, thereby limiting infrastructure spending (MLIT, 2016). The wide regional variation in the marginal productivity of public capital suggests that public investment should be more focused on projects with the highest returns (Cabinet Office, 2014).

Table 15. **The ageing of public infrastructure poses challenges for local governments**

A. Indicators of infrastructure ageing

Type of infrastructure	Local government share (%)	Share of assets over 50 years old (%)		
		2013	2023	2033
Roads and bridges (length>2 metres)	90.0	18	43	67
Tunnels	72.0	20	34	50
River management facilities	92.6	25	43	64
Sewerages	100.0	2	9	24
Port quays (water depth >4.5 metres)	100.0	8	32	58

B. Burden of roads, public buildings and sewage facilities by the size of municipality[1]

Size of municipality	Roadway per capita (m^2)	Future replacement cost[2]	Public building space per capita (m^2)	Future replacement cost[2]	Sewage capacity per capita (metres)	Future replacement cost[2]
National average	32.0	194.5	3.2	243.6	3.6	283.1
Major cities	21.6	73.8	3.4	201.1	2.7	215.1
Cities[3]	62.4	417.2	3.6	222.3	4.1	452.8
Towns[4]	242.1	860.0	10.6	295.6	6.3	986.0

1. Estimates are based on a Ministry of Internal Affairs and Communications survey of 111 local governments.
2. As a percentage of current expenditure.
3. Population of 50 000 to 100 000.
4. Population of less than 10 000.

Source: OECD (2016i).

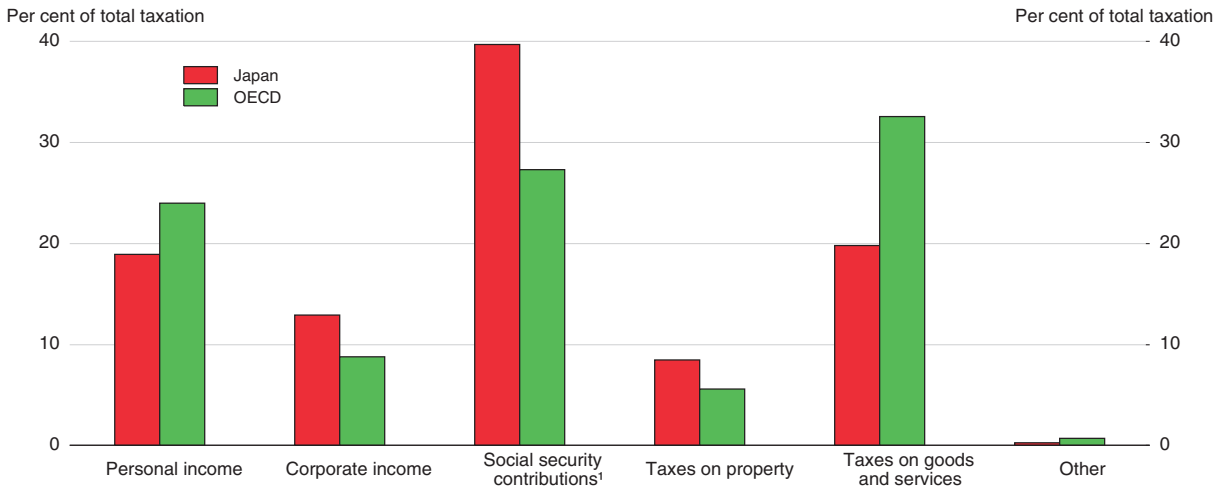
It is also important to increase the efficiency of local public corporations (LPCs), which provide services such as water and public transport. LPC spending equals about one-fifth of local government spending (OECD, 2016i) and it is largely financed by service fees and transfers from local governments. As the population falls, LPC fee income will decline, while the ageing infrastructure that they manage will require greater maintenance, further undermining their finances (MIAC, 2016). To achieve scale economies and profitability in LPCs, it is necessary to scale down by closing some of the existing facilities and merging LPCs across municipal lines.

Increasing revenue while fostering inclusive and sustainable growth

Ensuring fiscal sustainability also requires boosting revenue. Taxes and social insurance contributions in Japan amounted to 32% of GDP in 2014, below the 34% OECD average. Social security contributions and corporate income and property tax revenue are above the OECD average (as a share of total government revenue), while Japan stands out with low shares for taxes on consumption and personal income (Figure 41).

Figure 41. **Japan's taxes on goods and services, and personal income are relatively low**

In 2014 or latest year available in per cent of total taxation



1. Contributions include other payroll taxes.
Source: OECD (2017j), *OECD Tax Statistics* (database).

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Raising the consumption tax

The consumption tax is a relatively stable revenue source and is less harmful for economic growth (Arnold et al., 2011). Moreover, greater reliance on the consumption tax (a value-added tax) would improve intergenerational equity, as the elderly would bear a larger share of the burden. In short, a VAT is the most appropriate tax for raising additional revenue. Japan's VAT rate is the second lowest in the OECD at 8% and the planned hike to 10% has been delayed twice. If the 7½ per cent of GDP improvement in the primary balance were to be achieved solely through the consumption tax, it would have to rise to the European average of around 22%.

With the planned consumption tax hike to 10% in 2019, the government will introduce multiple rates in order to soften the regressive impact. However, multiple tax rates are not

effective, as the benefits are larger for high-income households (OECD, 2014). If the revenue foregone by introducing a lower rate were used instead to finance an earned income tax credit (EITC), the gains would be better targeted on low-income earners. Effective implementation of the identification numbers introduced in 2016 for taxpayers and those contributing to social security would enhance transparency about income, thus facilitating the introduction of an EITC.

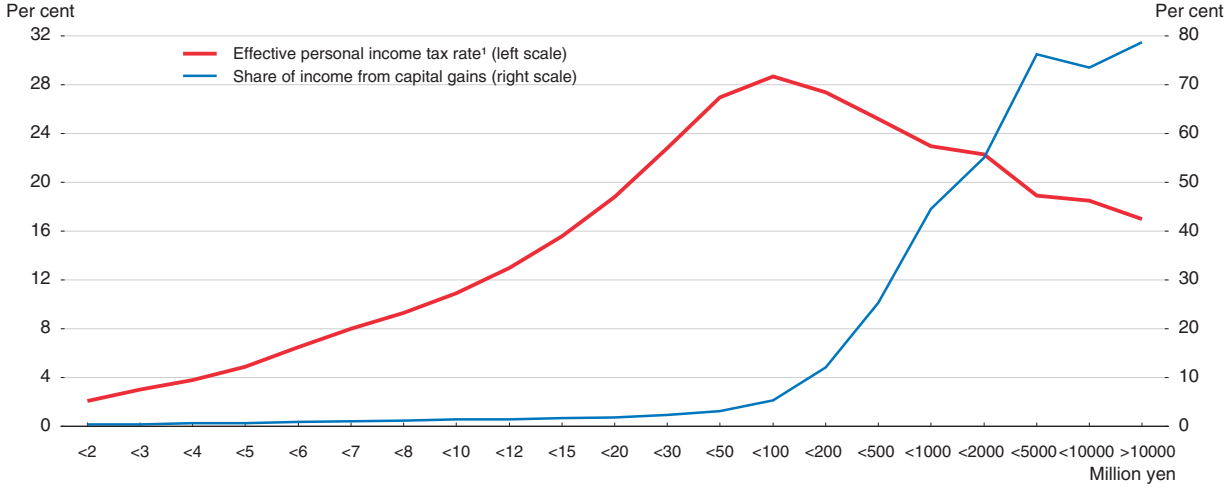
Reforming the personal income tax

Personal income tax revenue is low – at 19% of tax revenue compared to an OECD average of 24% (Figure 41) – because a large share of personal income is exempted. Indeed, less than half of the 260 trillion yen in personal income in FY 2014 was taxable due to deductions, notably for wages and public pension benefits. Many of the deductions favour high-income households. Increasing the share of personal income that is taxed, while taking account of fairness between employees and the self-employed, would make Japan's progressive tax rates more effective in reducing inequality.

In addition, raising taxes on capital gains and dividends would enhance the progressivity of the tax system. Indeed, the effective tax rate on personal income peaks at 28.7% for those with an income between 50 million and 100 million yen per year (USD 440 000 to USD 880 000) and then falls to 17.0% (Figure 42). The decline reflects the lower tax rate on capital gains, which are concentrated among high-income earners. Capital gains account for 78.7% of income for those with total income above 10 billion yen. Raising the tax rate to 25% for capital gains and dividends, as well as interest payments, would increase tax revenue (Morinobu, 2016) and offset the fall in the corporate tax rate. Strengthening inheritance taxes would also raise revenue and social cohesion. Even after the expansion of the inheritance tax base in 2015, only 8% of the deceased are taxed.

Figure 42. **The effective personal income tax rate on high earners is reduced by low rates on capital gains**

As a percentage of total income in 2014



1. Calculated by dividing personal income tax payments by total personal income, including earned income and capital gains. The data cover persons making personal income tax declarations (income taxed at source is not included).

Source: National Tax Agency.

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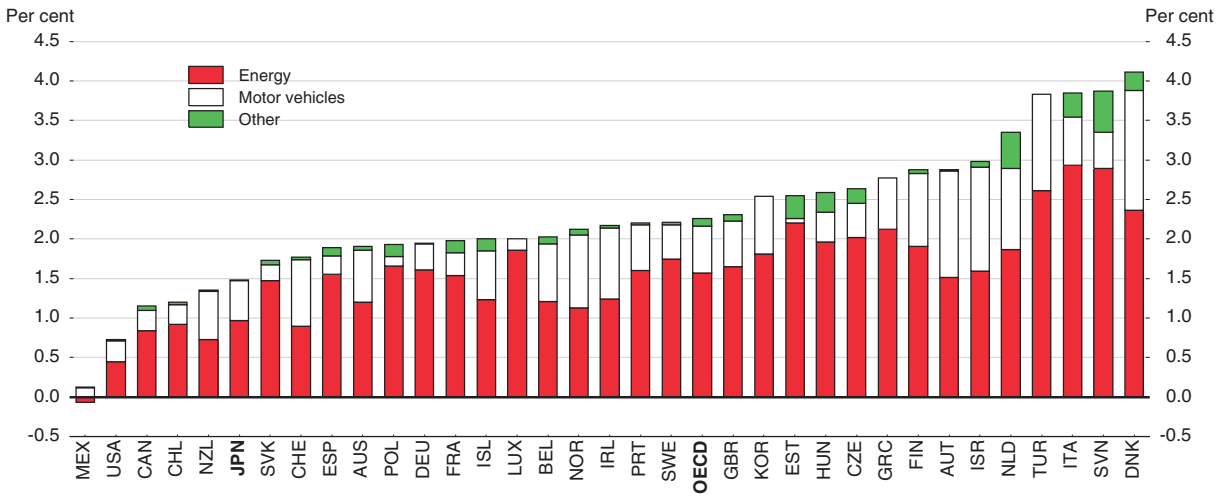
Raising environmentally-related taxes

Japan's economy has long been characterised by relatively high energy efficiency and low greenhouse gas (GHG) emissions (Box 3). However, the closure of the nuclear power plants resulted in a rise in the carbon intensity of Japan's energy mix since 2011. Japan's Intended Nationally Determined Contribution aims to cut the country's emissions by 26% from 2013 levels by 2030 by a comprehensive approach that promotes energy efficiency and the use of low-carbon energy sources, such as nuclear and renewable energy. Raising environmentally-related taxes would also boost revenue while helping to reduce GHG emissions and achieve other environmental objectives, such as improving air quality (2013 *OECD Economic Survey of Japan*). Japan has taken steps in this regard, notably by introducing the Tax for Climate Change Mitigation, which increased an existing tax on petroleum and coal in three steps in 2012, 2014 and 2016, with the revenues earmarked for renewable energy and energy conservation. However, in 2014, environmentally-related taxes were only 1.5% of GDP, the sixth lowest in the OECD and well below the mean (Figure 43), suggesting scope for raising revenue.

Figure 43. **Environmentally-related taxes in Japan are well below the OECD mean**

Per cent of GDP in 2014



Source: OECD (2016j).

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ANNEX

Progress in structural reforms

A. Enhancing dynamism and innovation in Japan's business sector

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Strengthen competition and improve the allocation of resources	
Upgrade corporate governance to increase pressure on management to act in shareholders' interests.	Over 200 institutional investors accepted Japan's Stewardship Code, and more than 2 000 listed companies are subject to the Corporate Governance Code. In 2016, 99% of listed companies on the first section of Tokyo Stock Exchanges appointed outside directors, and the three mega banks released numerical targets for reducing their cross-shareholdings.
Reduce product market regulation and promote labour market flexibility and mobility to promote the reallocation of resources in favour of innovative firms.	The government changed the focus of employment adjustment programmes from employment stability to support for labour mobility.
Increase Japan's integration in the world economy by removing obstacles to inflows of foreign direct investment.	In 2016, the government launched the "Policy Package for Promoting FDI into Japan to Make Japan a Global Hub". It includes the "Japanese Green Card for Highly Skilled Foreign Professionals," and Improving the living environment for foreign nationals in areas such as health and education.
Participate in high-level trade agreements, notably the Trans-Pacific Partnership and the Japan-EU Economic Partnership Agreement.	The Diet approved the TPP agreement in December 2016. Japan was the first of the 12 original TPP signatories to notify the Depositary in January 2017 that it had completed domestic procedures. Negotiations to create the Japan-EU EPA are continuing.
Upgrade the innovation system	
Strengthen the linkages between academia, the business sector and government research institutes.	In 2016, the government launched the Program on Open Innovation Platforms with Enterprises, Research Institutes and Academia (OPERA) to enhance university-industry partnerships to accelerate open innovation. It is funded by the business sector and the government.
Promote start-ups and venture capital-backed enterprises	
Improve the entrepreneurial climate by ensuring second chances and developing entrepreneurial education.	Japan Finance Corporation is expanding the targets of loan programmes for start-ups in FY 2017, providing second opportunities for entrepreneurs.
Revitalise venture capital investment to promote firm creation and innovation.	The tax system for business angels was introduced in FY 2014. Companies can get tax deductions by investing in funds that the government finds to be effective in supporting venture firms.
Make the small and medium-sized enterprise sector more dynamic	
Reduce government support for SMEs to promote the restructuring of viable firms and the exit of non-viable ones.	The government is preparing legislation to revise the Credit Guarantee System: i) requirements for banks to provide both guaranteed and non-guaranteed loans with a goal to reduce dependence on credit guarantees by increasing lending based on business evaluation and consultations with SMEs; and ii) the guaranteed portion of the Safety-net Guarantee No.5 (for depressed industries) will be reduced from 100% to 80%, in order to encourage business improvement by SMEs.
Develop market-based financing of SMEs.	The Japan FSA has announced a new direction to putting more emphasis on requiring financial institutions to support SMEs' business initiatives to improve their business.

B. Achieving fiscal consolidation while promoting social cohesion

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Develop a new fiscal consolidation plan	
Maintain the current medium and long-term fiscal targets *(i.e.* a primary surplus for central and local governments by FY 2020, while putting the government debt ratio on a downward trend during the 2020s).	The government maintains its fiscal targets. To achieve them, expenditures (including social security) were limited in the budgets for FY 2016 and FY 2017.
Set out a detailed and credible plan to constrain government spending and raise revenues so as to achieve the target of a primary surplus by FY 2020.	The government announced the Economic and Fiscal Revitalization Plan in June 2015, which includes a hike in the consumption tax and selling unnecessary assets. To implement the plan, the CEFP announced the Economic and Fiscal Revitalization Action Program, which includes spending reforms in 80 areas. The Program was updated in December 2016.
Increase government revenue, while promoting social cohesion	
Implement the planned doubling of the consumption tax rate in two stages to 10% by 2015.	The government increased consumption tax from 5% to 8% in April 2014, but postponed the planned hike to 10% from October 2015 to October 2019.
Rely primarily on the consumption tax with a single rate and a broadening of the personal and corporate income tax base to boost government revenue, while raising environmental taxes.	The final stage of the "Tax for Climate Change Mitigation", a tax on fossil fuels, was implemented in 2016. It will generate about 260 billion yen (0.1% of GDP).
Maintain a single rate for the consumption tax to avoid the distortions associated with multiple rates, while introducing measures, notably an earned income tax credit, to address the regressive nature of the tax.	Following the 2014 tax hike, benefits for low-income people are being provided until October 2019.The government plans to introduce a reduced rate system for low-income persons when the consumption tax is raised to 10% in October 2019.
Limit government spending while fostering socially-inclusive growth	
Reform social security to limit spending increases, particularly in health and long-term care, by increasing efficiency and raising co-payments, while taking account of equity implications.	In 2016, the government introduced cost-benefit analysis for adjusting the price at which pharmaceuticals and medical devices are reimbursed by insurance. The government requires prefectures to develop community health care visions by March 2017 that include projections for demand in 2025.
Ensure the sustainability and intergenerational equity of the public pension scheme, primarily by increasing the pension eligibility age above 65 and fully applying macroeconomic indexation.	Two reforms were made in 2016 to the method of calculating pension benefits: i) a carryover system for macroeconomic indexation will be introduced in FY 2018 so that benefit revisions that are cancelled in years of negative or low inflation are added later; and ii) the pension revision is based on wage growth when it is negative and less than CPI inflation beginning in FY 2021.
Improve the targeting of public social spending.	The June 2015 Economic and Fiscal Revitalization Plan established quantitative benchmarks of expenditure reforms, including 44 reforms related to social security. It was revised in December 2016.
Introduce an earned income tax credit, initially for wage earners, while expanding it to the self-employed as transparency about their income is enhanced.	No action taken.
Reform social welfare, notably the Basic Livelihood Protection Program (BLPP), by reducing benefits and enhancing work incentives while expanding its coverage.	Work incentives have been enhanced by the introduction of an in-work benefit – a lump-sum benefit to people leaving the BLPP and an expansion of employment support services.
Ensure adequate coverage of public assistance and co-ordinate the Basic Livelihood Protection Program (BLPP) and the "second safety net".	In 2015, the government implemented programmes to provide low-income people with consultation services to promote self-reliance. In FY 2015, 226 400 persons made consultations, 21 500 persons found jobs and 7 000 persons had increases in their salary.
Expand public loans for tertiary education to encourage students from low-income households to invest in higher education.	Public loans under the interest-free scholarship loan programme increased from 307 billion to 326 billion yen over FY 2014-16.
Build on the national surveys of well-being to identify the priorities and policies to improve well-being.	The government is identifying priorities and policies based on the "Japan Quality of Life Survey" conducted over 2012-14.
Improve the fiscal policy framework	
Strengthen the fiscal policy framework to maintain confidence in the fiscal situation and prevent a run-up in interest rates.	The government established the "Committee for Promoting the Integrated Economic and Fiscal Reforms" under the Council of Economic and Fiscal Policy. It manages fiscal reforms using a Plan, Do, Check, Action cycle. It prepared a detailed roadmap of the fiscal reform in 2015, and updated it in 2016.
Reform the fiscal policy framework through a multi-year budgeting plan and a stronger legal basis for fiscal targets.	Under the 2015 Economic and Fiscal Revitalization Plan, general account expenditures of the central government are based on benchmarks such as spending trends during the preceding three years. This is expected to limit annual spending increases to around 1.6 trillion yen through FY 2018, while taking account of the economic situation and price movements.
Ensure that the Council on Economic and Fiscal Policy (CEFP) functions as an effective impartial body to monitor and evaluate progress in fiscal consolidation.	The CEFP prepares the bi-annual economic and fiscal projections, the annual Basic Policies on Economic and Fiscal Management and Reform and the basic policy for the compilation of the budget.

C. Reforming agriculture and promoting Japan's integration in the world economy

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Move to a more market-based agricultural system	
Reduce commodity-specific payments to and reform the role of agriculture co-operatives.	The Direct Payment for Rice will be abolished in 2018.The Agricultural Cooperatives Law was amended to allow local agricultural cooperatives to freely conduct economic operations and focus on the improvement in the income of farmers.
Phase out the production adjustment programmes	
End the production adjustment programmes over a fixed and relatively short time period to allow farmers to decide how much and where to produce, thus allowing efficient farmers to increase production, while reducing production costs.	The production quota for table rice will be phased out by FY 2018 and the Direct Payment for Rice will be abolished in 2018. Subsidies for manufacturing and feed rice will continue, along with those for other crops, such as wheat and barley.
Introduce decoupled payments targeted to explicit objectives	
Shift from market price supports to decoupled payment targeted to key policy objectives, thereby reducing the overall cost of agricultural policies and shifting the burden from consumers to taxpayers.	The Direct Payment for Rice will be abolished in 2018. However, subsidies will continue for other crops, such as wheat and soybeans.
Integrate existing support for producing specific commodities into the transitory income support for large farmers.	Subsidies will continue for crops, other than rice, such as wheat and soybeans.
Promote the consolidation of farmland to lower production costs	
Promote the consolidation of farmland so as to cut production costs by lifting obstacles to land transactions.	The "farmland consolidation banks", introduced in all prefectures in November 2014, had leased around 101 000 hectares (2% of Japan's farmland) by the end of FY 2015.
Develop an efficient farmland market to remove obstacles to needed structural adjustment, in part by allowing non-farm corporations to own farmland.	The limit on the number of voting rights held by non-farmers within agricultural corporations that are eligible to own farmland was raised in FY 2016.
Reform the tax system to discourage the holding of idle farmland near urban areas.	The tax on idle farmland was raised and the tax on farmland leased to farmland consolidation banks was reduced.
Ensure food security	
Ensure food security through a more dynamic and competitive agricultural sector, a diversification of trade partners to ensure access to stable supplies of imports, emergency reserves and the preservation of the agricultural resource base.	The new Basic Plan for Food, Agriculture and Rural Areas introduced in FY 2015 included the diversification of trade partners and ensuring adequate stockpiles.

D. Promoting green growth and restructuring the electricity sector

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Upgrading supervision of the nuclear industry and electricity sector	
Ensure that the newly-created Nuclear Regulation Authority (NRA) is independent from line ministries responsible for energy issues.	The careful and deliberate consideration of nuclear plants' compliance with new safety regulations by the NRA, which is legally independent, shows that it is independent in practice.
Require nuclear plants to meet the criteria established by the NRA before being allowed to reopen.	As of October 2016, only eight reactors had received approval to meet the new regulatory requirements, which is a prerequisite for re-starting. The NRA is reviewing the applications of the remaining 17 plants to ensure that they meet the requirements.
Create an independent regulator for the electricity sector that is at arms' length from line ministries.	The Electricity and Gas Market Surveillance Commission (EGC) was established in September 2015 to promote competition in these markets. The Minister for Economy, Trade and Industry appoints private-sector experts to the EGC.
Improve and expand market mechanisms in the energy sector	
Introduce ownership unbundling to create a level playing field between regional monopolies and new entrants.	The amendment of the Electricity Business Act in June 2015 will implement legal unbundling, along with a code of conduct, by FY 2020. The EGC enforces strict regulations to ensure the neutrality of the electricity network.
Expand interconnection capacity, including frequency converters, and introduce real-time pricing to break down regional monopolies and create a competitive, nationwide electricity market.	Expansion of the capacity of the frequency converters is planned for 2019-21. The Organisation for Cross-regional Co-ordination of Transmission Operators and the EGC were established in 2015.

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Shift to definite-quantity contracts and real-time pricing to promote a competitive, nationwide market.	The full liberalisation of the retail market for electricity in 2016 resulted in nearly 400 new entrants competing in the market.
Promote the role of renewable energy to accelerate green growth	
Ensure that the newly-established feed-in-tariff (FIT) system provides appropriate incentives, including for R&D.	The FIT led to an increase in the share of renewable energy capacity to 12% of power generation in FY 2014. In 2016, the government revised the FIT to reduce the burden on the public.
Expand interconnections and use of smart grids to effectively manage electricity produced from renewable sources.	In 2015, the Organisation for Cross-regional Cooperation of Transmission Operators established development plans to strengthen grid capacity.
Improve policies to address climate change	
Continue efforts to achieve a comprehensive, fair and effective international agreement for the post-Kyoto framework that includes all developed and major developing countries.	In July 2015, Japan's submitted its Intended Nationally Determined Contribution, which aims to reduce the country's emissions by 26% from 2013 levels by 2030. Japan accepted the Paris Agreement in November 2016.
Introduce carbon pricing through an emissions trading system in combination with a carbon tax to promote investment in green technologies, including renewables.	The "Tax for Climate Change Mitigation", a tax on fossil fuels introduced in 2012, was hiked in 2016. In the J-credit system, 356.6 million tonnes of credit was certified and 103.7 million tonnes of credit refunded since its creation in 2013 and 2016.
Make greater use of environmentally-related taxes.	The final stage of the "Tax for Climate Change Mitigation", a tax on fossil fuels, was implemented in 2016. The revenue is used to support renewable energy and energy conservation.
Non-price instruments	
Improve energy efficiency policies, such as the Top Runner Program, in the short run, while phasing them out as market-based instruments become effective.	Nine products were added to the Top Runner Program after 2013. The Efficiency Benchmark Program was extended to the distribution sector, including convenience stores, from FY 2016, and will be expanded to hotels and department stores from FY 2017. In FY 2018, it will cover 70% of energy consumption of all industries.
Promote the innovation and diffusion of energy-saving and abatement technologies by supplementing private R&D with public investment focused on infrastructure and basic research.	The Cabinet Office Council for Science, Technology and Innovation formulated the National Energy and Environment Strategy for Technological Innovation towards 2050.

E. Labour market reform

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Encouraging labour market participation of women, the elderly and youth	
Reform aspects of the tax and social security system that reduce work incentives for secondary earners.	The government plans to raise the upper limit on second earner's earned income for the spouse deduction in 2018 and introduce an upper limit on the first earner's earned income.
Increase the availability of affordable, high-quality childcare and encourage better work-life balance, in part by reducing working hours and enforcing the Childcare and Family Care Leave Law.	Childcare places for 0.5 million children are being added over FY 2013-17. After-school childcare centres will provide care for 0.3 million children by end-FY 2019.
Encourage better work-life balance, in part by better enforcing the Childcare and Family Care Leave Law.	The Childcare and Family Care Leave Law, which included the shortening of working hours for parents of young children and the establishment of family-care leave, was extended to employees in all firms in July 2012.
Encourage greater use of flexible employment and wage systems to improve working conditions for older workers, in part by abolishing the right of firms to set mandatory retirement at age 60.	The FY 2012 revision to the labour law, which requires firms to keep all workers who wish to work until 65, had been implemented in 99.5% of companies by June 2016. The government provides subsidies to firms that expand job opportunities for older workers.
Improve vocational education, in part by creating a standard qualifications system that is recognised by firms.	In FY 2019, the government will launch a new system of higher educational institutions to provide practical vocational programmes.
Breaking down labour market dualism	
Expand the coverage of non-regular workers by workplace-based social insurance systems, notably by improving compliance, to reduce the cost advantages of non-regular workers and improve their security.	Coverage of the Employees' Pension Insurance and company-based health insurance was extended to around 250 000 non-regular workers (1.3% of the total) starting in October 2016.

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Increase training and career consultation to enhance human capital and the employability of non-regular workers as well as to promote their transition to regular employment, thereby improving Japan's growth potential.	A FY 2012 law requiring that fixed-term contracts renewed repeatedly be transformed into open-ended contracts once they exceed five years, if the employee requests, will become binding in 2018. However, this may encourage firms to let fixed-term workers go rather than shift them to regular status. The government set numerical targets in 2016 to reduce the number of part-time workers.
Prevent discrimination against non-regular workers.	To ensure equal work and equal pay, government plan to issue guidelines and revise the law in early 2017.
Reduce the effective employment protection for regular workers so that firms can realise adequate employment flexibility without hiring increasing numbers of non-regular workers.	No action taken.

F. Improving the education system

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Improve educational outcomes	
Invest more in ECEC to expand quality and quantity and reduce the disadvantages of children from low-income families.	The government plans to spend an additional 0.7 trillion yen, financed by the hike in the consumption tax rate, on ECEC.
Increase transparency about the performance of the tertiary sector, including labour market outcomes of graduates, to strengthen competition.	Since 2015, the "University Portrait" provides information about students' job outcomes, facilities and academic specialities.
Increase value for money	
Facilitate the consolidation of the tertiary sector.	The Central Council for Education recently started discussions on how to implement structural reform to provide high-quality education in the context of a falling number of youth.
Liberalise restrictions, including those on tuition, student caps and programme changes, while assuring equity and quality.	The government revised regulations in 2016 to promote the acceptance of foreign students at Japanese universities to promote the internationalisation of Japanese universities.
Reduce burdens on household and reverse the rising trend in inequality	
Raise the public share of spending on ECEC.	The government plans to spend an additional 0.7 trillion yen, financed by the hike in the consumption tax rate, on ECEC.
Lower the burden of out-of-school education by developing low-cost alternatives.	Learning assistance services for children from poor households is provided by the 2015 Act for Supporting the Self-reliance of Poor Persons. In FY 2017, it will be implemented in about half of the municipalities throughout the country. The government also encourages local boards of education to support out-of-school education.
Reduce reliance on private, after-school lessons, particularly in *juku*, in part by increasing school quality, and increase the accessibility of students from low-income families to after-school lessons.	To support children who fail to keep up in school due to economic or family reasons, the coverage of "Chiiki-Mirai-Juku, which provides study support free of charge, in principle, by local residents and the Internet, will be extended to half of all junior high school districts by FY 2019.
Expand public loans for tertiary education to cover a higher share of students.	Public loans under the interest-free scholarship loan programme increased from 307 billion to 326 billion yen over FY 2014-16. A grant scholarship (which does not need to be paid back) will be implemented beginning in FY 2017.
Make repayment of student loans income-contingent.	A new version of the income-contingent repayment system for interest-free scholarship loans, which allows monthly repayment amounts to fluctuate according to graduates' incomes, will be introduced in FY 2017.
Enhance links between labour market and education	
Create vocational qualifications that are recognised by firms.	The National Trade Skill Test (which covers 127 types of jobs) awarded 270 000 certificates in 2015 to those who passed the theoretical and practical tests.
Expand the vocational training role of universities, which are educating an increasing share of young people.	The Brush-up Program for Professionals was started in 2015 to certify programmes that meet the needs of firms and workers. A new system of institutions of higher education to provide practical vocational programmes will begin in FY 2019.
Expand the contribution of tertiary sector to innovation	
Boost the share of public research funds for universities that is allocated competitively.	The 5th Science and Technology Basic Plan in 2016 aims at achieving more effective use of government research grants.

G. Improving health care to limit costs and raise quality

Recommendations in previous *OECD Surveys of Japan*	Actions taken or proposed since 2015 by the authorities
Containing the growth of spending and financing it efficiently	
Promote the shift of long-term care away from hospitals toward more appropriate mechanisms using the fee schedule and closer monitoring of the classification of patients in hospitals.	The government failed to reach its target of shifting hospital beds to long-term care facilities.
Improve the payment system by reforming the Diagnosis Procedure Combination (DPC), extending its use more broadly and modifying the reimbursement for outpatient care.	The number of hospitals adopting the DPC system increased from 1 388 in 2010 to 1 667 in 2016.
Expand the use of generic medicine, for example by moving towards making them the standard for reimbursement.	The 2016 Economic and Fiscal Revitalization Action Program calls for greater use of generics.
Use monetary incentives, notably higher tobacco taxes, to encourage healthy ageing.	No action taken, although the FY 2012 tax reform stated that the tobacco tax rate needs to be raised in the future.
Introduce gatekeepers to reduce the number of unnecessary consultations with specialists.	No action taken.
Consolidate health insurers to reduce administrative costs and increase quality, while strengthening effective competition for the Social Insurance Medical Fee Payment Fund.	A 2012 law promotes each prefecture's management of the National Health Insurance in order to promote financial stabilisation and reduce disparities in insurance premiums.
Relax the rules that prevent equity finance to facilitate the restructuring of the hospital sector.	No action taken.
Shift toward general tax revenue to finance healthcare for the elderly to avoid unduly increasing labour costs.	The 2014 consumption tax hike is providing 1.6 trillion yen to strengthen health and long-term care, partly by subsidising premiums of low-income earners.
Enhance the quality of health care	
Expand mixed billing to make treatments not yet covered by public health insurance more affordable, while addressing the inequality in premium payments to promote equality.	No action taken.
Addressing the imbalances in the health-care system	
Set fees based on rigorous cost and productivity studies.	No action taken.
Reconsider wide usage of measures linking medical university education and the assignment of the working place of doctors.	The government has allowed medical universities to increase enrolments by 592 students since FY 2010 if they commit to working in specific regions after graduation. By April 2016, a regional medical support centre to help secure doctors had been established in all prefectures.
Ensuring universal coverage in the context of rising relative poverty	
Improve compliance in paying premiums.	No action taken.
Ensure that low-income households – even those not qualifying for public assistance – receive health insurance benefits.	No action taken.

Thematic chapters

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Chapter 1

Boosting productivity for inclusive growth

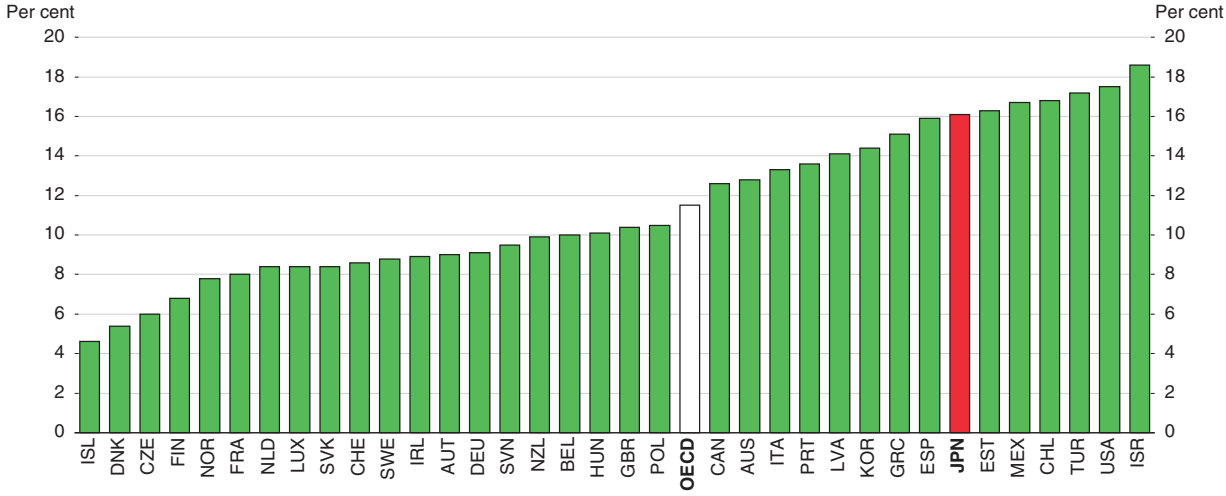
Never in the past 30 years has productivity growth been lower than since the 2008 global financial crisis, and never has income inequality been higher than it is today in Japan, and in the OECD area. The two challenges have some common origins, including a widening productivity and wage gap between leading firms and those that are lagging. This creates scope for positive synergy between policies to promote productivity and inclusive growth. Exit policy should be improved to facilitate the closure of non-viable firms, whose survival hampers the growth of viable firms in Japan. This would also increase firm entry, along with policies to promote entrepreneurship. The growing gap between Small and Medium-sized Enterprises and large firms also needs to be addressed. Breaking down labour market dualism, which limits human capital accumulation by non-regular workers and contributes to earnings and income inequality, is also a priority. Finally, ensuring appropriate skills, including those needed for digitalisation, would help support higher productivity and inclusive growth.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Japan, along with many OECD countries, has experienced an increase in income inequality and relative poverty during the past 30 years. Japan's relative poverty rate increased from 12.0% in 1985 to 16.1% in 2012, making it the seventh highest in the OECD (Figure 1.1), reflecting the weak impact of its tax and benefit system, which primarily redistributes income between rather than within generations. Japan's share of households in relative poverty despite having two or more workers is the second highest in the OECD. Moreover, conditions have deteriorated in absolute terms for those in relative poverty: the "relative poverty line" – 50% of the national median income – has fallen by 15% in real terms since 1997 (Oshio, 2013).

Figure 1.1. **Relative poverty in Japan has risen to a high level**

In 2014 or latest year available



Note: The share of the population with an income less than half of the "median equivalent disposable income" (adjusted for household size). Values for Japan are based on the Comprehensive Survey of Living Conditions 2012. Another survey for Japan, the National Survey of Family Income and Expenditure, shows relative income poverty edging down from 10.1% in 2009 to 9.9% in 2014.
Source: OECD (2017d), *OECD Income Distribution* (database).

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In addition, productivity growth in Japan, as in most OECD countries, has lost momentum (Figure 1.2). The deceleration in Japan is explained by shrinking contributions from both capital deepening (Panel B) and multifactor productivity (MFP) (Panel C). The impact of capital deepening – an increase in the amount of capital per worker – declined due to a sluggish rebound in business investment in Japan since the 2008 crisis, which has been held back in part by low growth prospects as population shrinks. By mid-2016, business investment finally regained its pre-crisis level. In contrast, it had risen by nearly 5% in the OECD area, which is still weaker than in past recoveries. In addition, the contribution of MFP, which reflects the efficiency with which inputs are used, has diminished, due to:

Figure 1.2. **Productivity growth has slowed worldwide since the 1990s**

Total economy, percentage change at annual rate

Source: OECD (2017g), *OECD Productivity Statistics* (database).

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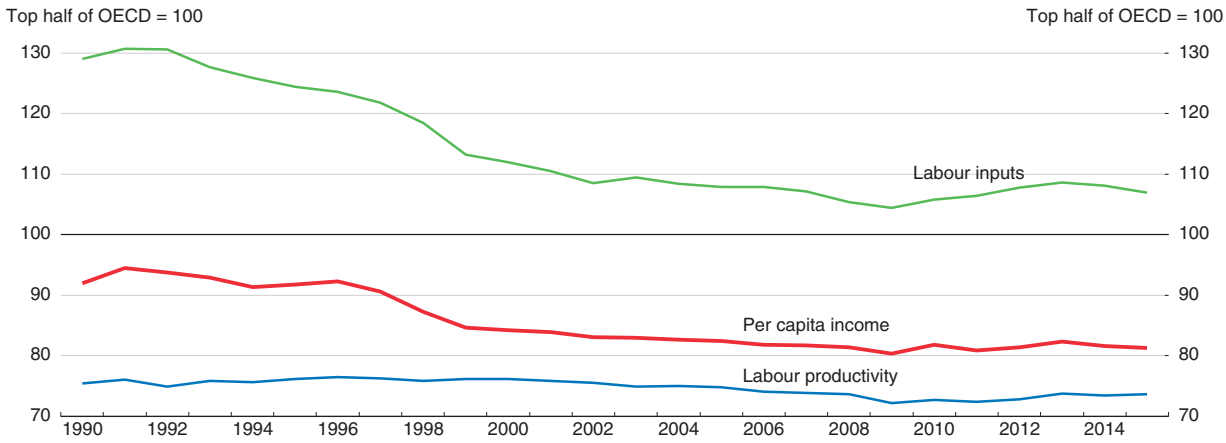
- Declining business dynamism, as reflected in low start-up and exit rates (Criscuolo et al., 2014).
- Rising misallocation of resources, due in part to product and labour market regulations, which makes it difficult for productive firms to attract resources (Adalet McGowan et al., 2017).
- A widening divergence in productivity across firms, driven by stagnating productivity among laggard firms (Andrews et al., 2016).

Labour productivity in Japan is a quarter below the top half of OECD countries (Figure 1.3), weighing down per capita income. In 2013, the government set a goal of boosting real output growth to an annual rate of 2% through 2022. Real growth has accelerated to an annual rate of 1.3% since the end of 2012, significantly faster than Japan's potential growth rate of around ½ per cent, though still well below the target. With the

Figure 1.3. **Labour productivity in Japan remains about a quarter below the top half of OECD countries**



1. Per capita GDP is calculated using 2010 prices and PPP exchange rates. Labour productivity equals GDP per hour of labour input. Labour inputs equal total number of hours worked per capita.

Source: OECD (2017b), *OECD Economic Outlook: Statistics and Projections* (database).

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accelerating decline in the working-age population, achieving 2% output growth requires boosting labour productivity growth to more than 2%, exceeding the rate during the 1990s. The government launched a plan in 2016 for promoting the dynamic engagement of all citizens, based on achieving a "virtuous cycle of growth and distribution". This requires broadening the productive base of the economy to generate strong and sustainable productivity gains that lead to inclusive growth, promoting the fair distribution of the dividends of increased prosperity across society.

This chapter examines policies that can build on synergies between higher productivity and inclusive growth. It first discusses the links and common origins between the slowdown in productivity and the rise in inequality, including the widening gap between leading and lagging firms, which generates larger wage differences. The second section examines exit and entry policies to facilitate the exit of non-viable firms and the entry of innovative firms. The third section looks at other polices, such as product market regulation, which may help narrow productivity and wage gaps. The fourth section turns to measures to narrow the widening gap between SMEs and large firms. The fifth section addresses labour market dualism, which creates large wage gaps between regular and non-regular workers and limits human capital formation. The final section considers the issue of skills, particularly in the context of rapid digitalisation. Policy recommendations are presented in Box 1.1.

The common origins of the productivity and income inequality challenges

Recent evidence from a number of countries suggests that much of the widening of the wage distribution across workers over the past two or three decades can be attributed to increases in the variance of wages between firms rather than within firms (Andrews et al., 2016). This is linked to increased dispersion in productivity in the world economy: firms at the global frontier have become relatively more productive, with their labour productivity rising at an average annual rate of 2.8% in manufacturing over 2001-13, compared to only 0.6% for non-frontier firms (Figure 1.4). The divergence is even more pronounced in market services. The widening gap may be attributable to several complementary factors: i) a decline

Figure 1.4. **The labour productivity gap between global frontier firms and other firms is widening**

Labour productivity (value added per worker) in the world economy[1]

1. The global frontier is measured by the average of log labour productivity for the top 5% of companies in the world with the highest productivity levels within each 2-digit industry. Non-frontier firms are the average log productivity of all the other firms. Unweighted averages across 2-digit industries are shown for manufacturing and services, normalised to 0 in the starting year. Services refer to non-financial business services. The lines indicate cumulated growth rates. A value of 0.3 indicates a 30% increase, while -0.2 indicates a 20% decline.

Source: Andrews et al. (2016).

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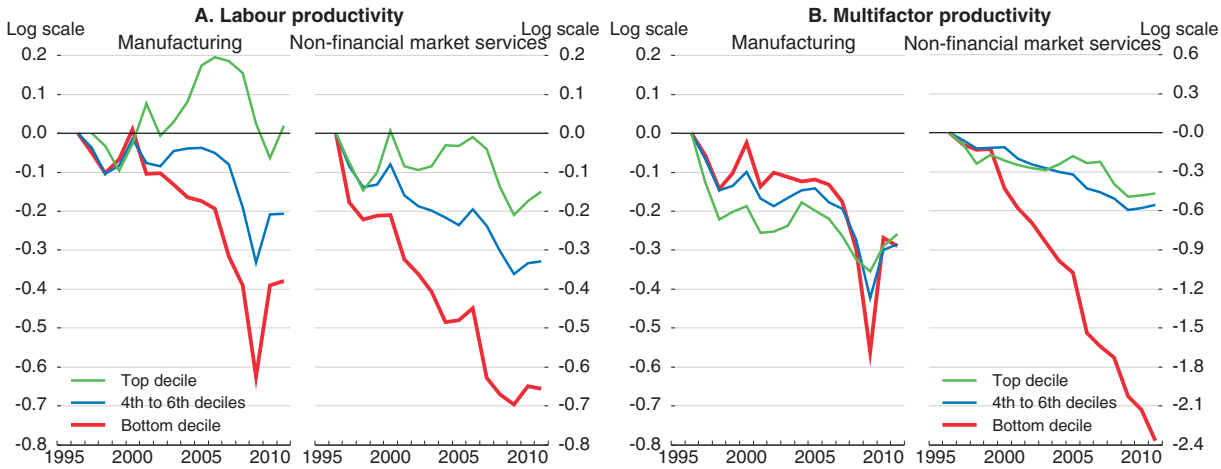
in the diffusion of technology and knowledge from frontier firms to others; ii) poorly-performing firms that remain longer in the market, rather than exiting, thereby trapping resources in unproductive activities; iii) a greater concentration of high-skilled workers in certain firms; and iv) greater concentration of market power and rent-seeking by frontier firms that may have left non-frontier firms behind.

Japan has also seen a divergence between firms in productivity, based on a study that covers nearly 26 000 firms and 10.7 million workers each year over 1996-2011. The labour productivity gap between firms at the bottom decile, the fourth to sixth deciles and the top decile in the service sector, which accounts for nearly three-quarters of Japan's GDP, was quite stable until 1999 (Figure 1.5, Panel A). However, productivity levels have diverged significantly since then, even though firms with less than 50 workers are not covered in the survey. The divergence is even greater in terms of MFP (Panel B). In contrast to the global comparison (Figure 1.4), productivity has declined in most firms in Japan since 1995, including the leading firms.

Wider productivity gaps between firms tend to lead to greater wage inequality. Indeed, the dispersion between productivity in firms at the 90th and 50th percentiles in the OECD area is positively correlated with the dispersion in average wage income (Figure 1.6). For example, productivity and labour income gaps are relatively small in some northern European countries in contrast to some Eastern European countries. The dispersion of productivity in Japan is slightly above the OECD average and average labour income is far above it. This finding is confirmed by another study that compares wage levels in Japanese firms by quintiles of productivity (Berlingieri et al., 2017). The wage dispersion in the service sector has widened significantly since the late 1990s.

The impact of slowing productivity on wages is aggravated by the decoupling of growth in aggregate labour productivity and real median compensation in many countries. The

Figure 1.5. **Productivity in Japanese firms has diverged significantly**



Note: The graph reports the unweighted average of real labour productivity (defined as real value added per employee) expressed in 2005 US dollars for firms in the bottom decile, between the 4th and 6th deciles, and in the top decile of the labour productivity distribution in any given year. The values are normalised at their initial values in 1996. The results differ from aggregate labour productivity as the 26 000 firms are in two sectors and the sample excludes firms with less than 50 employees. A value of -0.2 indicates a 20% decline.
Source: Berlingieri et al. (2017).

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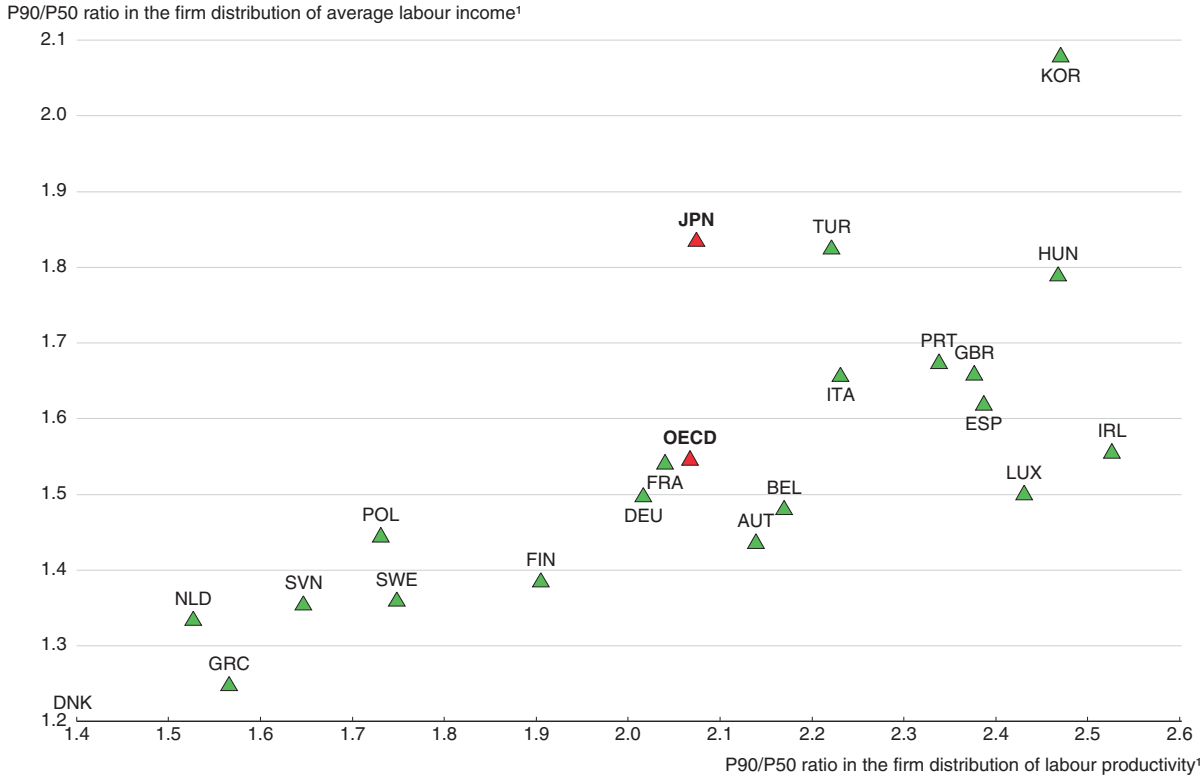
Figure 1.6. **Labour income inequality is positively correlated with productivity disparities between firms**



1. This figure compares the labour productivity and labour income at a firm at the 90th percentile to one at the 50th percentile.
Source: OECD (2016i).

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labour share in Japan has fallen by about 6 percentage points over 1995-2014, the fifth largest decline in the OECD, with most of it in services. The shrinking labour share is due in part to the rise in non-regular employment (see below). Consequently, raising productivity is no longer sufficient to raise real wages for the typical worker. Moreover, the ratio of the median wage to the average also declined in Japan (Schwellnus et al., 2017).

Another factor linking low productivity and income inequality is the difficulty faced by low-income groups in gaining access to high-quality education. The failure of certain groups to increase their human capital limits their income and slows aggregate productivity growth (OECD, 2016j). Fortunately, the Japanese school system achieves a high degree of equity in educational opportunities: the relationship between students' socio-economic status and performance is weaker than the OECD average and has remained stable since 2006 (OECD, 2016h).

Improving exit and entry policies

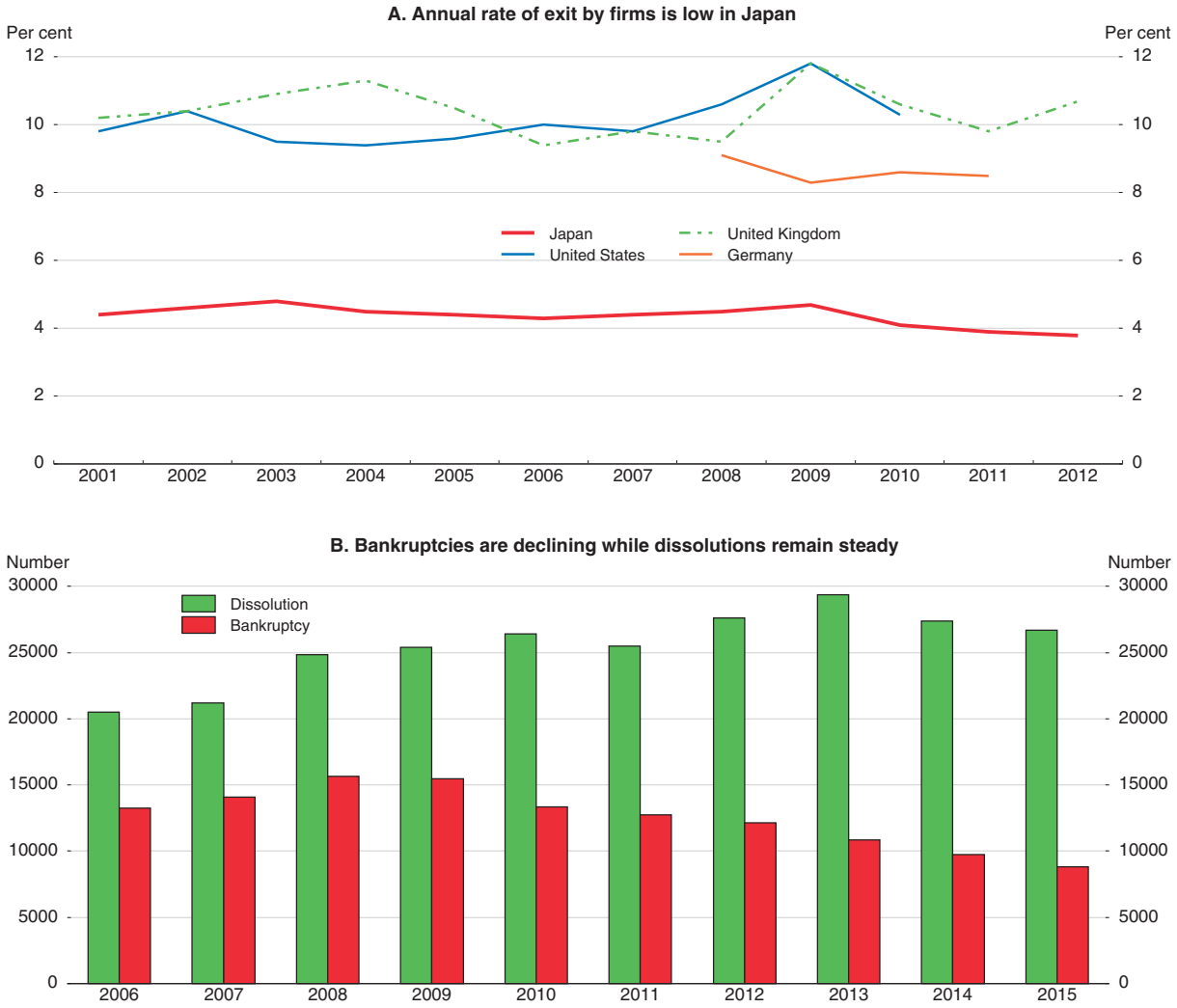
The 2013 Japan Revitalization Strategy set a target of raising firm exit and entry rates from 4-5% to 10%. The survival of non-viable firms reduces the efficiency of resource allocation by trapping capital and labour in low-productivity activities, thus widening the inter-firm dispersion of productivity and wages. It also discourages firm entry by inflating wage levels relative to productivity and depressing market prices. Consequently, potential entrants have to clear a higher productivity threshold to compensate for lower profitability and the congestion resulting from a large stock of non-viable firms discourages potential entrepreneurs. Moreover, the survival of non-viable firms slows the growth of more productive firms by making it more difficult to attract more resources and grow (Adalet McGowan et al., 2017). The market selection process is productivity-enhancing, as the productivity level of exiting firms is lower than that of surviving firms and new start-ups.

Declining MFP growth in Japan's manufacturing sector since the late 1980s has been mainly driven by falling productivity within existing firms, reflecting the limited prospects of old and small companies (Fukao and Kwon, 2011). Firm exit has made an increasingly negative contribution, as firms with above-average productivity left the market, in part by moving overseas, while many non-viable firms remained. Firm entry contributed to productivity growth, though not enough to offset the falling contribution of productivity within firms. Finally, the contribution of resource reallocation was limited (Fukao, 2013).

Improving exit policy to ensure the closure of non-viable firms

The annual firm exit rate in Japan edged below 4% in 2012, which is low compared to other advanced countries (Figure 1.7). The low exit rate is due to several factors. *First*, following the financial crisis in Japan in the 1990s, forbearance lending – continued lending by financial institutions in cases where there is little hope that firms will ever repay the loans – emerged as a serious problem (Caballero et al., 2008). *Second*, the 2008 SME Financing Facilitation Act, which required financial institutions to review the terms of their loans to SMEs in response to requests by the borrowers (see below), encouraged such forbearance lending. Although the Act expired at the end of 2013, the authorities continue to encourage financial institutions to modify loan terms in response to requests from SMEs. The number of dissolutions, defined as a suspension of business that is not categorised as a bankruptcy, has risen during the past decade, driven by the retirement of small business owners with no one to succeed them (Panel B). The dissolution rate is three times higher than that of bankruptcies, the number of which has declined since the global financial crisis.

Figure 1.7. **Exit, bankruptcy and dissolution of firms in Japan**



Source: Ministry of Economy, Trade and Industry (2014); Small and Medium Enterprise Agency (2016).

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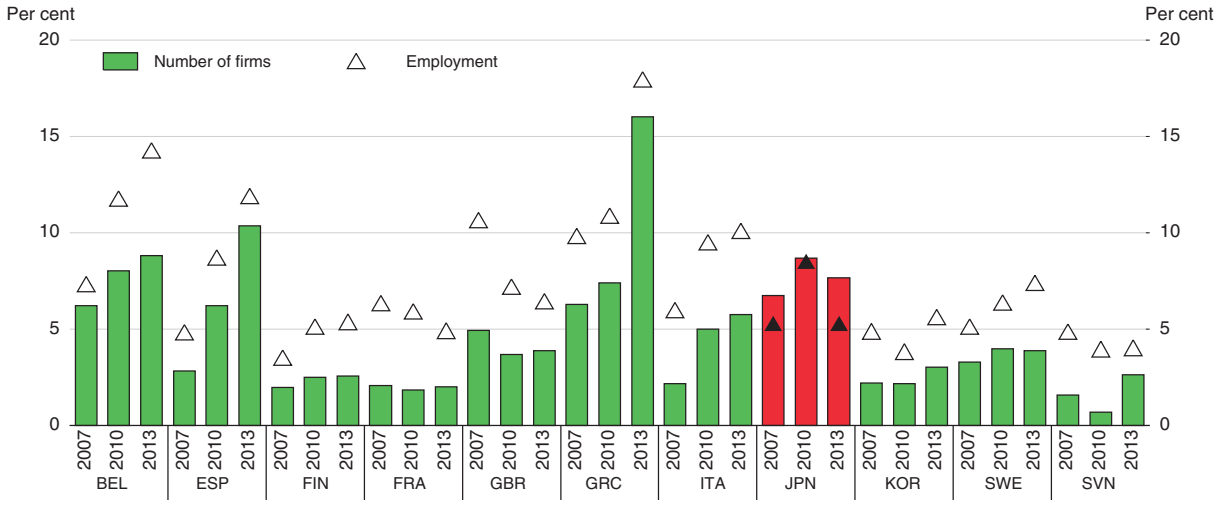
The low exit rate tends to boost the share of non-viable firms, defined as those with an interest coverage ratio below one for over three consecutive years. The share was relatively high in Japan in 2013 (Figure 1.8). Only 2% of firms identified as non-viable left the market during the following year, illustrating the weakness of the exit mechanism in Japan (Nakamura, 2017). The survival of non-viable firms reduces investment and employment in healthy firms. Their existence is estimated to have reduced investment and employment by a cumulative 2½ per cent and ¾ per cent, respectively, in Japan over 2008-13, thereby preventing the expansion of healthy firms (Adalet McGowan et al., 2017). In more recent years, the aggregate interest coverage ratio has improved, which may have reduced the number of non-viable firms.

The existence of non-viable firms also contributes to the fact that, on average, Japanese firms show little growth (Figure 1.9). For example, the average size of mature firms (more than 10 years old) in the United States is relatively high at more than 70 employees in manufacturing and 40 in services, even though the size of new start-ups (less than two years

Figure 1.8. **The share of non-viable firms in Japan is significant**



Note: Non-viable firms are defined as firms aged more than 10 years old with an interest coverage ratio of less than one for three consecutive years. Employment refers to the share of labour in non-viable firms.
Source: OECD Secretariat calculations using ORBIS database.

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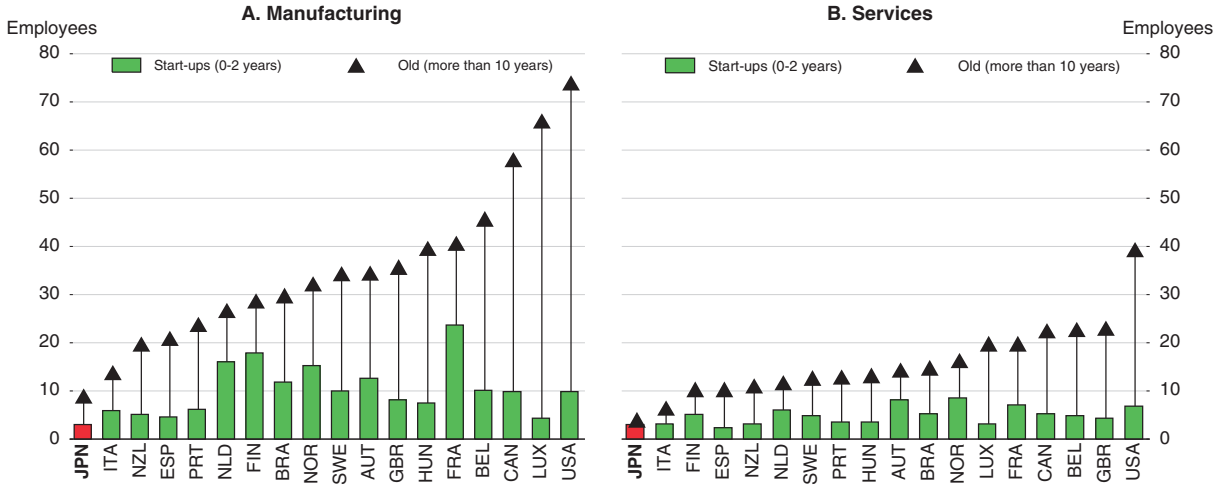
old) is not especially large. In contrast, Japanese firms fail to grow, with average employment of only ten in manufacturing and six in services for mature firms (Criscuolo et al., 2014). In sum, structural change whereby cohorts of new firms continuously displace obsolete firms can raise productivity.

Reforming the insolvency regime

While firm exit is affected by a number of policies, insolvency regimes are crucial to expedite the orderly exit of non-viable firms, despite several types of market imperfections: i) information asymmetries that lead debtors and creditors to value firms differently (Smith and Stroemberg, 2005); ii) incomplete contracts as it is difficult to write a complete contract

Figure 1.9. **Small firms in Japan tend to stay small**



Source: Criscuolo et al. (2014).

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ensuring an optimal outcome *ex ante* (Hart, 2000); and iii) co-ordination problems as the interest of individual creditors can conflict (Marinc and Vlahu, 2012). An efficient insolvency regime that overcomes these challenges strengthens market forces and facilitates the exit of non-viable firms, thereby improving the scope and speed at which resources sunk in failing firms are reallocated to more productive use (Adalet McGowan and Andrews, 2017). An efficient insolvency process also facilitates the restructuring of viable firms, thus promoting within-firm productivity growth. In sum, an effective insolvency regime reduces the dispersion of productivity and wages and promotes inclusive growth over the medium term.

The insolvency regime in Japan consists of a number of legal options and informal out-of-court procedures (Table 1.1). The main legal options are: i) liquidation through the Bankruptcy Law (*hasan*) and Special Liquidation (*tokubetsu seisan*), a fast-track approach; and ii) restructuring through the Civil Rehabilitation Law (*minji saisei*) and the Corporate Reorganization Law (*kaisya kosei*), which is rarely used. Of 8 517 bankruptcies in 2015, liquidation accounted for 97% (Teikoku Data Bank, 2016). Large firms account for most of the restructuring, as they seek to avoid the large negative effect of bankruptcy.

Table 1.1. **Legal insolvency procedures in Japan**

A. Legal procedures

Objective	Procedure	Number in 2015
Liquidation	The Bankruptcy Law	7 985
	Special liquidation proceedings	285
Restructuring	The Civil Rehabilitation Law	246
	The Corporate Reorganization Law	1
Total		8 517

B. Out-of-court procedures

Resolution and Collection Corporation (RCC) (since 1999)
Resolving the non-performing loans of financial institutions through corporate revitalisation
The RCC was involved in preparing/establishing revitalisation plans in 695 cases as of March 2015 (cumulative total)
Regional Economy Vitalization Corporation of Japan (REVIC) (since 2013)
A broad range of activities to vitalise regional economies, including the revitalisation of firms
REVIC has been involved in 47 cases as of March 2016 (cumulative total), mainly involving SMEs
SME Revitalization Support Councils (since 2003)
Specifically mandated to support revitalisation of SMEs by the Industrial Competitiveness Enhancement Act
The Councils have been involved in establishing revitalisation plans in 10 518 cases (cumulative total) as of 2015
Turnaround ADR (since 2007)
Out-of-court settlement under the dispute resolution provider authorised by the Ministry of Economy, Trade and Industry
The ADR intervened in 45 cases as of March 2016 (cumulative total); around 35% involved listed companies

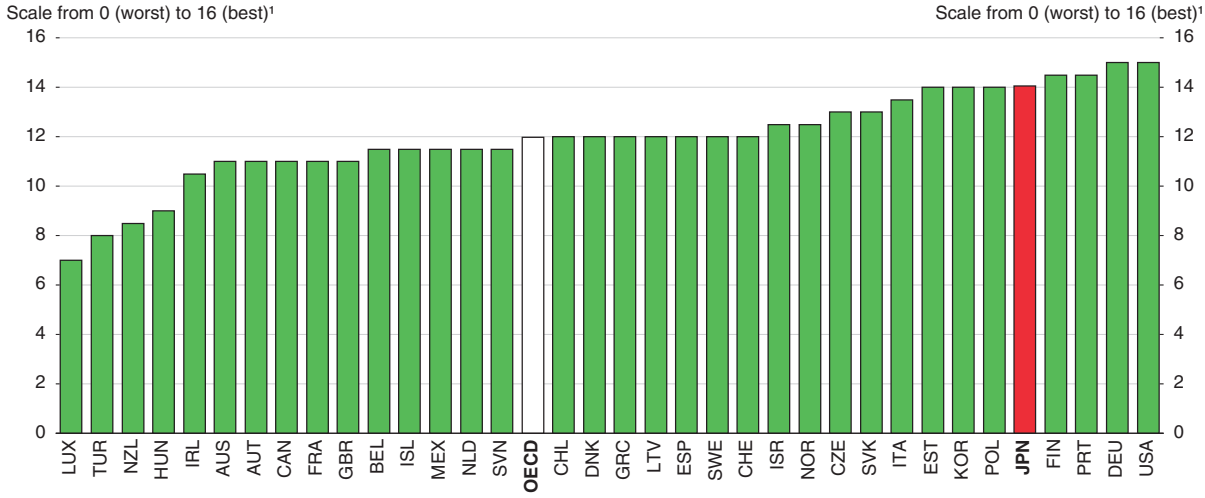
Source: Teikoku Data Bank (2016).

A number of mechanisms facilitate out-of-court procedures (Panel B). The Turnaround ADR (Alternative Dispute Resolution), which was created for the rehabilitation of companies suffering from financial difficulties, combines the advantages of the formal procedure (fairness) and out-of-court settlements (flexibility and speed). Out-of-court settlements may involve the Resolution and Collection Corporation (RCC), SME Revitalization Support Councils and the Regional Economy Vitalization Corporation of Japan (REVIC). These institutions differ in their objectives and mandates, but all primarily aim at restructuring, rather than liquidating, firms.

Japan's corporate insolvency regime is highly efficient (Figure 1.10), in particular with regard to firm restructuring. The recovery rate – how much secured creditors recover from an insolvent firm at the end of insolvency proceedings – is among the highest in world at 92% versus the OECD average of 71% (World Bank, 2017). The high recovery rate reflects: i) the short average duration of insolvency proceedings, at 0.6 years versus the 1.8-year OECD average; and ii) the low average cost of insolvency proceedings at 4.2% of the debtor's assets versus the OECD average of 9.5%. These favourable outcomes are a result of a number of positive practices in Japan:

- Insolvency proceedings start early, thus avoiding delays that reduce the possibility of successfully restructuring viable firms and lower the liquidation value of failing firms.
- After the restructuring proceedings, the debtor is allowed to obtain new credit, which is given priority only over ordinary unsecured creditors and not over secured creditors.
- The debtor is allowed to continue operations during restructuring proceedings, thus increasing the chance of a successful outcome, particularly as incumbent managers are allowed to stay in charge.
- Restructuring plans need only a requisite majority of creditors for approval, instead of requiring a unanimous vote, thus facilitating the timely restructuring of firms.

Figure 1.10. **International comparison of corporate insolvency frameworks**



1. Based on recovery rate (cents on the dollar), time and cost (as a percentage of the estate).
Source: World Bank (2017).

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Japan's personal insolvency regime does not facilitate the exit of non-viable firms

Personal insolvency regimes are more important for entrepreneurs and small firms than corporate insolvency procedures (Armour and Cumming, 2008). The prevalence of personal guarantees and the stringency of the personal insolvency regime are the most important impediments to firm exit in Japan. Almost 60% of SMEs rely on personal guarantees by the owner and 10.5% of them have personal guarantees by someone outside the firm (Uesugi, 2010). The value of personal guarantees exceeds the owner's assets in 78% of the cases (Mitsubishi UFJ Research and Consulting, 2010). Entrepreneurs receive only a small degree of liability protection (Berkowitz and White, 2004; Cumming, 2012). The owner of a failing firm

who has given personal guarantees becomes liable if the assets of a failing firm cannot cover all of its liabilities. An owner who cannot pay the liabilities is forced into bankruptcy.

The incentives for exit are affected by the degree to which the owners' assets that are not directly linked to the bankrupt firm are exempted from bankruptcy proceedings. In Japan, exemptions of pre-bankruptcy assets from the bankrupt estate (i.e. the "legally protected assets") are limited to minimum personal items (Table 1.2). Pre-bankruptcy assets valued at more than 200 000 yen (USD 1 760), including personal dwellings, are sold and the owner is left only with a maximum of 990 000 yen (USD 8 711), equivalent to a fifth of average annual earnings. In contrast, exemptions in the United States are much larger at up to USD 22 975 for housing, USD 11 525 for household goods and USD 3 450 for motor vehicles. In the event of bankruptcy, 56% of Japanese banks would claim all assets, excluding the legally protected assets, from the debtor (Yamada Business Consulting, 2011). Among owners, 59% of owners answered they would be most anxious about life insecurity in the case of bankruptcy (Nomura Research Institute, 2014). Owners of non-viable firms thus have a strong incentive to prolong the life of their enterprise to avoid the negative ramifications of bankruptcy.

Table 1.2. **Personal insolvency regimes**

Key features of personal insolvency regimes for businesses[1]

	Discharge availability[2]	Time to discharge[3]	Exemptions[4]	Disabilities[5]
Austria	0	7	2	0
Belgium	0	0	1	3
Canada	0	0.75	0	2
Denmark	0	3	1	3
Finland	0	0	1	3
France	0.5	0	2	2
Germany	0	6	0	1
Greece	1		1	3
Ireland	0	12	1	2
Italy	1		1	3
Netherlands	0	3	2	0
Spain	1		1	3
Sweden	1		1	2
United Kingdom	0	1	1	2
United States	0	0	0	1
Japan	**0**	**0**	**1**	**3**

1. 2005 for all countries except Japan. For Japan, OECD estimates made in 2017.
2. *Discharge availability* = 0 if discharge is available and 1 otherwise.
3. *Time to discharge* = the number of years until typical discharge.
4. *Exemptions* relate to pre-bankruptcy assets that are exempted from the bankrupt estate. It takes the value: 1 if exemptions of assets from the bankruptcy estate cover only personal items, tools of trade, etc.; 0 if exemptions are more generous; and 2 if exemptions are negative (i.e. property of spouses can be pulled into the estate).
5. *Disabilities* relate to restrictions on the debtor's civil and economic rights related to bankruptcy: 0 if no disabilities other than the loss of power to deal with assets in the bankrupt estate; 1 for civic disabilities (i.e. loss of the right to vote, hold elected office, or membership in professional groups); 2 for economic disabilities (i.e. restrictions on obtaining credit or being involved in managing a company); and 3 for interference with mail and/or travel (i.e. prohibition on travel without consent and/or mail opened by trustee).

Source: Armour and Cumming (2008) for all countries excluding Japan. For Japan, preliminary estimates by the Secretariat.

The restrictions imposed on the rights of bankrupt persons – so-called "disabilities" – also affect firm exit. Such restrictions are stringent in Japan (Table 1.2). In addition to losing the power to deal with the bankrupt estate, bankrupt persons face civic disabilities, such as exclusion from certain professions or professional groups. They may also be prohibited

from traveling without the consent of the court and have their mail opened by the trustee. Strict restrictions on access to credit are also imposed on bankrupt persons. Their names are listed by the Credit Information Center and the Japan Credit Information Reference Center for up to ten years, thus denying them access to normal lending.

Japan grants more favourable treatment to bankrupt owners in exempting future earnings from the obligation to repay pre-bankruptcy debts – the so-called "availability of discharge". In Japan, it is available immediately after the court's decision, which is lenient by international standards. Although the availability of discharge is subject to certain conditions, it was granted in 97% of cases in 2012. This eases the debtor's burden and thus facilitates smoother firm exit, while promoting firm entry.

Policies to facilitate smooth exit of non-viable firms

To ease the problems associated with bankruptcy, there have been discussions in Japan about expanding exemptions, including for personal dwellings, from the bankrupt estate. The benefits of higher exemptions should be weighed against the risk of credit rationing. Higher exemptions might induce start-ups by entrepreneurs with low-quality projects, which could lead to a tightening of credit supply. In the United States, states with lenient exemptions were associated with greater incidence of credit rationing by lenders to small businesses (Berkowitz and White, 2004), as there was a higher probability of default (Persad, 2004).

The orderly exit of non-viable firms could be facilitated by greater co-operation among the parties concerned. In 2014, the Guidelines for Personal Guarantees Provided by Business Owners were introduced to provide a common set of voluntary standards for self-regulation by SME groups and financial institution associations regarding guarantees by SME owners. The Guidelines expedite out-of-court settlements for debt resolution within a framework of institutionalised procedures, such as intervention by REVIC or SME Revitalization Support Councils (Table 1.1). According to the Guidelines:

- The financial state of the firm should be made transparent, allowing the parties concerned to correctly evaluate the true value of the firm, which often reveals hidden assets of the debtor.
- Launching debt resolution at early stages prevents the deterioration of the firm's financial status and the obsolescence of its assets, and raises the amount of assets collected by the creditor.
- As the amount of collectable assets is increased, it can be shared with the debtor, allowing him or her to retain more assets, including private dwellings, than in the case of personal bankruptcy.
- As the debtor avoids personal bankruptcy, no information is transmitted to the credit registers, allowing him or her to retain access to lending.

The Guidelines state that banks should not require personal guarantees by SME owners in contracting new loans when SMEs fulfil certain conditions. This will improve lending practices and remove obstacles that limit early exit, restructuring, and second chances by SME owners. Since the implementation of the Guidelines in 2014, government financial institutions have raised the share of loans without personal guarantees from 15% to 33% by September 2016, while private banks increased the proportion of such loans from 12% in 2015 to 14% in 2016. The share of loans without personal guarantees should be increased further.

As for existing personal guarantees, the Guidelines bring debtors and creditors together in an out-of-court setting. However, the Guidelines were used to dissolve personal guarantees in only 207 cases by private financial institutions and 61 cases by government financial institutions in FY 2015, and thus should be used more widely. As stated in the 2016 Japan Revitalization Strategy, both government and private financial institutions should be encouraged to make greater use of the Guidelines. The government should also diffuse information on best practices so that banks can understand the merits of using the Guidelines (see above), and set up related legislation which facilitates out-of-court settlement.

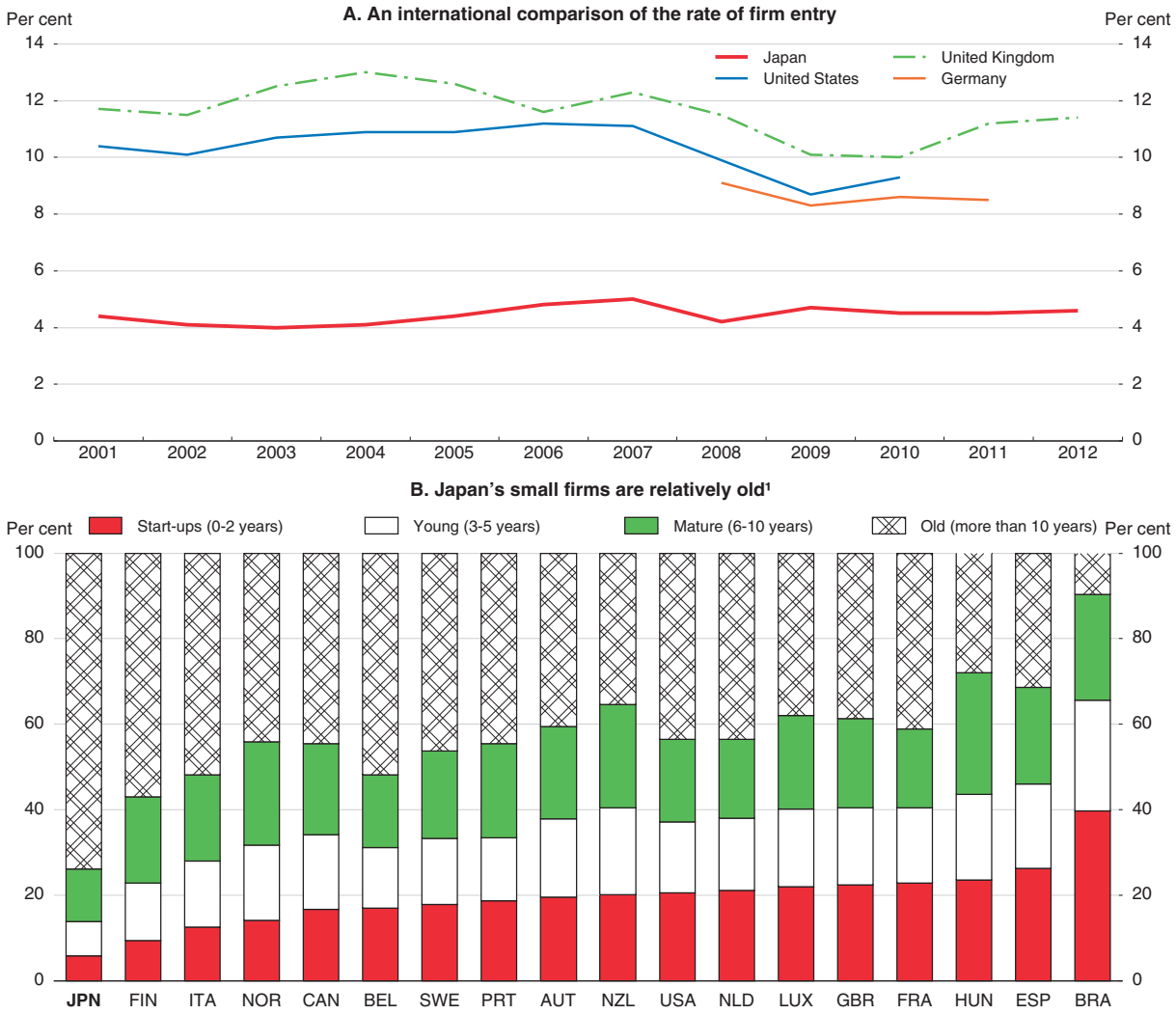
The Guidelines address a number of market imperfections, but the implementation should be improved. *First*, the creditor needs to play a larger role in initiating the procedure at an early stage, as the owner/debtor is reluctant in most cases to resolve the firm. This would be facilitated by establishing an early warning system that can help identify distressed companies at an early stage. *Second*, the co-ordination of the interests of different creditors should be facilitated. In this respect, the Japan Federation of Bar Associations' proposal that lawyers, tax accountants, certified public accountants, and small business consultants intermediate within the framework of the Special Conciliation Proceedings could help.

While there are many economic benefits from facilitating the exit of non-viable firms, it would initially boost the number of displaced workers. In 2014, 8.0 million people found a job (17.3% of the total number of workers) and 7.1 million left a job (MHLW, 2015). Less than half of displaced workers in 2014 were re-employed within one year, while a quarter left the labour force, at least temporarily. Re-employment probabilities are higher for men than for women, increase with education and decrease with age and job tenure (OECD, 2015a). The increasing labour shortage in Japan does increase re-employment opportunities for those leaving jobs. Still, policies are needed to facilitate the re-employment of workers, including those who were employed at firms that exited. OECD evidence shows that active labour market policies are more effective in helping displaced workers following firm exit, compared with other categories of job seekers (Andrews and Saia, 2016). In addition, policies to encourage firm creation will help create new opportunities for displaced workers.

Encouraging firm entry and entrepreneurship

Japan's annual firm entry rate, at between 4% and 5%, is well below other advanced economies (Figure 1.11). Consequently, firms more than 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 (Panel B). Firm creation is essential to boost productivity given the key role of start-ups in innovation (OECD, 2015e). 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. The correlation between start-up rates and productivity growth is positive, although the impact on recorded labour productivity growth may not be immediate (OECD, 2016b). The entry of dynamic start-ups that displace low-productivity firms also promotes inclusive growth by reducing inter-firm wage dispersion. In addition to increasing the exit rate, encouraging entrepreneurship would help achieve the Revitalization Strategy goal of boosting the firm entry rate to 10%.

Figure 1.11. **Japan's annual firm entry rate is lower than in other advanced economies**



1. Firms with less than 50 workers. From 2001 to the latest year available (2009 in the case of Japan).
Source: Ministry of Economy, Trade and Industry (2014); Criscuolo et al. (2014).

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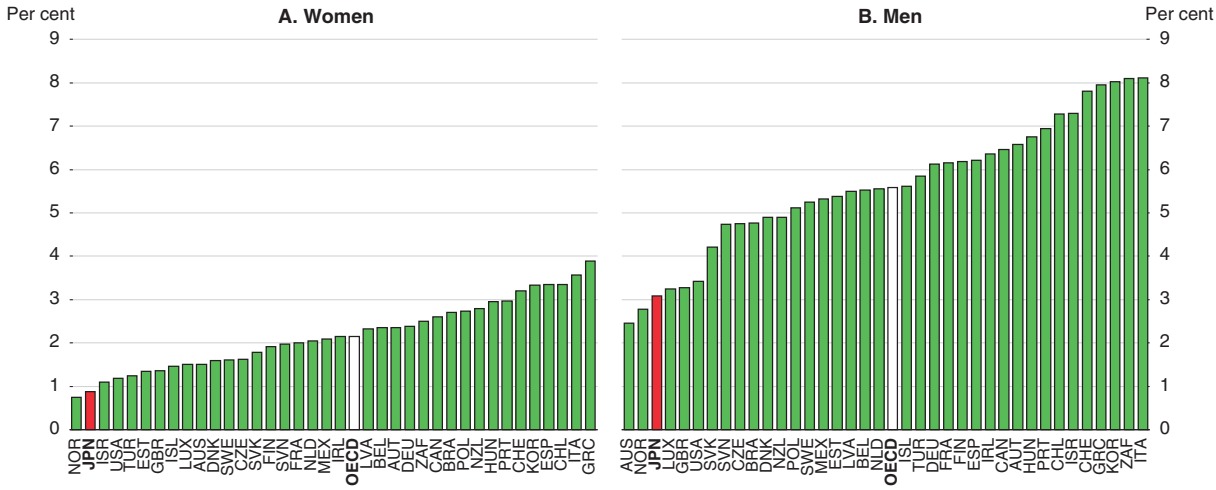
Interest in entrepreneurship is relatively weak in Japan

The number of entrepreneurs in Japan (as a share of those employed) is among the lowest in the OECD area at 3.1% of men and 0.9% of women (Figure 1.12). Although regulatory barriers to entrepreneurship have fallen below the OECD average, the complexity of regulatory procedures remains a major obstacle to entrepreneurial activity, largely related to the licence and permit system (OECD, 2017f). Increasing entrepreneurship also requires improving its image; less than a third of the working-age population views entrepreneurship as a good career choice, the lowest among OECD countries (Figure 1.13). The negative perception reflects a lack of perceived opportunities (7%, the lowest in the OECD), perceived capabilities (12%, the lowest in the OECD) and a fear of failure (55%, the second highest in the OECD) (Panel B). Consequently, employees with attractive business ideas and technologies tend to remain in large enterprises. In a 2013 survey on the reasons for Japan's low business entry rate, 30% of respondents cited "social norms that encourage employment at large

Figure 1.12. **The share of entrepreneurs in Japan is low, especially among women**

Self-employed with employees (as a share of employed persons) in 2015



Source: OECD (2016b).

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enterprises and other forms of stable employment" (Mitsubishi UFJ Research & Consulting, 2013). Only 2.5% of the working-age population intends to start a business within three years, the lowest share in the OECD (Panel B).

The low perceived capabilities in entrepreneurship reflect a lack of education and training. Only 20% of the Japanese, the lowest share in the OECD, agree that "school education had provided enabling skills and know-how necessary to run a business", compared to an OECD average of 52% (OECD, 2013a). Training is also a priority, as only 31% of men and 18% of women said that they had access to entrepreneurial training, compared to OECD averages of 51% and 44%, respectively (Figure 1.14).

Policies to promote entrepreneurship

It is essential to simplify licence and permit systems and to relax product market regulation, particularly in promising areas, such as healthcare and energy. In addition, it is important to improve the public image of entrepreneurship and increase know-how through educational programmes. Japan has established the SME Training Institute, which offers seminars for owners and managers of SMEs. One aspect is financial education, which can help SMEs use market-based financing instruments other than bank lending (OECD, 2015f). The government has launched educational programmes such as the Enhancing Development of Global Entrepreneur Program. However, these programmes are mainly aimed at university and graduate students. Country experiences in this area suggest that (OECD, 2016d):

- Entrepreneurial skills need to be fostered in primary and secondary schools. Ireland, for example, has programmes for children from age ten.
- Entrepreneurship education should be broad in nature and go beyond career education. A recent EU study on entrepreneurship education focuses on creativity, entrepreneurial know-how, responsibility, risk-taking, problem solving, and teamwork (European Commission, 2013).
- Achieving high-quality entrepreneurial education requires inter-ministerial co-operation, as well as the support of public institutions and the private sector.

Figure 1.13. **Views on entrepreneurship in Japan are negative**

1. Share of adults who perceive good opportunities to start a business.
2. Share of adults who are not involved in entrepreneurial activity and expect to start a business within three years.

Source: Global Entrepreneurship Monitor (2015).

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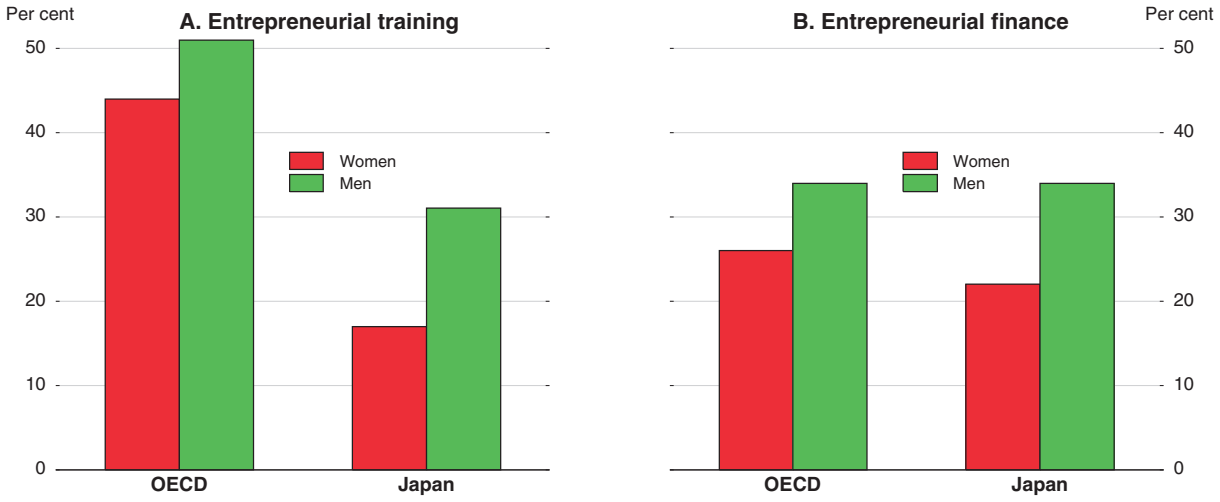
It is also necessary to address the issue of financing for potential entrepreneurs. The share of Japanese men who report that they have access to financing matches the OECD average, while it is below average for women (Figure 1.14, Panel B). The range of financing instruments available to entrepreneurs, particularly risk capital, should be broadened. Access to venture capital is a key driver of the diffusion of best practices (Andews et al., 2016). The availability of venture capital investment plummeted from its 2007 peak in the aftermath of the financial crisis and has experienced an uneven recovery since then (OECD, 2016c). In 2015, venture capital amounted to only 0.02% of GDP, compared with more than 0.3% in Israel and the United States (Figure 1.15).

In addition, venture capital is focused on more mature firms rather than start-ups, reflecting problems in the merger and acquisition (M&A) market and initial public offerings (IPOs), two methods that allow investors to recover their investments (Jones and Kim, 2015).

Figure 1.14. **Access to entrepreneurial training and finance is relatively low in Japan, especially for women**

Percentage of persons in 2013 who say that they had access to:



Source: OECD (2016b).

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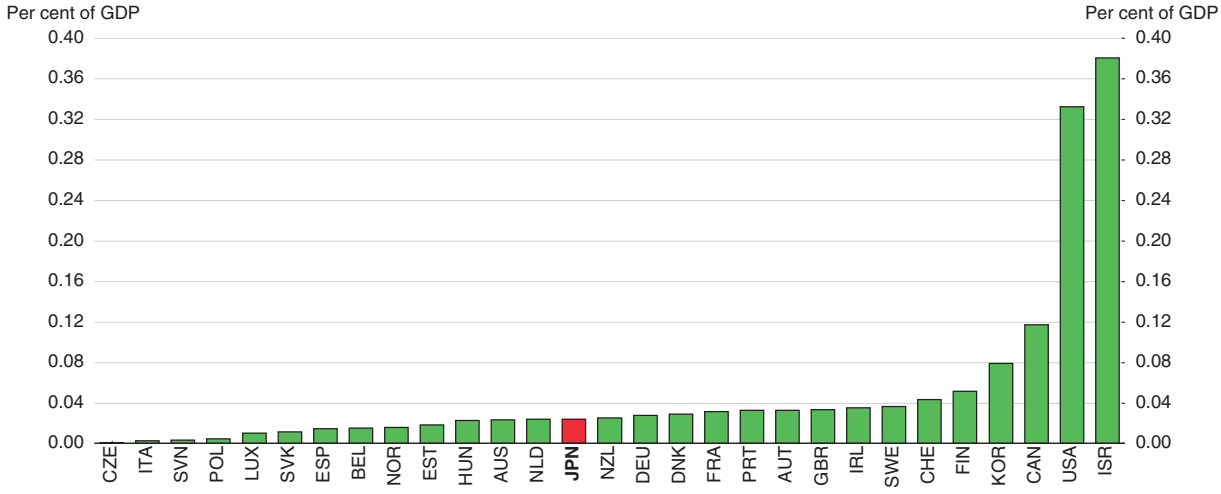
M&A activity is relatively limited (EBC, 2014) and IPOs typically take seven to ten years due to regulatory hurdles. After peaking at 153 in 2004, the number of IPOs in Japan fell to only 23 in 2009, but rebounded to 84 in 2016. The trend was similar in the JASDAQ market for small equities, with 58 IPOs in 2006 versus only 15 in 2009. Venture capital funds typically operate for only five years and then must return invested capital to investors. Given their limited time horizon, most venture capital funds avoid investing early in a firm's life and instead wait until three or four years before an IPO, thus limiting financing for start-ups (Solomon, 2016). Developing the M&A market and shortening the time for IPOs would boost opportunities for entrepreneurs. Given the strong interdependence between various types of

Figure 1.15. **The venture capital sector is relatively undeveloped in Japan**

In 2015



Source: OECD (2016b).

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SME financing, healthy and vibrant IPO markets are important for the functioning of the entire funding spectrum of SMEs (Nassr and Wehinger, 2016).

Expanding the scale of venture capital requires improving the environment for angel investors. Business angels should play a more prominent role in Japan, as they do in many countries. In addition to supplying financing, they also provide mentoring and networks. This is particularly important in Japan, given that so few people believe that they have the skills needed to start a new business. The tax system for business angels is being made more user-friendly by streamlining application procedures. In addition, venture capital funds should be expanded. One important potential source is pension funds, which do not currently invest in venture capital. While pension funds have to be cautious in investing in risky assets, some investment in venture capital "fund of funds" would help boost their returns.

The corporate sector plays a major role in venture capital in Japan, accounting for around three-quarters of the total compared to a quarter in the United States. For corporations, venture capital investment is similar to R&D spending. Given their large cash holdings (see below), the corporate sector's role could be much larger, but is limited by their tendency to do innovation in-house. In recent years, there has been a worldwide trend toward "open innovation in global networks", in which firms collaborate with external partners, such as suppliers, customers and other companies, both at home and abroad (2015 *OECD Economic Survey of Japan*). Open innovation thus provides a much broader base of ideas and technologies. However, Japanese firms have not embraced open innovation to the same extent as their foreign peers, reflecting concerns about losing technology to competitors (Motohashi, 2013). Promoting open innovation in Japan could help increase business investment in venture businesses and the creation of new start-ups.

In addition, the stigma attached to failure should be reduced so that potential entrepreneurs are not scared away by the lack of second chances. The share of Japanese who agree that entrepreneurs who fail should have a second chance was the second lowest in the OECD in 2012 (OECD, 2013a). Reducing the role of personal guarantees and the stringency of the personal bankruptcy system, as discussed above, would help create an environment that allows second chances. Moreover, there should be channels through which the experience and knowledge of failed entrepreneurs can be used to benefit others.

Encouraging entrepreneurship among women would also boost the firm entry rate, while promoting inclusive growth by more fully using the talents of women. The rate of entrepreneurship among women in Japan is the second lowest in the OECD (Figure 1.12), reflecting cultural attitudes and perceived barriers. Only 14% of Japanese women believe self-employment is feasible, compared to 40% in the United States and 34% in Korea (OECD, 2016d). While the measures undertaken to increase female employment and gender diversity in firms may also boost female entrepreneurship, a comprehensive action plan is needed. It should promote access to financing, awareness campaigns and networks for female entrepreneurs. Expanded training support is also needed as the share of women who say they have access to training is the third lowest in the OECD (Figure 1.14).

Other policies to promote synergy between higher productivity and inclusive growth

This section discusses other policies to narrow the productivity and wage gap between leading and lagging firms, including liberalising product market regulations, upgrading the

corporate governance framework, enhancing R&D collaboration between sectors and increasing international openness.

Product market reform to promote entrepreneurship and innovation

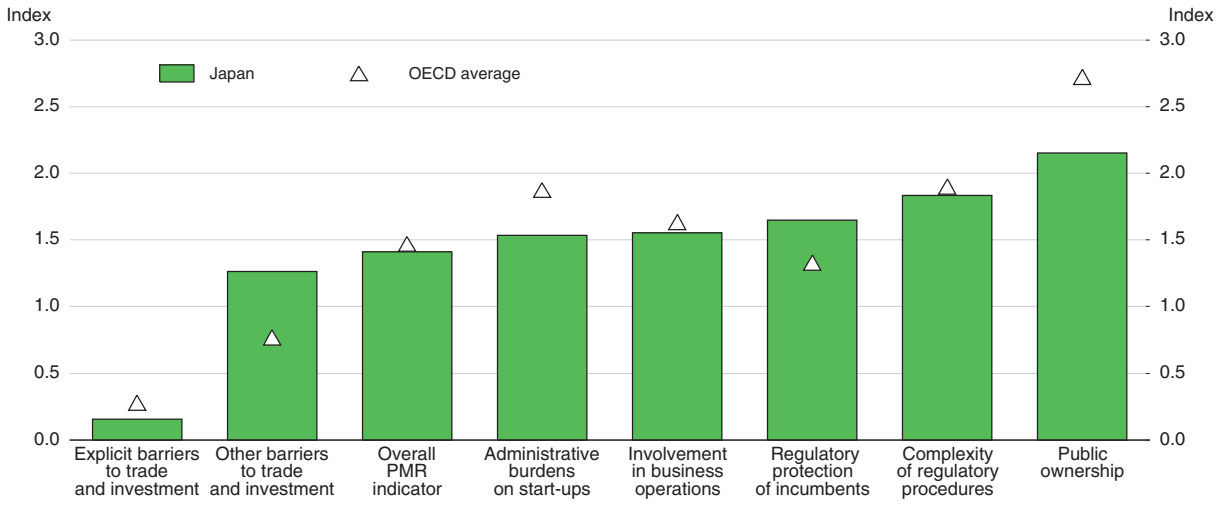
The stringency of product market regulation (PMR) has a significant relationship with aggregate productivity across the OECD (Bouis et al., 2011). The gap between frontier firms and laggards is greatest in industries in which regulation restricts competition. Available estimates suggest that up to half of MFP divergence could have been avoided and the diffusion of best technologies could be accelerated if countries engaged in more extensive market liberalisation, in particular in services (Andrews et al., 2016).

Reforms that lighten burdens on firms and increase the transparency of regulatory regimes support entrepreneurship and market entry. Less restrictive regulations can also narrow the gap between leading and lagging firms by allowing innovative new firms to attract the resources necessary to implement and commercialise new ideas. In a firm that experienced a 10% increase in patents over 2002-10, it is estimated that its workforce rose by 2.4% in the country with the least stringent PMR but by only 0.7% in the country where it is most stringent (Andrews et al., 2014). In turn, greater allocative efficiency results in faster productivity gains. Moreover, a decrease in PMR is found to have a positive impact on patenting activity. A hypothetical reduction in Finland's PMR in 2008 to the OECD average is estimated to result in a 3% rise in patents per capita. In contrast, higher PMR stifles innovation and growth; convergence to the technological frontier is slower for countries with higher PMR, thus maintaining the dispersion of productivity and wages (Westmore, 2013).

Japan's PMR index in 2013 was slightly below the OECD average, but well above that of the leading countries (Figure 1.16). Priorities for regulatory reform in Japan include: i) reducing regulatory protection of incumbents, which is well above the OECD average; ii) reducing administrative burdens on start-ups, where Japan is below the OECD average

Figure 1.16. **There is scope to align Japan's product market regulation with OECD best practice**

In 2013[1]



1. The OECD Indicators of Product Market Regulation are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition. Research shows that the indicators have a robust link to performance. The indicator, based on more than 700 questions, ranges from zero (most relaxed) to six (most stringent).

Source: OECD (2017f), *OECD Product Market Regulations Statistics* (database); Koske et al. (2015).

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but above the best-performing countries; and iii) reducing the complexity of regulatory procedures, where Japan matches the OECD average.

The government's Growth Strategy 2016 lists three priorities – National Strategic Special Zones (2015 *OECD Economic Survey of Japan*), corporate governance (see below) and labour market reform (see below). Regulatory reform is the task of two councils:

- The Council for the Promotion of Regulatory Reform, with a mandate from 2016 to 2019, consists of 14 members from the business sector, academia and research institutes. It presents annual reports on regulatory reform.
- The Council on Economic and Fiscal Policy (CEFP), established within the Cabinet Office in 2001, advises the Prime Minister on economic policy, including regulatory reform. It consists of four private-sector experts, five ministers and the governor of the Bank of Japan.

Regulatory reform should focus on service industries, where productivity has lagged. In some services, regulations limit or prohibit the entry of corporations on the grounds of protecting consumers, thereby ensuring a large role for non-profit organisations (including social welfare corporations). The rationale is that corporations exploit consumers to maximise their profits, whereas non-profit organisations do not. Based on this logic, corporations are not permitted to manage hospitals and purchase of farmland is limited to agricultural production corporations that satisfy certain requirements. Even when corporations are allowed to provide social services, they are not granted the same tax advantages or government subsidies available to non-profit organisations providing similar services. Such exclusion of corporations provides *de facto* protection for small non-profit organisations (Yashiro, 2016). Such regulations on the entry of corporations prevent scale economies and the widening of consumer choice. Many of the fastest-growing sectors in the Japanese economy – such as health and long-term care and childcare – are thus largely off-limits to corporations, limiting productivity gains.

Improving corporate governance

Japanese firms have long been characterised by low return on equity (RoE) compared to their European and US counterparts (2015 *OECD Economic Survey of Japan*). Better corporate governance would improve their access to equity, the allocation of capital and the monitoring of firm performance (Isaksson and Çelik, 2013). In turn, this would allow Japan to make better use of its high level of business R&D and human capital to raise productivity. Improved corporate governance could also encourage the corporate sector, which has exceptionally high cash holdings, to find ways to productively use their cash for capital investment. Following Japan's banking crisis, an increasing number of companies achieved zero-leverage in effective terms, with cash holdings exceeding outstanding debt. Such firms accounted for around 40% of the total in 2010 (Nakamura, 2017). Firms put a priority on reducing debt and amassing cash rather than maximising their enterprise value, and became more cautious about indebtedness.

Corporate governance also affects income inequality by influencing the pace of employment adjustment and the exit of non-viable firms. Japan's traditional corporate governance system, which tends to favour stakeholders over shareholders, featured life-time employment and limited labour mobility (Odaki and Kodama, 2014). Moreover, the dominance of large shareholders and high cross-shareholding slowed down the speed of employment adjustment. In addition, firms with corporate boards dominated by insiders are more likely to protect employees, while those with outside directors tend to pursue

employment adjustment (Abe and Shimizutani, 2007). An improved corporate governance framework would facilitate the downsizing or closing of low-productivity activities and the shift of resources to high productivity activities, helping reduce the variance in wages in the medium term.

The government has placed unprecedented focus on corporate governance during the past few years, despite opposition from some business groups. One of the ten key reforms in the Revitalization Strategy is to "enhance corporate governance, aiming at sustainable growth in corporate value". To achieve this objective, Japan introduced a Stewardship Code for institutional investors in 2014 and a Corporate Governance Code for publicly-listed companies in 2015.

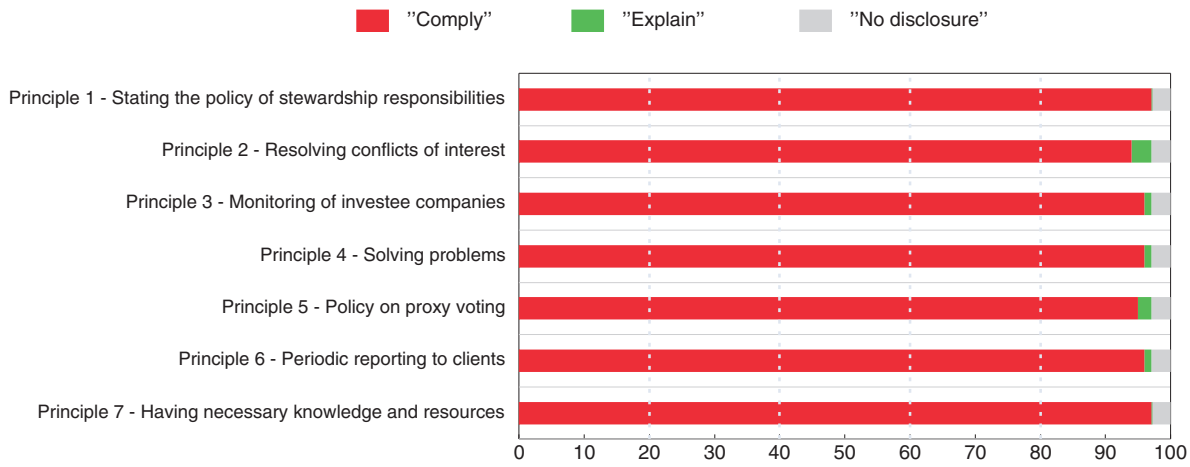
The Stewardship Code

The Stewardship Code requires participating institutional investors to engage in "constructive dialogue" with the firms in which they invest in order to "support the sustainable growth of companies". Institutional investors play an increasingly important role in corporate governance in many countries (OECD, 2011). However, institutional investors in Japan, whether they be asset managers or the asset owners themselves, have long been criticised for being too cosy with corporations and taking a passive approach, such as blindly voting in line with management or failing to vote (Hogan, 2015). Some companies arbitrarily forbid the participation and voting of institutional investors at shareholder meetings (Smith and Chern-Yeh, 2016).

The Stewardship Code includes seven principles that apply to institutional investors on a "comply-or-explain" basis (Figure 1.17). The first principle requires institutional investors to publicly announce their policies to fulfil their stewardship responsibilities. Some commitments are quite specific, such as demanding a minimum 5% return on equity, a rate not achieved by around a third of listed companies. Institutional investors are also expected to have an "in-depth knowledge" of the firms in which they invest (principle 7), so that they may constructively engage with firms, as stated in the Code. Perhaps most importantly, the sixth principle requires institutional investors to regularly report to

Figure 1.17. **Share of institutional investors complying with the Stewardship Code's principles**

As a percentage of institutional investors that have accepted the Code



Source: Financial Services Agency (2017).

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beneficiaries concerning their actions to fulfil their stewardship. In addition to boosting the return to their clients, institutional investors that fulfil these functions perform a socially beneficial role by providing new information that will improve resource allocation (Çelik and Isaksson, 2013).

By December 2016, more than 200 institutional investors had joined the Code, with foreign investors accounting for nearly half. Market pressures are likely to continue increasing the number, as institutional investors who fail to adhere to the Code will lose clients. Investment managers account for more than two-thirds of participating institutions, with insurance companies and trust banks accounting for most of the remainder. The rate of compliance with the seven principles ranges from 94% to 97% (Figure 1.17). According to a survey by the Government Pension Investment Fund, 61% of the companies in the JPX Nikkei Index 400 appreciated the change in institutional investors' behaviour following the Code's introduction. In particular, they found discussions about long-term business strategy to be useful. However, companies expressed concern that institutional investors focus too much on the short term and lack an understanding of their business (GPIF, 2016).

Further encouraging the end asset owners to join, if appropriate, would make the Stewardship Code more successful. Corporate pension funds are sizable customers of the fund managers that have joined the Code, and could influence the policies of the fund managers. The Government Pension Investment Fund, which is by far the largest asset owner, has joined the Code and outsourced its asset management activities to fund managers who have also adopted it. While other public pension funds and the Pension Fund Association have joined the Code, only one non-financial corporate pension fund has joined it thus far. Some argue that corporate pension funds are afraid of conflict with the firms they invest in and with which their parent company has business ties. Measures by the Financial Services Agency to address these issues would make the Code more effective.

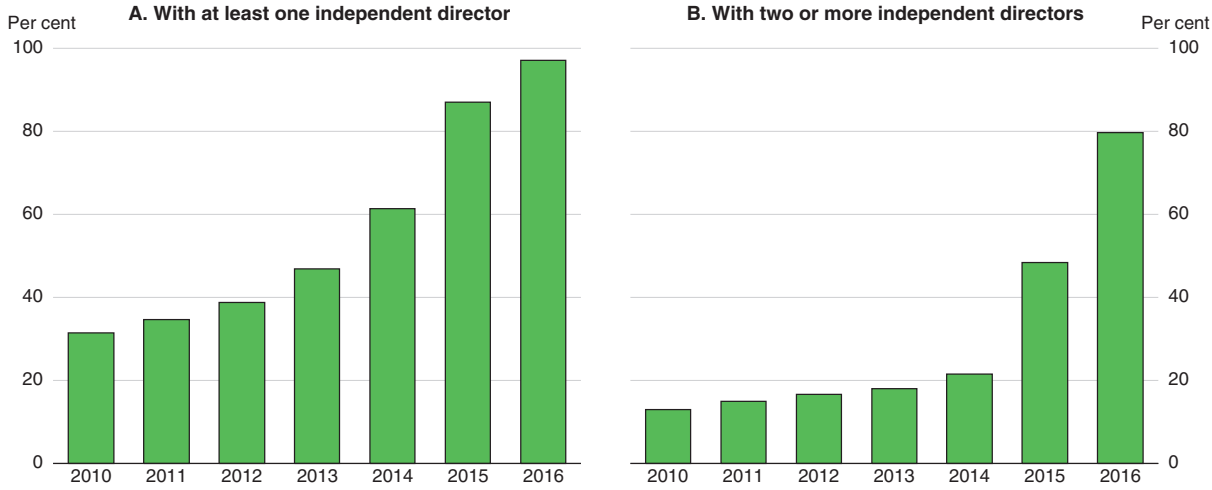
The Corporate Governance Code

In 2015, Japan became one of the last OECD countries to introduce a corporate governance code. Japan's Code is based on the OECD Corporate Governance Principles and is applied on a comply-or-explain basis. By December 2016, 84.7% of the 2 530 firms in the first and second sections of the Tokyo Stock Exchange (TSE) complied with at least 90% of the 73 principles in the Code and 19.9% complied with all of them (TSE, 2016). The Code has also prompted important changes in the governance framework. For example, the number of companies with advisory committees on nomination and remuneration, which are optional, more than doubled between July 2015 and May 2016.

The revision of the Companies Act in 2015 mandated one outside director and the Code mandated two independent directors, both on a comply-or-explain basis (the definition of independent director is stricter than that of an outside director). Between 2014 and mid-2016, the share of firms in the first section of the TSE with two or more independent directors rose from 22% to 80% (Figure 1.18). The appointment of outside director(s) in Japan has been found to have a significantly positive impact on a firm's share price and profit margin (Saito, 2009), and to boost their ROE (Investor Impact, 2014). Corporate boards have traditionally been dominated by insiders, notably long-term employees, who play a major role in decision-making, thus contributing to a lack of transparency in corporate governance (Kanda, 2013). Moreover, directors tend to focus more on operational execution than on supervision (Ueda, 2015).

Figure 1.18. **The share of companies with independent directors has increased rapidly**

Share of companies on the first section of the Tokyo Stock Exchange as of 14 July 2016



Source: Tokyo Stock Exchange.

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Effective evaluation of the board is important, as stated in Principle 4-11-3 of the Code: "Each year the board should analyse and evaluate its effectiveness as a whole… including the self-evaluations of each director. A summary of the results should be disclosed". However, only 55% of companies had complied with this principle by February 2016 (TSE, 2016). The Code also states that "Boards should establish and disclose independence standards aimed at securing effective independence of independent directors". The effectiveness of independent directors depends on their expertise. A study of over 500 major companies in Japan found that those that appoint independent directors with relevant industry experience have higher total shareholder return, especially when that experience is with competitor firms. However, adding directors from unrelated industries or from academic or legal backgrounds had little effect on shareholder return (Bain & Company, 2016).

A greater role for independent directors would also increase the diversity of corporate boards. In 2013, two-thirds of the firms in the Nikkei 225 had boards of directors composed entirely of Japanese men over age 50. Women, foreigners and individuals under age 50 accounted for only 2% of directors. However, 46 of the 51 women who served on corporate boards in the 225 companies were independent directors (Ueda, 2015). Raising the number of independent directors is likely therefore to bring more diversity in terms of gender, nationality and age to corporate boards, with a positive impact on firm performance. To accelerate the increase, Japan may want to consider introducing quotas, as a number of countries have.

The 2014 Japan Revival Vision also called for lower cross-shareholding, which has "reduced the sense of crisis among management of Japanese companies for many years" and slowed restructuring. Although cross-shareholding, defined as shares in listed companies held by listed companies, has declined significantly since 1990 as main banks sold shares, it still accounts for 11% of market capitalisation. While cross-shareholding between companies with business ties provides mutual benefits and helps fight takeover bids, it blocks the interests of minority shareholders (Ueda, 2015). The Code requires company boards to re-examine their rationale for cross-shareholdings and disclose their policy and

objectives in this regard. Following the implementation of the Code, major banking groups decided to cut cross-shareholdings by around 30% in the coming three to five years.

Corporate governance reform is not an end in itself – the ultimate purpose is to contribute to greater efficiency and productivity growth and ultimately well-being and inclusiveness in Japan. To achieve this, the business community, the TSE and the government need to support the effective implementation and widespread use of the new framework. To promote changes in behaviour in line with the new framework, the Council of Experts was established in 2015 to monitor the efforts of companies and institutional investors and highlight good practices. One sign of progress is compliance with the principle that annual shareholder meetings should be scheduled for the convenience of investors. Traditionally, such meetings have been concentrated on certain days in June, making it difficult for investors holding shares in multiple firms to attend. The proportion of companies holding their meetings on 29 June – the most popular day – fell from 41% in 2015 to 32% in 2016. Finally, the rise in the share of foreign ownership of Japanese equities to over 30% is another driver to improve corporate governance. If Japan is to reap the full benefits of the global capital market, its corporate governance framework arrangements must be credible and adhere to internationally-accepted principles (Isaksson, 2015).

Innovation to promote productivity growth and social inclusion

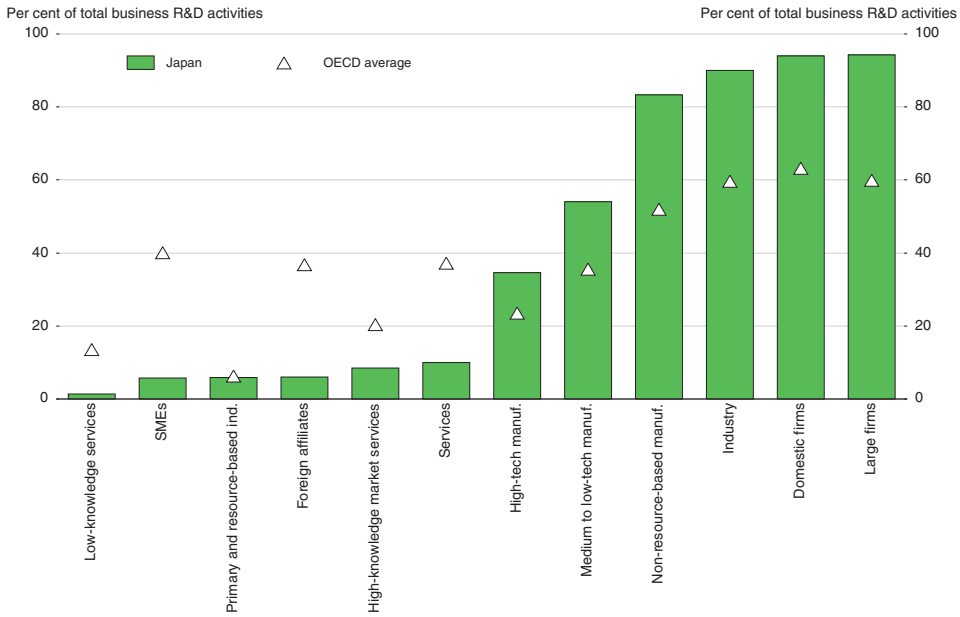
Innovation boosts productivity. Japan has a strong innovation base, as measured by patent applications and R&D spending, which rose from 2.7% of GDP in 1995 to 3.6% in 2014, third only to Israel and Korea among OECD countries. In the fifth Science and Technology Basic Plan (2016-20), the government set a target of raising it to 4% of GDP by 2020 and developing industries at the knowledge frontier. The large labour productivity gap with the top half of OECD countries (Figure 1.3) and sluggish productivity growth in recent years suggest scope for increasing the return on Japan's investment in innovation. As stressed in the 2015 *OECD Economic Survey of Japan*, key priorities are improving the quality of research, strengthening international collaboration, including through "open innovation in global networks", and boosting links between R&D in business, academia and the government.

Business-sector R&D, which has the greatest impact on TFP growth (Westmore, 2013), is one of the highest in the OECD at 2.8% of GDP in 2014, making Japan one of the top contributors to the development of disruptive technologies and a world technology leader (OECD, 2016d). The innovation system is dominated by large firms (Figure 1.19), with little co-operation with universities and government research institutes (GRIs). Indeed, 99.0% of business-financed R&D takes place within firms, leaving little room for universities and GRIs at 1% together (Table 1.3). Consequently, mobility of researchers between the business sector, universities and GRIs is limited.

The diffusion of technology is a key to narrowing productivity gaps between firms (OECD, 2015c). Results from firm-level data suggest that R&D collaboration between universities and firms reduces such gaps (Andrews et al., 2015). Such collaboration is especially important in SMEs and in the service sector, where R&D is exceptionally low (Figure 1.19). R&D collaboration with universities facilitates technological diffusion by providing smaller firms with access to sources of knowledge, such as advanced machinery or skilled scientists. Thus, policies to boost R&D collaboration between universities and firms help raise both productivity and inclusive growth (2015 *OECD Economic Survey of Japan*). In 2016, the government launched the Program for an Open Innovation Platform with Enterprises,

Figure 1.19. **R&D spending is concentrated in large manufacturing firms**

In 2013



Source: OECD (2016g).

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Research Institutes and Academia (OPERA) to promote such co-operation at a pre-competitive stage of development, with financing from the business sector and the government.

Increasing international openness

Barriers to international trade and inflows of foreign direct investment (FDI) can slow productivity gains, hurting inclusiveness. While Japan's explicit barriers to trade and investment are below the OECD average, other barriers are well above (Figure 1.16). This section considers barriers to imports of agricultural products and Japan's goal of doubling its stock of inward FDI.

Table 1.3. **Flows of R&D funds in 2014**

A. R&D funding

Source of funding	Share of total R&D spending	Allocation of R&D spending by sector performing it			
		Government	Universities	Business enterprises	Total
Government[1]	16.7	54.6	40.4	5.0	100.0
Universities	5.5	0.6	98.8	0.6	100.0
Business enterprises	77.3	0.6	0.4	99.0	100.0
Foreign sources	0.5	5.0	2.2	92.8	100.0

B. Sector performing R&D

Sector performing R&D	Share of total R&D performed	Funding source for R&D performed				
		Government	Universities	Business enterprises	Foreign sources	Total
Government[1]	9.7	94.6	0.3	4.9	0.2	100.0
Universities	12.6	53.7	43.6	2.6	0.1	100.0
Business enterprises	77.7	1.1	0.0	98.4	0.5	100.0

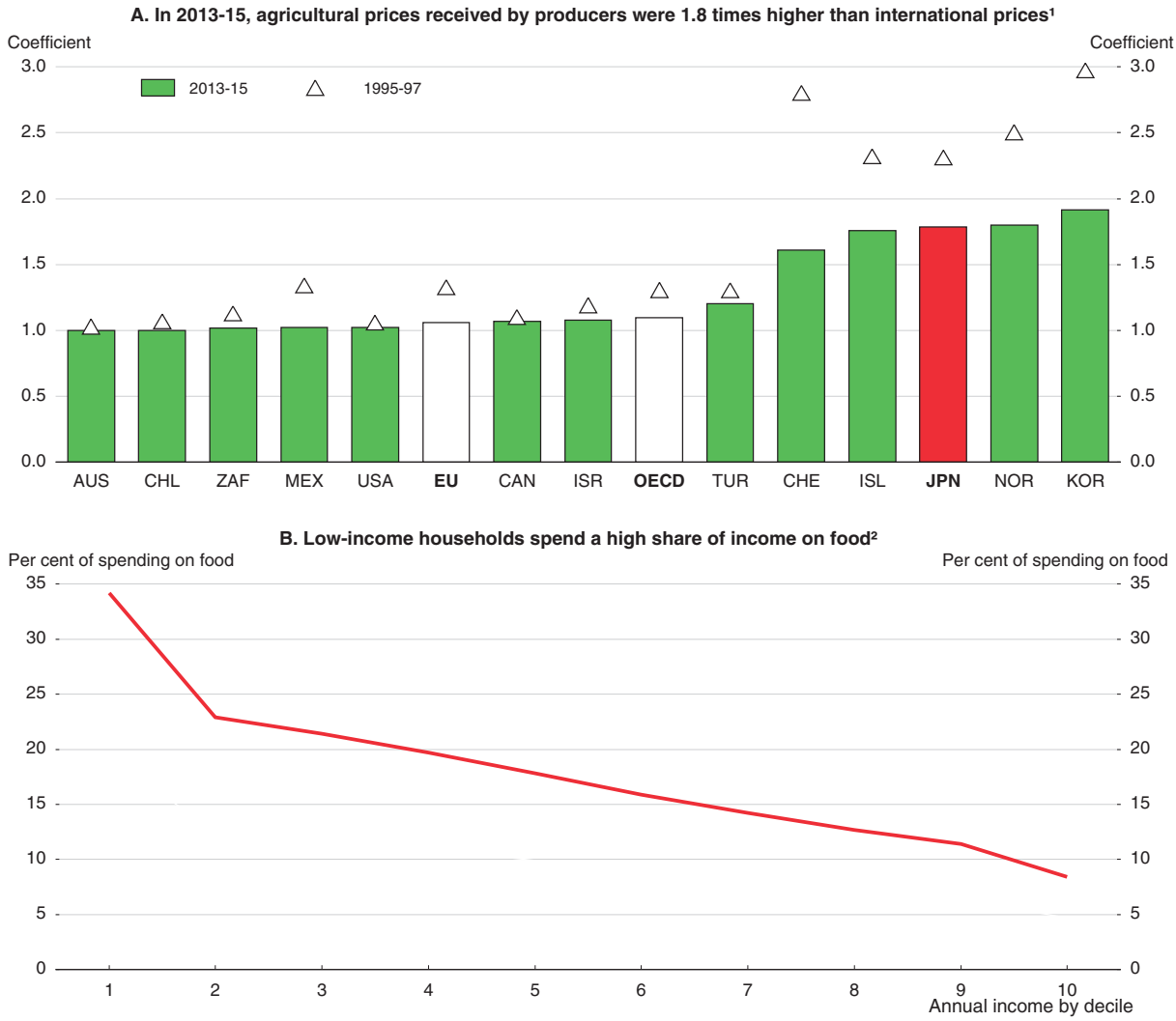
1. Includes private non-profit institutes.

Source: OECD (2017h), *OECD Science, Technology and R&D Statistics* (database).

Agricultural policy and impact on domestic prices

Barriers to international trade raise prices for consumers and distort production decisions, resulting in a misallocation of resources and lower productivity. In Japan, support for agriculture remains relatively high, averaging 48% of gross farm receipts in 2013-15, almost three times the OECD average. Market price support (MPS), which is one of the potentially most distorting forms of support, remains the main element of producer support in Japan and is sustained by trade barriers. The high level of protection translates into high prices received by producers, as shown by the Producer Nominal Protection Coefficient (NPC). The NPC of 1.8 indicates that the prices received by producers in Japan were 80% above international market levels at the farm gate (Figure 1.20). Japan's NPC is the third highest in the OECD and well above the average of 10%.

Figure 1.20. **Agricultural producer prices in Japan are high**



1. The figure shows the Producer Nominal Protection Coefficient (NPC), which is defined as the ratio between the average price received by producers and the border price (both measured at the farm gate).
2. For all households.

Source: OECD (2016a); Ministry of Internal Affairs (2014), *Comprehensive Survey on Consumption*.

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Given that the share of income spent on food rises as income falls, high food prices in Japan have a particularly harmful effect on low-income households, aggravating income inequality. The lowest income decile spent 34% of their income on food (excluding restaurant meals) in 2014 versus only 8% for the highest decile (Panel B). If agricultural prices in Japan fell to the world level, and this were matched by a decline in food prices in Japan, households would spend much less on food, with low-income households gaining the most.

Japanese agriculture has low productivity due to fragmented farmland, restrictions on entry, an inflexible production and distribution structure and a quota system on rice to maintain the price. Reforms to move towards a market-oriented agriculture sector would boost productivity and promote inclusive growth by reducing the burden of high food prices on low-income families. In 2013, the government decided to phase out the administrative allocation of rice production by 2018, giving farmers more freedom to respond to market signals. However, commodity-specific payments for diversion crops, such as rice for manufacturing and feed, will keep the price of rice high. Further efforts are needed to gradually reduce such payments and narrow the large gap between the international and domestic rice price.

The continued payments for diversion crops are aimed at fully utilising farmland, thereby promoting self-sufficiency. The 2015 Basic Plan on Food Agriculture and Rural Areas, which lays out policy goals for the next 10 years, raised the self-sufficiency targets for the year 2025 from 39% to 45% on a calorie supply basis and from 64% to 73% on a production value basis. However, Japan should shift the focus from food self-sufficiency to food security based on a multi-faceted approach: i) a more competitive domestic agricultural sector; ii) diversified sources of imports; iii) sufficient emergency food reserves; and iv) the conservation of an adequate agricultural resource base (2015 *OECD Economic Survey of Japan*).

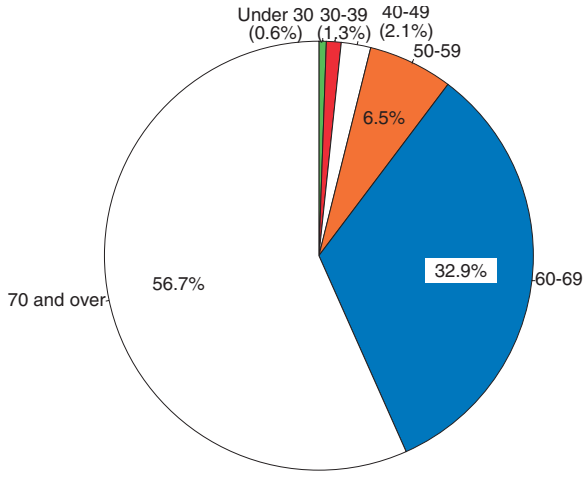
Japan's average tariff on agricultural products is 13%, though it exceeds 100% on some products. Under the TPP agreement that Japan signed in 2015 with 11 other Pacific Rim nations, most agricultural tariffs would have been eliminated, either immediately or over a fixed time period. Japan also made commitments to reduce border measures on some of the most sensitive commodities, including rice, pork, dairy, beef, wheat, and sugar. Japan should continue to pursue regional and bilateral free trade agreements. The thriving specialist livestock and horticulture industries show that Japanese farmers have the potential to be internationally competitive and respond to market opportunities (Jones and Kimura, 2013).

Boosting productivity depends in part on increasing the size of farms through consolidation (OECD, 2016a). Productivity in land-intensive agriculture is low, reflecting the small median size of field crop farms at only five hectares in Japan in 2010, compared to Germany (239 hectares), the United States (486 hectares) and Canada (1 076 hectares) (Bokusheva and Kimura, 2016). The government estimates that land productivity on rice farms of 10 to 15 hectares is double that on farms of one to two hectares. The prevalence of small farms reflects the production quota system, subsidies that make small-scale farming profitable and the complex web of laws governing land ownership, transfer and taxation (Jones and Kimura, 2013). Japan has made efforts to promote land consolidation by increasing the land held by "business farmers", who are certified by the authorities, through the creation of a farmland bank and the provision of various types of supports for which only business farmers are eligible. However, it is important to address other factors that hamper the growth of more efficient farms. Tax concessions on idled land should be reduced, so as to encourage its productive use.

The rapid ageing of Japan's farmers provides an opportunity to accelerate land consolidation and introduce bold reforms to revitalise the agricultural sector. In 2015, 56.7% of rice farmers were over 70, while another 32.9% were between 60 and 69 (Figure 1.21). Only one-tenth were under age 50.

Figure 1.21. **Japan's farm workforce is elderly**

The age distribution of rice farmers in 2015



Source: Ministry of Agriculture, Forestry and Fisheries (2015).

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Policies to promote inflows of foreign direct investment

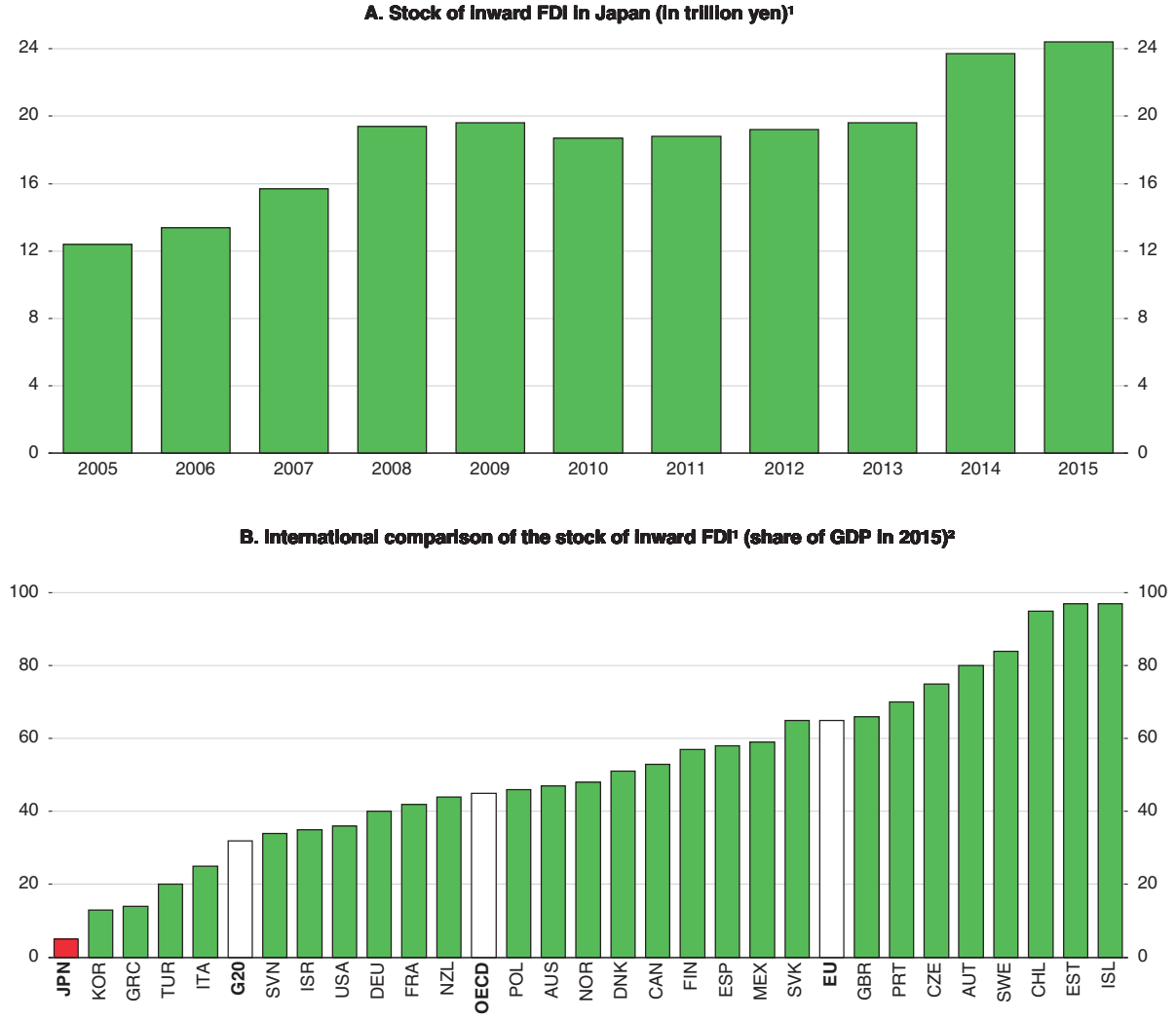
FDI inflows bring important benefits, such as enhancing competition and local technical capabilities. In addition, capital deepening promotes inclusiveness by boosting wages. The Revitalization Strategy set a target of doubling the stock of inward FDI from 18 trillion yen in 2012 to 35 trillion yen in 2020, echoing the 2003 plan to double FDI over five years. The stock rose from 18.0 trillion yen in 2012 to 24.4 trillion in 2015 (Figure 1.22).

The goal of doubling the stock of inward FDI is challenging. The overriding concerns expressed by foreign firms focus on the need for harmonisation with global systems to address low profitability and high costs in Japan and to improve living conditions for expatriates (Expert Group of the Cabinet Office, 2014; EBC, 2014). A number of specific issues were cited: i) expanding the market for corporate M&As, a key channel for FDI; ii) reducing the corporate income tax rate toward the level in other Asian countries (Chapter 2); iii) bringing Japan's corporate governance framework into line with global standards (see above); iv) reforming unclear administrative practices and unique and rigid standards for certifying consumer goods; v) liberalising the long and complicated procedures for starting a business; vi) enhancing the flexibility of employment and termination rules; and vii) facilitating the entry of foreign workers (EBC, 2014).

Making the SME sector more dynamic

SME policy is a key priority for reforms that would promote productivity and inclusive growth. The number of SMEs in Japan fell from 4.8 million in 1999 to 3.8 million in 2015, reflecting in part the difficulty that ageing owners face in finding successors. Nevertheless, SMEs still account for 70% of employment and more than 50% of value added. SMEs have

Figure 1.22. **The level of foreign direct investment in Japan remains low**



1. Based on BMD4 on a gross basis.
2. Excludes Switzerland (185% of GDP), Belgium (209%), Hungary (218%), Ireland (607%), the Netherlands (568%) and Luxembourg (8313%).

Source: OECD (2017e), *OECD International Direct Investment Statistics* (database).

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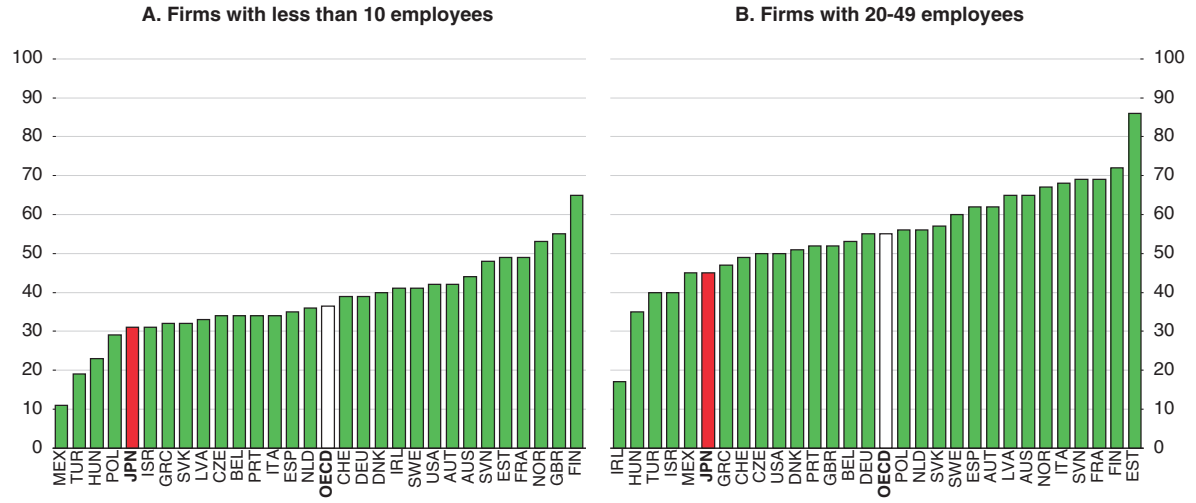
long suffered from low productivity and weak profitability. Labour productivity in firms with 20-49 employees is 45% of that of firms with more than 250 employees, below the OECD average of 55% (Figure 1.23). Low productivity in the SME sector is linked to the weakness of services (2015 *OECD Economic Survey of Japan*), given that three-quarters of SMEs are in that sector. The productivity gap with manufacturing has widened, as productivity stagnated in services (Figure 1.24). In addition, more than two-thirds of firms with less than 100 million yen (USD 0.87 million) in capital – and thus classified as an SME – reported a deficit in FY 2014.

Government lending accounts for about 10% of SME financing, with another 10% provided through public loan guarantees (2015 *OECD Economic Survey of Japan*). SMEs also benefit from a reduced corporate tax rate, and most avoid paying the tax, as owners pay themselves wages large enough for the firm to record a loss. A number of studies show that

Figure 1.23. **Productivity in small firms in Japan is low relative to large firms**

Value added per person employed in 2013 relative to that in firms with more than 250 workers = 100



Source: OECD (2016b).

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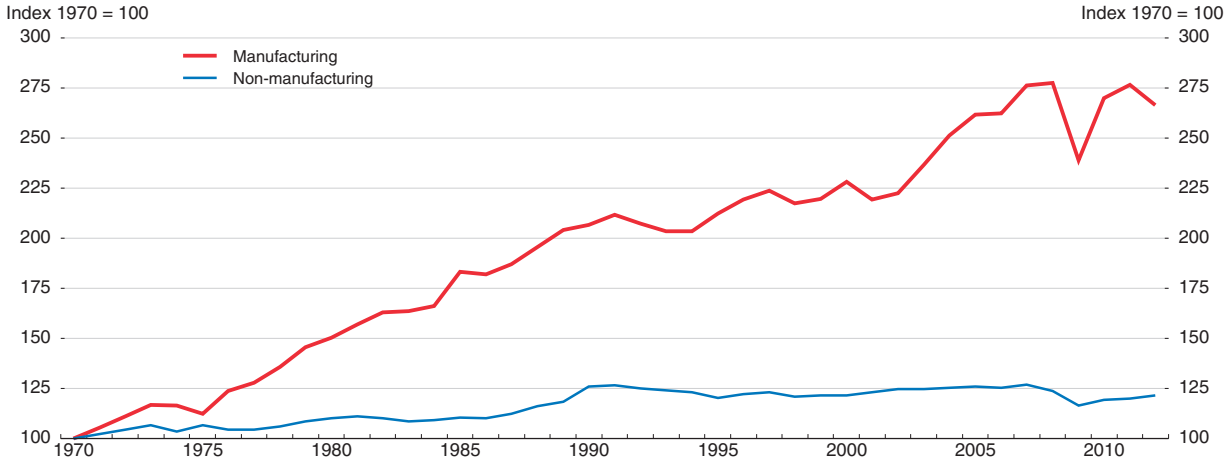
generous government support delayed restructuring in Japan by keeping non-viable enterprises afloat (Caballero et al., 2008). Public support for SMEs, which account for 99.7% of registered firms, thus contributed to the low exit rate (Figure 1.7).

The Basic Law on Small and Medium Enterprises was revised in 1999 to define SMEs as a source of growth, giving policies a focus on two contrasting objectives: i) revitalisation of regional areas by maintaining employment and starting new firms; and ii) realising Japan's growth potential by promoting new businesses and overseas business expansion (SMEA, 2014a). Boosting the dynamism of the SME sector is an objective of the Japan Revitalization Strategy.

Figure 1.24. **The productivity gap between manufacturing and non-manufacturing has widened sharply**



Source: Japan Industrial Productivity Database 2015.

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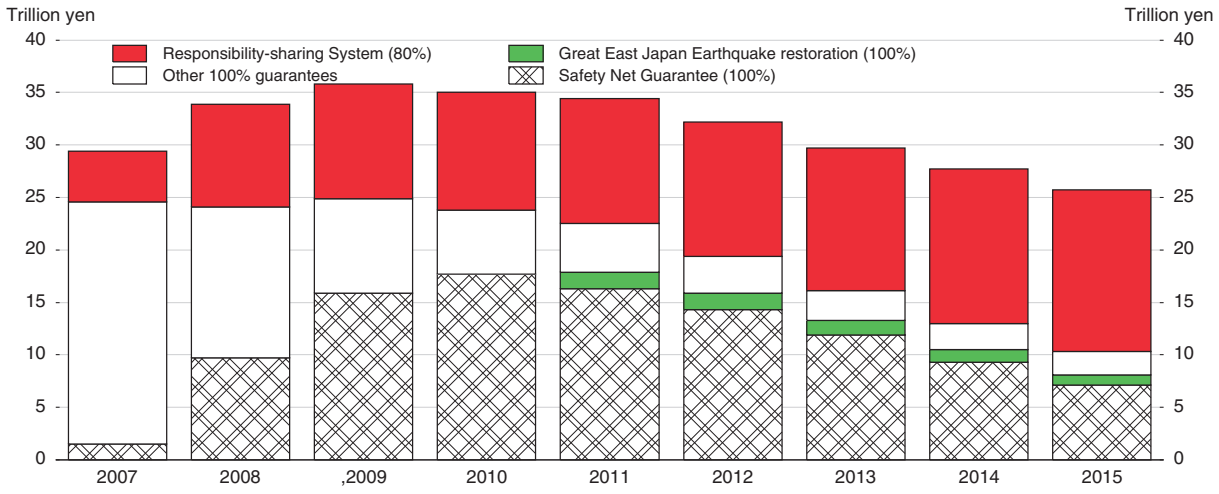
Outstanding credit guarantees from the government for SME loans fell from a peak of 35.9 trillion yen (7.3% of GDP) in FY 2009 in the wake of the global financial crisis to 25.8 trillion yen in FY 2015 (Figure 1.25). In addition, the share of guarantees covering 100% of loans declined from 69% to 40% over that period. Guarantees of 100% weaken market forces as banks have little incentive to monitor such loans. The government is planning to reform the guarantee system: i) banks applying for credit guarantees will have to supply loans to SMEs without credit guarantees; and ii) the largest 100% guarantee scheme (Safety Net Program No. 5) will lower its rate to 80%, making financial institutions liable for 20% These two reforms will strengthen market forces.

Figure 1.25. **Public credit guarantees for loans to small and medium-sized enterprises have fallen significantly**

By programme with the share of the guarantee shown in parentheses



Source: Small and Medium Enterprise Agency.

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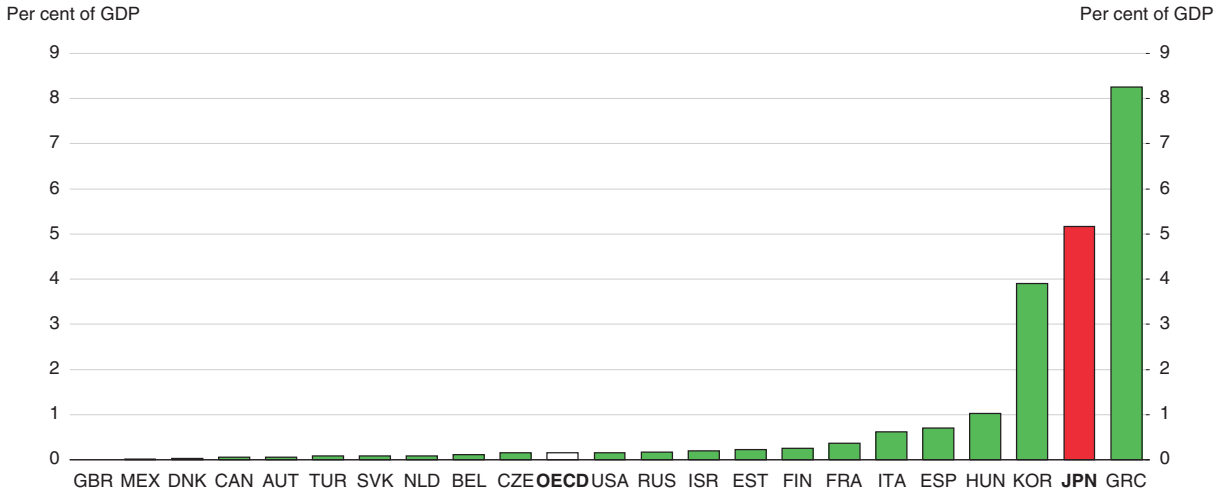
Despite the decline, government guarantees for loans to SMEs in Japan remain exceptionally high at 5.2% of GDP in 2015 (Figure 1.26). However, given the heavy reliance on bank lending for SMEs, the share of SME loans that are guaranteed is around 11%, compared to 12% in the United States and 15% in Korea. As noted above, 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 the expansion of innovative firms. Further reducing public support for SMEs is necessary to help achieve the target set in the Japan Revitalization Strategy of raising the firm exit rate to 10%. Public support for SMEs has other negative side effects. *First*, it hinders the development of market-based financing (2015 *OECD Economic Survey of Japan*). SMEs prefer government loans, as they carry low interest rates, while 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 and to closely monitor borrowers. Public support for SMEs can also increase adverse selection and moral hazard from the side of the banks. Expanding market-based lending requires appropriate infrastructure. The role of collecting and analysing information about SMEs could be played by the Credit Risk Database.

Figure 1.26. **Credit guarantees for small and medium-sized enterprises in Japan are exceptionally high**

Stock of guarantees in 2015 or latest year available



Source: OECD (2017a).

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Second, there is little evidence that government financial support improves SME performance (2015 *OECD Economic Survey of Japan*). A study found that public support increased loan availability for SMEs but did not result in any significant increase in profitability over 2007-12 compared to firms that did not receive benefits (Ono and Uesugi, 2014). Moreover, firms receiving public support recorded larger declines in employment. Another study showed that firms with public credit guarantees were more likely to be in deficit and took longer to repay loans than SMEs without such guarantees (Lam and Shin, 2012). Similar results have been found in other countries (Jones and Kim, 2014).

Third, high public support discourages small firms from growing and losing the benefits associated with SME status. In Japan, employment in mature companies (more than ten years old) is similar to that in new start-ups (Figure 1.9). The reluctance of SMEs to grow is illustrated by trends in their level of capital. Prior to 1999, when the definition of SMEs set the limit of capital at 100 million yen, firms below that threshold were significantly less likely to increase capital than firms above it, suggesting a desire to maintain their SME status. Once the limit on capital in the definition of SMEs was raised in 1999, the share of firms that increased their capital was significantly higher for those below 100 million yen than those above it. The increase was larger the closer the firm had been to the original 100 million yen limit (Tsuruta, 2016). Firms had held back from needed investment until the ceiling on capital to be classified as a SME was raised.

Directions for reform to improve government programmes for SMEs

Achieving the Revitalization Strategy goal of raising business entry and exit rates to 10% requires scaling back SME support and making it more market-friendly. Arguably, government intervention should be limited to covering the SME financing gap – the difference between the amount of SME financing that would occur in the absence of market failures and the actual amount of financing – although this is difficult to estimate in practice. The number of SME loans that are guaranteed should be reduced gradually towards the

levels in other OECD countries and 100% credit guarantees should be phased out. Moving the proportion of loans that is guaranteed to 80% or below would force banks to actively monitor credit risks. A number of countries set the ratio as low as 60% (IMF, 2012). Moreover, the cost of credit guarantees should be high enough to encourage strong SMEs to seek loans from private sources rather than relying on public support. Even SMEs with high creditworthiness make significant use of public financial institutions and credit guarantees (Minoya, 2012).

In the OECD area, governments are strengthening the focus of SME policy on supporting start-ups, with guarantees and direct lending schemes increasingly targeting young, innovative firms more explicitly (OECD, 2016c). Such an approach should be followed in Japan to allow greater focus on young SMEs, which face the most difficulty in obtaining loans. When initial credit guarantees for start-ups, which cover 100% of the loan, reach the end of their contract, any renewal of the guarantee should cover a smaller proportion of the loan.

The 2008 SME Financing Facilitation Act required financial institutions to review the terms of their loans to SMEs in response to requests by the borrowers, in particular by granting grace periods for payments of interest and principal (Yamori, 2014). The amended loans were not classified as nonperforming as long as the SMEs made credible restructuring plans (Endo, 2013). Banks were required to report their response to the authorities and the public (Yamori et al., 2013). Of the more than 4.3 million loans for which SMEs requested modification, 97% was approved by banks. The cumulative amount of modified loans reached 120 trillion yen (22% of GDP) (Ono and Uesugi, 2014). Although the law ended in 2013, the Financial Services Agency has continued to encourage financial institutions to modify the terms of loans to SMEs (2015 *OECD Economic Survey of Japan*). Supervisors should not pressure financial institutions to modify loans in response to requests from SMEs. Instead, the focus should shift from providing a safety net to promoting the restructuring of non-viable firms through efficient markets. This could be encouraged by requiring financial institutions to conduct regular credit reviews of SMEs, publicly announce the results, and prepare restructuring plans for non-viable firms, an approach adopted in Korea.

Breaking down labour market dualism

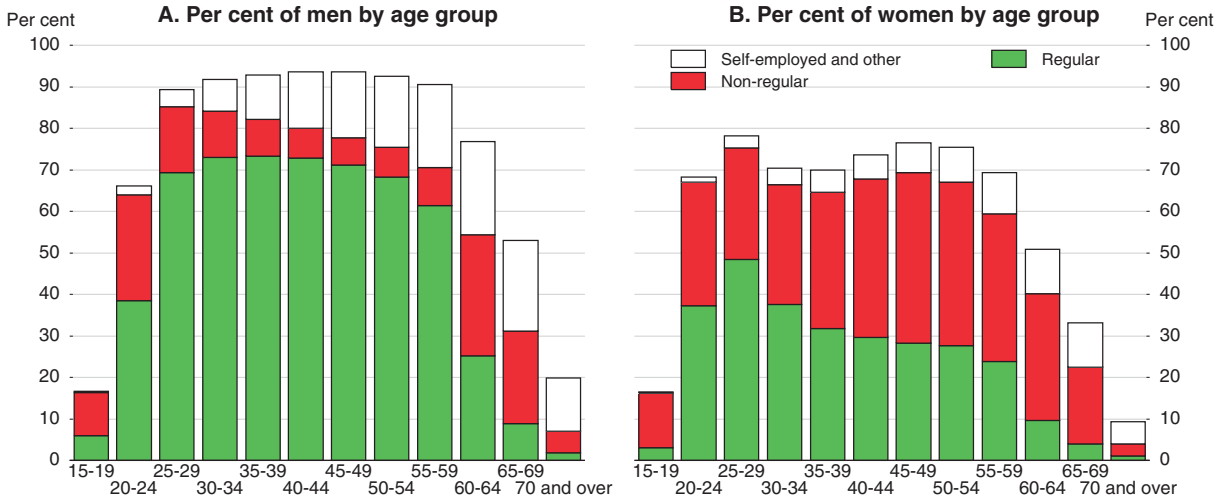
Non-regular employment, a category that includes fixed-term, part-time and dispatched workers (i.e. workers sent from private employment agencies), rose sharply from 9.7 million (20.3% of total employment) in 1994 to 18.1 million (35.2%) in 2012. The upward trend has continued and by the third quarter of 2016, the number had topped 20 million, accounting for 37.5% of employment. Non-regular employment is concentrated among women, who accounted for 68% of non-regular workers in 2015 (Figure 1.27). Of women working as employees, 56% are non-regular workers. Among men, non-regular employment is concentrated among those under age 35 and those over age 55.

Dualism undermines productivity, as non-regular workers receive less training from firms, which have little incentive to invest in workers who are not permanent. Studies of other countries find that dualism results in less human capital and lowers productivity growth (Aoyagi and Ganelli, 2013). A recent OECD study shows that relaxing employment protection raises aggregate productivity through more efficient resource allocation, thereby reducing the gap between leading and lagging firms (Andrews et al., 2016).

Dualism also worsens inequality and poverty due to wide wage gaps: on an hourly basis. Non-regular workers earn around 60% as much as regular workers (excluding bonuses). The wage gap increases with age. In the 50-54 age group, regular workers earn

Figure 1.27. **Non-regular employment is concentrated among women**

In 2015



Source: Ministry of Internal Affairs and Communications.

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twice as much as non-regular workers (Figure 1.28). This comparison understates the gap as it excludes bonus payments, which most non-regular workers do not receive. Among households in the 45-49 age group, the income of those headed by a regular worker was four times higher on average than for those headed by a non-regular worker (Panel B).

Low pay for non-regular workers results in high relative poverty rates (Table 1.4). According to a government survey, 49% of non-regular workers are the main earner in their households (MHLW, 2011). Among households with one earner, the poverty rate is 5% if the husband is a regular worker and 35% if he is a non-regular worker. The rising number of non-regular workers is driving up the number of social welfare recipients (Chapter 2). The negative consequences of dualism are exacerbated by limited mobility in a segmented labour market, in contrast to many other OECD countries, where temporary work is frequently a stepping stone to permanent employment.

Breaking down labour market dualism is essential to boost productivity and achieve inclusive growth. Prime Minister Abe said that the goal is "eliminating the expression 'non-regular workers' from our country" (Prime Minister's Office, 2016). The government has taken steps to address dualism:

- The Labor Contracts Act revision in 2013 requires that fixed-term contracts renewed repeatedly be transformed to open-ended contracts once a worker exceeds five years at the same firm, if the worker requests. The risk is that workers who previously would have been able to continue working by renewing fixed-term contracts will instead be forced out, as has occurred in some OECD countries with similar limits on fixed-term contracts (OECD, 2016e; Tsuru, 2012).
- The government announced in 2013 that it would achieve a "policy shift from 'over protection' type to 'support for labour mobility' type". In practice, this meant that Labor Mobility Support Subsidies have surpassed Employment Adjustment Subsidies. While the shift in emphasis is welcome, subsidies need to be carefully designed so as to encourage adequate take-up rates while avoiding large deadweight and displacement effects (OECD, 2015a).

Figure 1.28. **The wage gap between regular and non-regular workers is large**

1. Hourly wage in June 2015, excluding overtime payments and bonuses. Only 30% of part-time workers, who account for 70% of non-regular employment, receive bonus payments so the gap in take-home pay is even larger.
2. The survey covers households with two or more members. Bonus payments, which are paid primarily to regular workers, are included.

Source: MHLW, "Basic Survey on Wage Structure 2015"; MHLW (2014).

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Table 1.4. **Non-regular worker households suffer from a high poverty rate**

Relative poverty rate by employment status of spouses[1]

Husband (%)	Wife (%)			
	Regular	Non-regular	Self-employed	Not employed
Regular	1	3	3	5
Non-regular	7	19	16	35
Self-employed	5	16	13	23
Unemployed	8	38	21	47

1. The data are based on a survey of nearly 10 000 people. Relative poverty is defined as an income below 50% of the national median.

Source: Higuchi (2013).

- The government has launched an initiative for "equal pay for equal work" to eliminate the wage gap between regular and non-regular workers. The government announced draft guidelines last December that will be attached to the Labor Contract Law, the Part-time Workers' Law and the Worker Dispatching Act. In practice, it is difficult for workers to take complaints of differential treatment that is less favourable to the court given their limited information. Few OECD countries have laws that explicitly require that temporary workers be paid the same wages as equivalent permanent workers, given the difficulty of proving that their treatment is discriminatory (OECD, 2016e).

While laws to end discrimination are always welcome, breaking down dualism requires reforms aimed at the factors underpinning dualism. Two key factors encouraging firms to increase non-regular employment are the importance of cutting labour costs and enhancing employment flexibility. In addition to lower pay, non-regular workers receive less coverage by social security, which reduces employer social insurance contributions. Around a third of non-regular workers are not covered by employment insurance and about half are excluded from Employees' Pension Insurance (EPI) and firm-based health insurance. In addition, 70% of part-timers do not receive bonus payments and 90% do not receive the lump-sum retirement benefit paid by firms. In 2016, EPI was extended to around 250 000 non-regular workers, which is a step in the right direction.

Firms also hire non-regular workers to increase employment flexibility due to the employment protection accorded to regular workers. The Labor Contract Act states that any dismissal of workers that "lacks objective, reasonable grounds and is not considered to be appropriate in general societal terms, [shall] be treated as an abuse of power and be invalid". The law itself is not especially stringent and Japan is ranked in the lower half of OECD countries in its index of employment protection for regular workers. However, in practice, employment protection is high enough to prompt firms to raise the share of non-regular workers in their employees. For example, in the Global Competitiveness Index, restrictions on hiring and firing of workers in Japan is ranked as the tenth most severe among OECD countries (World Economic Forum, 2017). The very general formulation in the Labor Contract Law allows the legal system considerable discretion in applying the law. Judicial precedents have established four criteria to determine whether employment adjustment as a result of corporate downsizing can be deemed an abuse of power by the employer:

- The employer must establish the economic necessity for reducing its workforce.
- The employer must demonstrate that all reasonable efforts to avoid dismissals have been made.
- The employer must establish reasonable and objective criteria for selecting which workers will be dismissed.
- The employer must show that the overall dismissal procedure is acceptable, for example by showing that unions or worker representatives were adequately consulted.

It is "exceedingly difficult to judge the validity of dismissal" (JETRO, 2016), as these criteria leave considerable room for interpretation (OECD, 2015a). If an employer is judged to have failed to meet the criteria, the dismissal is rendered invalid. Such cases cannot be settled through monetary means (Tsuru, 2012), as the government rejects the notion that employers can dismiss workers by just paying money to them. Instead, the court usually orders reinstatement of dismissed workers with back pay. There is no time limit on when former workers may make a claim of unfair dismissal. In sum, employers face great uncertainty in trying to dismiss regular workers, thus prompting them to turn to non-regular workers.

Against this backdrop, a comprehensive strategy is needed 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 (2015 *OECD Economic Survey of Japan*). Reducing employment protection promotes growth-enhancing labour mobility and economic dynamism more generally (OECD, 2015c). As a first step to reduce uncertainty, the government should set specific monetary compensation for dismissed workers in order to create a "highly foreseeable dispute settlement system", but has not yet reached a conclusion.

In addition, employment protection for regular workers should be reduced, although this is difficult to implement in practice. In some European countries, it has been achieved through grandfathering – allowing current workers to keep current levels of employment protection but not newly-hired workers (OECD, 2017c). Another option would be to compensate regular workers for a reduction in employment protection through reforms that also accomplish the goal of improving work-life balance. For example, regular workers could be given additional leave, the right to refuse involuntary relocations and a reduction in overtime work. Such measures would reduce the incidence of "karoshi" (death by overwork), an issue of concern in Japan. Most importantly, the government must ensure adequate income and re-employment support to displaced workers.

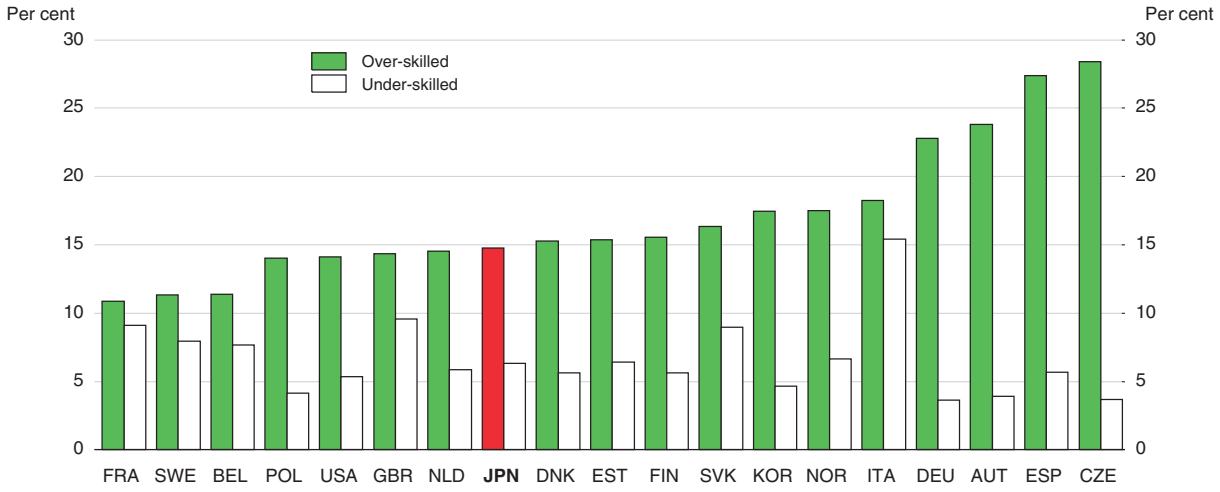
Human capital and skills

Japan is a top performer in development of skills, but deploying them effectively remains a challenge. Japan consistently ranks among the best performers in the OECD Programme for International Student Assessment (PISA), which tests the skills and knowledge of 15 year-old students, and the share of adults with a tertiary education is the second highest in the OECD. Japan ranked first in the OECD Survey of Adult Skills (PIAAC) in both literacy and numeracy skills of adult workers. While Japan excels in developing skills, it falls short in using skills at work, which is equally important if these high levels of skill proficiency are to translate into economic growth and productivity. For example, while Japan has the highest level of literacy and numeracy skills, the use of reading skills in the work place is close to the OECD average, while the use of numeracy skills is below average and the use of writing skills is just above average. Furthermore, 10% of workers are in jobs for which their literacy competencies are higher than required (OECD, 2016d). A significant share of Japanese employers are not making the best use of their workforce's competencies.

A key problem is that female workers who attain a high level of qualification often work in jobs for which they are overqualified, particularly as non-regular workers. The PIAAC survey indicates that women in Japan face the highest probability of being overqualified at 32%, compared to the average of 20% in the countries that participated in the survey (OECD, 2013c). Overall, about one-fifth of Japanese workers report a mismatch between their existing skills and those required for their job, with about 15% over-skilled and 5% under-skilled (Figure 1.29).

Skill mismatch and aggregate productivity are related through two channels: the impact on within-firm productivity and on the allocation of labour resources across firms. Trapping resources in relatively low productivity firms – which tends to occur in industries with a high share of over-skilled workers – can make it difficult for more productive firms to attract skilled labour and gain market share. Mismatch appears to be a factor that slows the development of new innovative firms, thus sustaining the gap between leading and

Figure 1.29. **Percentage of workers reporting a skill mismatch in 2011-12**



Source: Adalet McGowan and Andrews (2015).

StatLink http://dx.doi.org/10.1787/888933468776

lagging firms and lowering aggregate labour productivity. The negative effect of mismatch on resource allocation more than offsets any productivity benefit that may accrue to the firms that employ over-skilled workers (Adalet McGowan and Andrews, 2015). Lowering the level of mismatch to the best practice in the OECD area in each industry would boost overall labour productivity by an estimated 4% in Japan. However, an even greater untapped supply of high-quality human capital stems from the fact that 22% of highly proficient adults are inactive, mostly reflecting the relatively low employment rates of Japanese women with higher education.

Ensuring that digitalisation promotes inclusive growth

Human skills are especially important to adapt to the digital economy. Governments, businesses and individuals are increasingly moving social and economic activities to the Internet as the diffusion and use of digital technologies increase. Digitalisation is a transformational change, unleashing new business models and modes of social interaction that promise to spur innovation, increase productivity and improve services in a wide range of areas (Scarpetta and Wyckoff, 2016). Digitalisation is expanding the gap between leading and lagging firms. In ICT-intensive sectors, global frontier firms increase their market share more rapidly, and productivity divergences are deeper (Andrews et al., 2016). At the same time, digitalisation can promote inclusive growth by creating better access to quality education and new opportunities for skill development (OECD, 2016j).

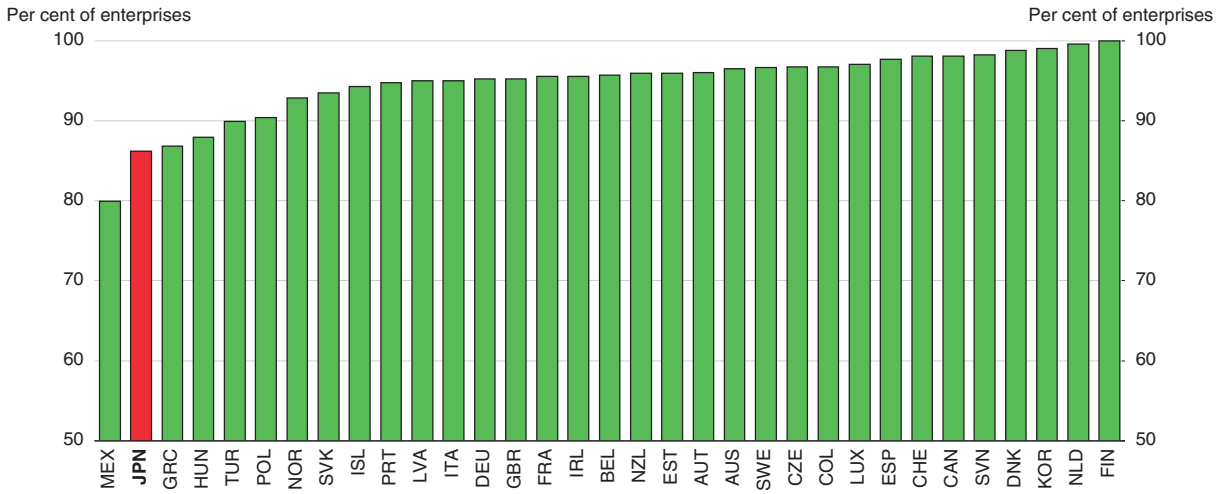
Japan has a vibrant Information and Communications Technology (ICT) sector, which accounted for 7% of GDP in 2013, the second highest in the OECD. It is particularly strong in ICT manufacturing, ranking fourth among OECD countries in 2013 with a world export market share of 4%. Japan is a top player in a number of ICT-related technologies, ranking fifth in the OECD in terms of business R&D in ICT as a share of GDP. Moreover, it has the second-highest penetration of mobile broadband in the OECD, at over 120% (OECD, 2015b).

However, Japanese firms have underinvested in ICT compared to some other major economies, reflecting a number of factors: i) Japan has a relatively small share of start-up firms, which typically are large investors in ICT; and ii) the incentive to invest in ICT, which

is often used to reduce labour inputs, is less attractive in Japan, given high employment protection that makes it difficult to adjust employment (Fukao, 2012). Japan faces challenges to stimulate the uptake and effective use of ICT by businesses to promote ICT-driven growth. The share of enterprises with a broadband connection was the second lowest in the OECD in 2014 (Figure 1.30). The share is lowest among small firms. In a 2015 survey, small firms, with an average workforce of 89, invested only 1.9% of their value added in ICT, only half as much as large firms (Table 1.5).

Figure 1.30. **Japan is lagging in the share of firms with broadband connectivity**

In 2014



Source: OECD (2015b).

StatLink http://dx.doi.org/10.1787/888933468787

Japan's ambitious 2013 Declaration to be the World's Most Advanced Information Technology (IT) Nation aims to achieve this goal by 2020. Acknowledging that Japan has not been able to fully utilise IT, the government launched a strategy to make IT an engine of growth by encouraging the creation of new and innovative industries and services (Strategic Headquarters, 2013). The government also expects IT to facilitate increased employment of women and older persons, in part by improving work-life balance.

As is typical with new technology, digitalisation can be disruptive, with wide-ranging impacts on work and production. The pace of the digital transformation is uneven with some socio-demographic groups lagging behind, with differences linked primarily to age,

Table 1.5. **Investment in Information and Communication Technology is low in small firms**

Averages based on a survey of firms

Firm size	Number of employees	ICT Inputs[1]
Large	1 783	3.8%
Intermediate	472	2.8%
Medium	201	2.2%
Small	89	1.9%
Total	307	2.6%

1. As a percentage of value added in 2015.

Source: Fukao et al. (2015).

education and income levels. Failure to adequately address these issues could lead to economic inefficiency and greater inequality. A coherent and comprehensive policy approach is therefore necessary to harness the benefits of digitalisation to ensure inclusive growth in Japan.

To make IT an effective driver of productivity and narrow the digital divide, the 2013 strategy contains a number of elements. *First*, it aims at digitalising the educational environment by investing in infrastructure, including software and hardware, beginning in primary school. In 2012, over half of 15 year-old students did not have an Internet connection or did not make use of it in school, compared to the OECD average of 29% (OECD, 2015g). Digitalising education requires developing teachers' capacity to take full advantage of a digital environment. In 2014, Japan launched a four-year plan, totalling 671 billion yen (USD 5.9 billion) to equip schools with more computers (for both teachers and students), electronic blackboards, wireless LANs and education software, and to employ ICT assistants at schools.

Second, the strategy will increase and enhance IT literacy for all, from children to older people. In Japan a surprisingly large proportion of the adult population, especially older people, have relatively poor IT skills. The OECD Survey of Adults Skills found that 10.2% of adults in Japan had no computer experience and 10.7% failed the IT core assessment, meaning they lacked the most elementary computer skills (such as the ability to use a mouse). Both shares are relatively high (OECD, 2016d). The share of adults in these categories rises to 21.2% for the 45-54 age group and to 40.9% for 55-64 year-olds, the fourth highest among participating countries. Consequently, the use of ICT at work is lower in Japan than in other countries for all age groups. Moreover, in 2013, 83% of individuals aged 6 years and older used the Internet, but only 74% used it daily, and 57% used it to make online purchases (OECD, 2016d). Government efforts to increase IT literacy, including among the 16-24 age group, whose IT problem-solving skills are relatively low, are a priority. In the 2016 follow-up to the Declaration to be the World's Most Advanced IT Nation, the government stated that it will consider policies to develop human resources to drive IT utilisation at private-sector companies.

Third, the strategy aims to reform the regulatory environment for IT. Many rules and regulations were established prior to the IT revolution and thus need to be revised to foster IT-driven growth.

Main policy recommendations for boosting productivity for inclusive growth

Key recommendations

- Facilitate the exit of non-viable firms by reducing the use of personal guarantees.
- Promote second chances for failed entrepreneurs by making the personal bankruptcy system less stringent.
- Increase the productivity of SMEs by strengthening R&D links between firms and universities.
- Implement the planned reform of the Credit Guarantee System to strengthen market forces and keep public guarantees of SME loans on a downward trend.
- Break down labour market dualism by relaxing employment protection for regular workers and expanding social insurance coverage and training for non-regular workers.

Main policy recommendations for boosting productivity for inclusive growth *(cont.)*

Further recommendations

- Make greater use of the Guidelines for Personal Guarantees Provided by Business Owners to expedite out-of-court settlements for failed SMEs.
- Promote entrepreneurship by enhancing the availability of education, training and financing, particularly for women.
- 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.
- Scale back commodity-specific agricultural subsidies and promote farm consolidation to lower production costs and strengthen market forces in the farming sector.
- Continue to pursue regional and bilateral free trade agreements.
- Focus SME support on overcoming market failures that limit private financing rather than supporting mature firms.
- Encourage FDI inflows by addressing problems in the M&A market, corporate governance, regulation and employment flexibility.
- Focus regulatory reform on administrative burdens on start-ups and regulatory protection of incumbents to encourage firm creation.
- Expand the use of ICT in education to prepare for the digital revolution.
- Raise the minimum wage.
- Use the new guidelines in labour laws to reduce discrimination against non-regular workers.

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Chapter 2

Ensuring fiscal sustainability in the context of a shrinking and ageing population

With gross government debt of 219% of GDP in 2016, Japan's fiscal situation is in uncharted territory and puts the economy at risk. In addition to raising productivity and growth, Japan needs a more detailed and credible fiscal consolidation path, including specific revenue increases and measures to control spending to restore fiscal sustainability. Spending pressures associated with rapid population ageing make reforms to contain social expenditures a priority. Local governments need to be part of the effort to contain public spending in the context of a shrinking population. Much of the consolidation, though, will have to be on the revenue side, primarily through hikes in the consumption tax rate toward the OECD average and a broadening of the personal income tax base. Fiscal consolidation should be accompanied by measures to promote inclusive growth through the tax and benefit system, in particular by introducing an earned income tax credit to assist the working poor, hiking the tax on capital income and broadening the base of the inheritance tax.

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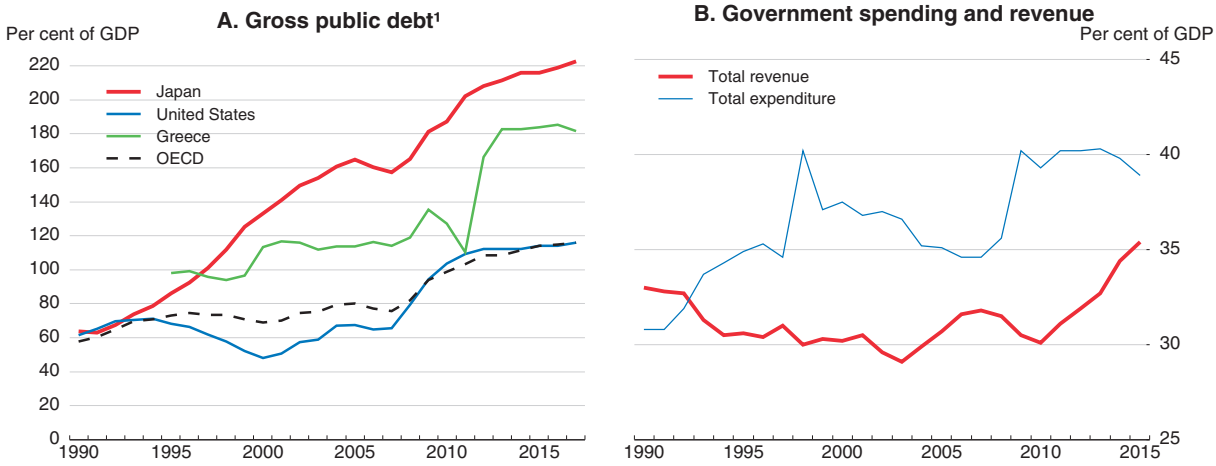
Twenty-five years of budget deficits have driven up gross government debt from 68% of GDP in 1992 to around 219% in 2016, the highest ever recorded in the OECD (Figure 2.1). The government does have a large stock of assets, but net debt, at 122% of GDP, is still the third highest in the OECD. Government gross debt rose 1.14 million yen (USD 10 000) per second in 2015. The primary deficit is projected to be around 5% of GDP in 2017, further pushing up debt. Japan's fiscal problem reflects a run-up in spending since 1990 that has not been matched by a rise in revenues (Panel B).

Figure 2.1. **Japan's fiscal situation has deteriorated considerably over the past 20 years**

As a percentage of GDP



1. OECD projections for 2016-17.

Source: OECD (2017b), *OECD Economic Outlook: Statistics and Projections* (database).

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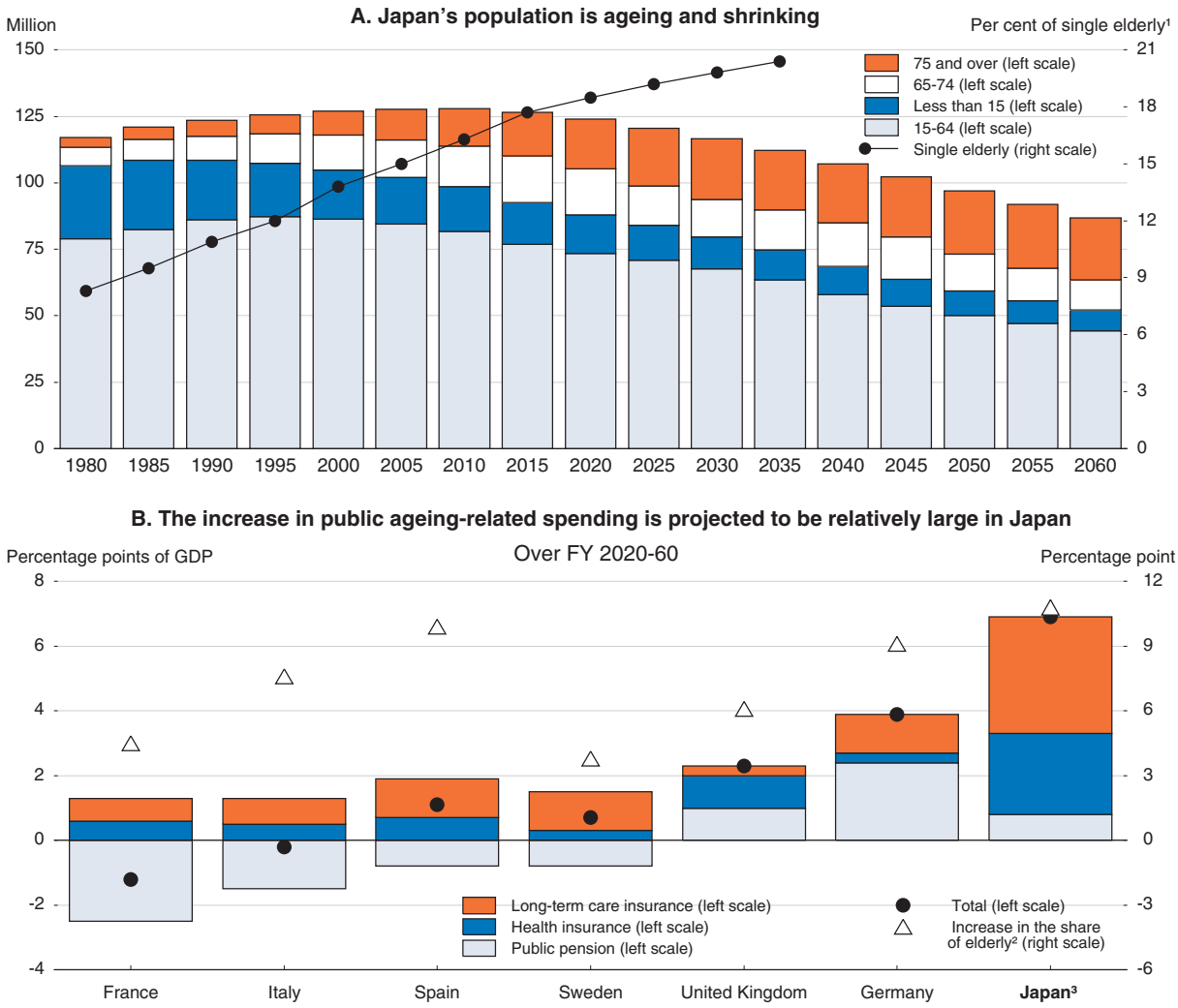
The impact of high debt is mitigated at present by low interest rates, in part due to large-scale government bond purchases by the Bank of Japan (BoJ) under its Quantitative and Qualitative Monetary Easing (QQE) policy launched in 2013 to achieve its 2% inflation target. Yields are also pushed down by persistent deflationary pressures and the risk aversion and home bias of investors. Around 90% of government debt is domestically held. Nevertheless, the external debt of the government and the central bank has risen to around two-thirds of their external assets. The outlook for the government bond market once the BoJ achieves its inflation target and phases out QQE is uncertain.

Government projections show the primary budget remaining in deficit through FY 2024. The fiscal challenge is magnified by Japan's shrinking and ageing population, which puts further upward pressure on public spending and reduces the tax base that finances that spending. The population is projected to fall by a third from 127 million in 2015 to 87 million in 2060, while the share above age 65 increases from 26% to 40% (Figure 2.2). Japan's elderly population will rise from 44% of the 15-64 age group in 2015 to 75% in 2050,

Figure 2.2. **Rapid population ageing will create strong upward pressure on government spending in Japan**



1. Share of the population aged 65 or over living alone as a percentage of the total population aged 65 or over.
2. Increase in the share of the population over age 65.
3. Medical assistance in the Basic Livelihood Protection Program is included in health insurance. Public pension spending in Japan is based on case C of the actuarial valuation by Ministry of Health, Labor and Welfare (2014).

Source: OECD (2015a); Cabinet Office (2014a); Fiscal System Council (2015); European Commission (2015).

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the highest in the OECD over that time frame. Moreover, the elderly population is getting older: the share of the population above age 75 – when the costs of health and long-term care rise sharply – will reach 27% in 2060. The proportion of persons over age 65 who live alone is expected to surpass 20% by 2035. Age-related expenditure by the government is projected to rise by 6-7 percentage points of GDP over 2020-60, significantly more than in major European countries that also face rapid population ageing (Panel B).

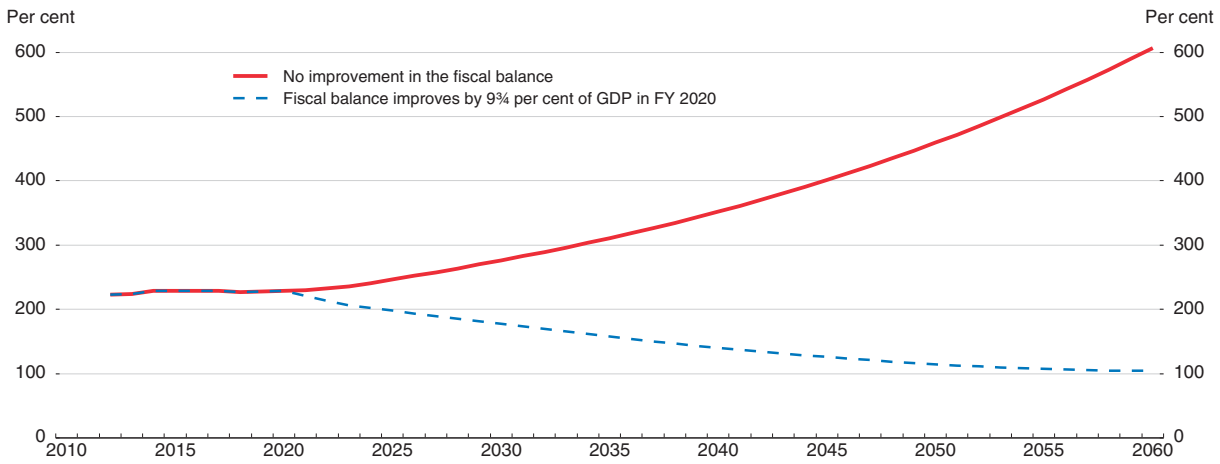
After an overview of Japan's fiscal predicament, this chapter reviews options to restore fiscal sustainability. Policies to limit the growth of public social expenditures are discussed in the second section, while the following section focuses on local government. Measures to increase revenue are discussed in the fourth section. Policy recommendations are summarised in Box 2.4.

Japan's fiscal situation is not sustainable

A simulation by the Fiscal System Council presents two alternative scenarios. Both assume that a small primary surplus (central and local governments) is achieved by FY 2020 and that government revenue and government spending that is not related to ageing remain constant as a share of GDP over FY 2020-60. Age-related spending is projected to increase from 24% to 31% of GDP over FY 2020-60, based on per capita benefit levels by age, taking changes in the population structure into account. In the first scenario, a primary surplus is followed by a fiscal consolidation of 9¾ per cent of GDP in FY 2020, reducing the government debt ratio to 105% of GDP in FY 2060 (Figure 2.3). In the second scenario, there is no fiscal consolidation over FY 2020-60, leading to a sharp increase in the debt ratio. This reaffirms the necessity of significant fiscal consolidation to ensure fiscal sustainability.

Figure 2.3. **Long-run simulations of the government debt ratio**

General government basis; percentage of GDP on a fiscal year basis



Note: The economic assumptions for nominal and real growth and the long-term interest rate through FY 2024 are based on the "economic revitalization scenario" in the "Economic and Fiscal Projections for Medium to Long-term Analysis" by the Cabinet Office (July 2015 version). After FY 2024, assumptions are based on one of the cases in the "Actuarial Valuation of Employees' Pension Insurance and the National Pension in FY 2014" by the Ministry of Health, Labor and Welfare. The simulation is based on SNA 1993.
Source: Fiscal System Council (2015).

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Japan's fiscal consolidation plan

In 2015, the government adopted a fiscal consolidation plan that included targets that are broadly in line with the strategy laid out in 2010: a primary surplus for central and local governments by FY 2020 and a steady reduction in the government debt to GDP ratio thereafter. The plan, which was reaffirmed in the 2016 Basic Policies for Economic and Fiscal Management and Reform, also included:

- Capping the nominal increase in expenditure at 1.6 trillion yen (0.3% of GDP) over FY 2015-18, taking into account economic and price developments.
- Containing the growth of social security spending resulting from ageing and the enhancement of social security programmes financed by the second consumption tax hike.
- Requiring local governments to pursue fiscal consolidation in tandem with the central government.
- A primary deficit of 1% of GDP in FY 2018 was set as a benchmark to reach the FY 2020 target.

Table 2.1. **Supplementary budgets launched in FY 2015-16**

General account spending in trillion yen

Expenditure category	Expenditure
1. FY 2015 supplementary budget (passed in February 2016)	**3.3**
A. Measures to realise a society in which all citizens are dynamically engaged	1.2
B. Measures toward a comprehensive policy framework in preparation for the TPP	0.3
C. Recovery from natural disasters and prevention and mitigation	0.5
D. Accelerating reconstruction from the Great East Japan Earthquake, etc.[1]	0.8
E. Addressing other urgent issues, etc.	0.7
2. FY 2016 supplementary budget (passed in May 2016)	**0.8**
A. Reserve fund to recover from the Kumamoto earthquake[2]	0.7
B. Expenses related to support for disaster victims	0.1
3. FY 2016 2nd supplementary budget (passed in October 2016)	**4.5**
A. Accelerate efforts to build a society in which all citizens are dynamically engaged	0.7
B. Develop 21st century-type infrastructure	1.4
C. Increased support for SMEs and regional revitalisation in response to uncertainty	0.4
D. Reconstruction from the Kumamoto and the Great East Japan Earthquakes	2.0
4. FY 2016 3rd supplementary budget (passed in January 2017)	**0.6**
A. Restoration from the disasters in Hokkaido and Tohoku (typhoons) and Kumamoto	0.2
B. Contributions to international organisations	0.2
C. Securing stable operation of the Japan Self-Defence Forces	0.2
TOTAL	**9.2**

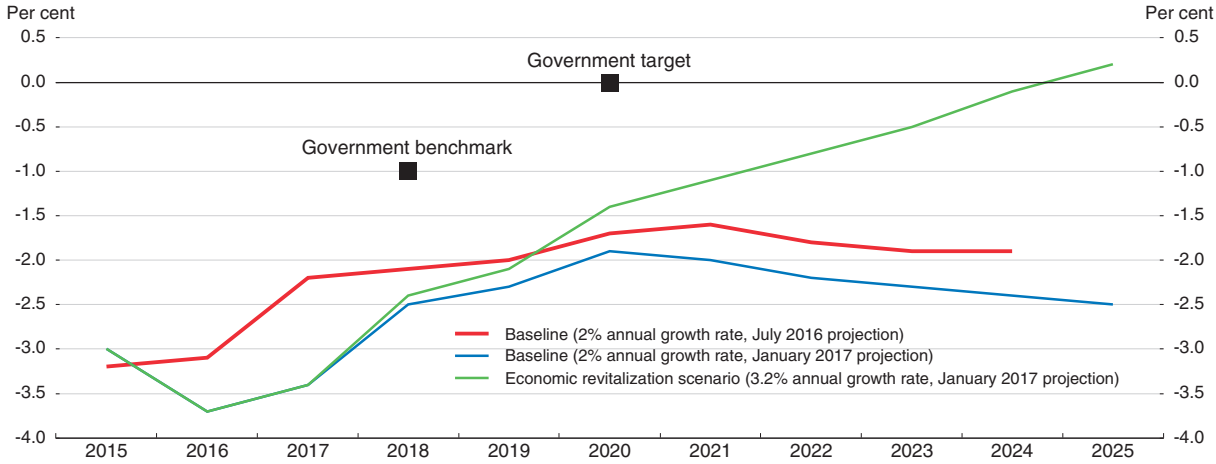
1. This category was reduced by 0.2 trillion yen in the FY 2016 supplementary budget.
2. The expense was reduced by 0.4 trillion yen in the FY 2016 2nd supplementary budget.

Source: Ministry of Finance.

However, the spending restraint in initial budgets has been undermined by supplementary budgets amounting to a total of 9.2 trillion yen in FY 2015-16 (1.8% of GDP) (Table 2.1). Partly as a result, the government's January 2017 projection shows the primary deficit (central and local governments) widening from 3.0% of GDP in FY 2015 to 3.7% in FY 2016 before falling slightly in FY 2017 (Figure 2.4). In contrast, the previous projection (July 2016) showed the primary deficit narrowing to 2.2% of GDP in FY 2017, more than 1% of GDP

Figure 2.4. **Government projections show it failing to meet its fiscal targets**

Primary balance (central and local governments) as a percentage of GDP on a fiscal year basis



Note: The 2018 benchmark will be reviewed and addressed in light of the postponement of the consumption tax hike.

Source: Cabinet Office (2016c and 2017).

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less than the latest projection. In FY 2018, the projected deficit of 2.4% of GDP is well above the 1% benchmark. About half of the shortfall is due to the decision to delay the consumption tax hike planned for April 2017.

The government projects (Figure 2.4) a primary deficit of 1.4% of GDP in FY 2020 (central and local governments) even under some favourable assumptions: i) nominal GDP grows by 3.2% a year on average over FY 2017-20 (the "economic revitalization scenario"); ii) the consumption tax is hiked to 10% in 2019; iii) primary spending, excluding social security, is constant in real terms after FY 2018; and iv) social security spending growth is determined by a number of factors, such as population ageing, inflation and wage growth from FY 2018 onward (Cabinet Office, 2017). Under the baseline case, with annual nominal GDP growth of 2.0%, the government projects that the primary deficit would increase from 1.9% of GDP in FY 2020 to 2.5% in FY 2025, demonstrating the importance of economic growth for fiscal consolidation.

The Council on Economic and Fiscal Policy (CEFP) announced in 2015 the Economic and Fiscal Revitalization Action Program, which was updated in December 2016. The Program includes 80 reforms to limit spending in most areas (Box 2.1). The expert members of the CEFP expect the Program to cut spending by more than 4 trillion yen (0.8% of GDP) in FY 2020 (Expert Members of the Council on Economic and Fiscal Policy, 2016). Such a reduction would bring the primary deficit to less than 1% of GDP in FY 2020 under the "economic revitalization scenario".

Box 2.1. **Economic and Fiscal Revitalization Action Program**

Social security reform

- Provide transparency about regional differences in inputs and benefit levels of health and long-term care and introduce policies to reduce such differences.
- Develop regional medical plans by the end of FY 2016 to promote clinical specialisation and collaboration and reduce regional differences, for example in the number of long-term care beds.
- Establish a framework with incentives that encourage individuals and insurers to make efforts to prevent disease, reduce the need for long-term care, increase the use of generic drugs and ensure appropriate treatments.
- Ensure that the burden on individuals is in accordance with their ability to pay and set benefit levels according to their income and assets.

Public investment

- Develop compact urban structures and optimise the public capital stock by making "location optimization plans" and "comprehensive plans for public facility management" to visualise maintenance costs and the appropriate level of public capital.
- Move ahead aggressively with public-private partnerships and private-finance initiatives.
- Concentrate government investment in projects that enhance growth, the quality of life, and resilience against national disasters, while effectively containing maintenance costs under plans to extend the life of infrastructure.

Local government administration

- Compare per capita administrative cost by municipality, enhance information on fixed assets and monitor changes each year, aiming at encouraging public service reform.

Box 2.1. **Economic and Fiscal Revitalization Action Program** *(cont.)*

- Introduce the "Top Runner" method to base the local allocation tax (LAT) – a transfer from central to local governments – on the level of costs in local governments that carry out administrative reforms, such as outsourcing work to the private sector.
- Make a mid-term outlook for the number of school teachers, taking into account factors, such as the declining number of children, the challenges faced by schools, results of empirical research and the policy goals of local governments.

A path to fiscal sustainability

The government's consolidation plan aims to put the government debt ratio on a downward trend from FY 2021. The size of the general government primary surplus necessary to stabilise the debt ratio equals the level of debt multiplied by the gap between the nominal interest rate and nominal growth rate. If the gap were to match its average since 1980, Japan would need a primary surplus of around 2.5% of GDP (Table 2.2). With a primary deficit of 5% in 2017, the fiscal consolidation necessary to achieve a 2.5% primary surplus is around 7½ per cent of GDP.

Table 2.2. **Fiscal assumptions to calculate the required amount of consolidation**

Improvement in the general government primary balance to stabilise the debt ratio (as a percentage of GDP)

Years	Average (r-g)[1]	Gross government debt ratio[2]	Primary balance target[3]	2017 primary deficit	Total required consolidation[4]
1980-2015	**1.2**		**2.5**		**7.5**
1992-2015	1.7	**215.8**	3.8	**-5.0**	8.8
1992-2002	2.8		6.1		11.1
2003-2015	0.8		1.7		6.7
Years	**Average (r-g)[5]**	**Net government debt ratio[2]**	**Primary balance target[3]**	**2017 primary deficit**	**Total required consolidation[4]**
1980-2015	**2.1**		**2.5**		**7.5**
1992-2015	2.0	**118.4**	2.4	**-5.0**	7.4
1992-2002	4.1		4.9		9.9
2003-2015	0.2		0.2		5.2

1. The average interest rate paid on gross government debt minus the nominal growth rate.
2. In 2015, the last year for which data are available.
3. The average (r-g) times the government debt ratio.
4. The primary balance target minus the 2017 primary deficit.
5. The average interest rate paid on net government debt minus the nominal growth rate.

Source: Calculations based on OECD (2017b), *OECD Economic Outlook: Statistics and Projections* (database).

The experience of 2014 suggests that the pace of consolidation should be gradual. Following the consumption tax hike from 5% to 8%, the implementation of the legislated increase to 10% was postponed twice and numerous stimulus packages were introduced (Table 2.1). The government's primary deficit is projected to widen in 2016-17, according to OECD projections. Achieving the 7½ per cent of GDP in fiscal consolidation necessary to stabilise the government debt ratio over a decade would imply an annual pace of around ¾ per cent of GDP per year. This could be achieved by: i) a gradual hike in the consumption tax rate of 1 percentage point per year, boosting revenue by ½ per cent of GDP; ii) an additional ¼ per cent of GDP of revenue by broadening the bases of the personal and

corporate income tax and the inheritance tax; and iii) freezing spending as a share of GDP, which may require spending cuts to offset increases in social spending. If spending were to rise, revenue increases would have to be larger to meet the ¾ per cent consolidation pace.

It is crucial to maintain confidence in Japan's fiscal sustainability during such an extended period of consolidation. To sustain confidence, it is essential to draw up and commit to a more detailed and credible medium-term path that contains specific spending cuts and tax increases, based on multi-year budgeting, to achieve the required primary surplus. Whether or not Japan's debt is sustainable depends on whether the market believes that it is sustainable: if investors buying government bonds begin to believe that they may not be paid off, then they will demand a higher rate of interest on government bonds, making the debt even less manageable.

A strong institutional framework will be needed to underpin such large-scale fiscal consolidation lasting more than a decade, which requires decisive political will and commitment, backed by public support. Such a commitment would be strengthened by improving the fiscal policy framework through a stronger legal basis for fiscal targets and expenditures (IMF, 2009), which should be anchored in a multi-year budget plan. Many OECD countries have an independent fiscal council to improve policymaking, make clear the fiscal problems and help build public consensus for consolidation (OECD, 2012). Such an approach may benefit Japan as well, alongside a strengthening of the Council on Economic and Fiscal Policy.

As noted above, the government aims at putting the government debt ratio on a downward trend from FY 2021, which would require continuing fiscal consolidation even after reaching the 2½ per cent of GDP primary surplus. The simulation below shows the path of the primary balance necessary to stabilise gross debt at 170% of GDP (Figure 2.5). Given the government's large stock of financial assets, this implies that net debt stabilises at 72% of GDP, the current OECD average. The simulation assumes continued consolidation at the ¾ per cent of GDP per year pace for various levels of the interest rate minus the nominal growth rate (r-g).

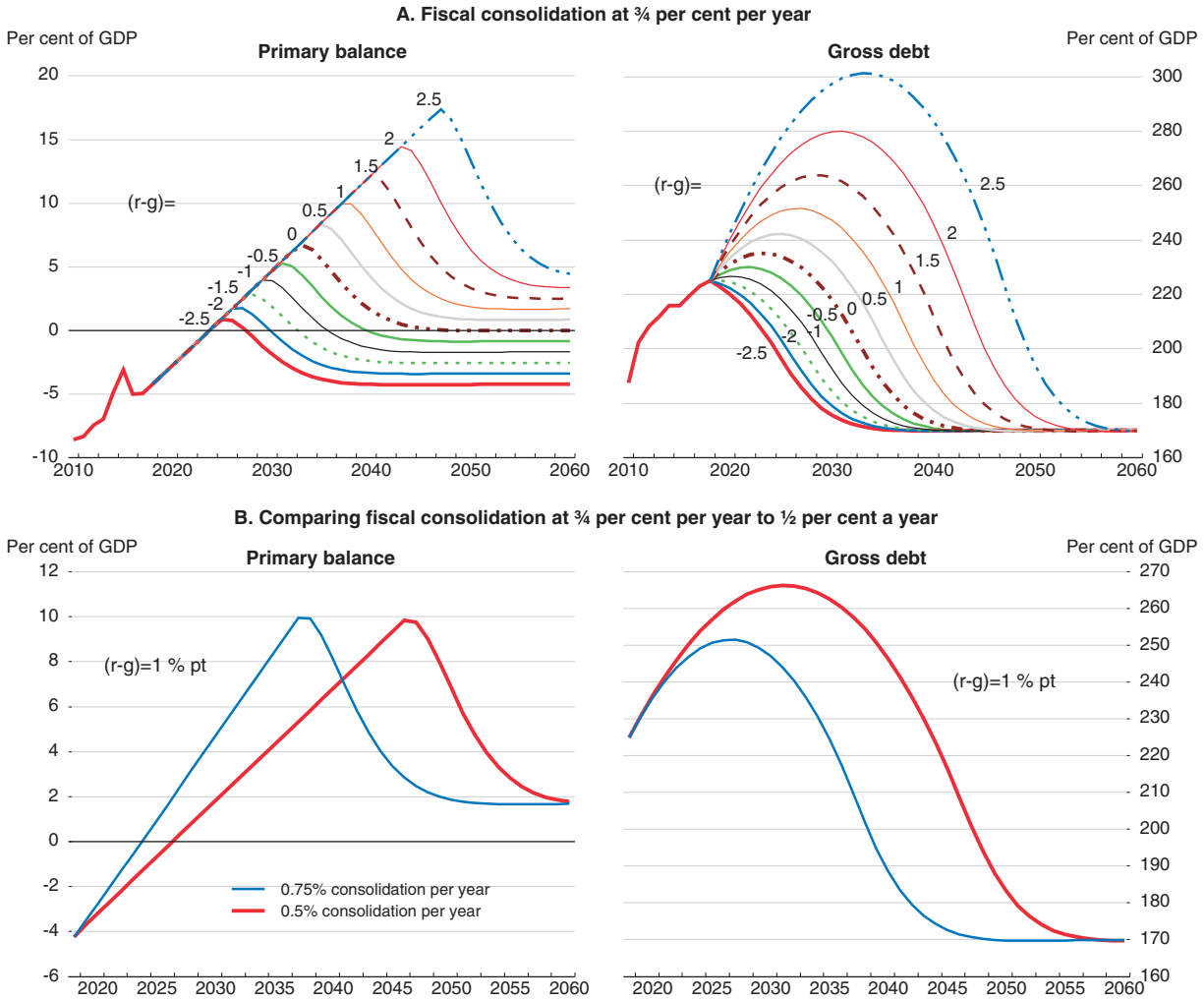
While these simulations are purely illustrative, the message is clear: stabilising the government debt ratio at a level close to the current OECD average requires decades of consolidation with primary surpluses of 10% of GDP or even higher:

- (r-g) at its long-term average of around 1% (for gross debt): this could result from an interest rate of 3% while nominal growth remains at the 2% rate of 2012-16. In this case, the primary surplus would peak at 10% in 2037 to reduce gross debt to 170% of GDP by 2048.
- (r-g) at -0.5%: this could be achieved by effective use of the third arrow to boost nominal growth above the interest rate. In this case, the primary surplus would peak at less than 5% in 2031, stabilising gross debt at 170% in 2042.
- An (r-g) of 2%: this could result from a rise in the risk premium, leading to an interest rate of 4%, while nominal growth remains at 2%. In this case, the primary surplus would peak at 14.5% of GDP in 2043, stabilising debt in 2054.

Faster output growth would reduce the size of fiscal consolidation necessary, while higher interest rates would increase it. A slower pace of consolidation at ½ per cent per year would require a longer period of consolidation and take longer to stabilise the debt ratio (Panel B).

Figure 2.5. **Sustained fiscal consolidation is needed to reduce the government debt ratio**

The consolidation path is shown for different values of (r-g)[1]



1. A fiscal multiplier of -0.5 is associated with fiscal consolidation in the simulation. This is consistent with Hamada et al. (2015), who estimate a multiplier for hikes in the consumption tax and the personal income tax of around -0.3 to -0.5.

Source: OECD calculations.

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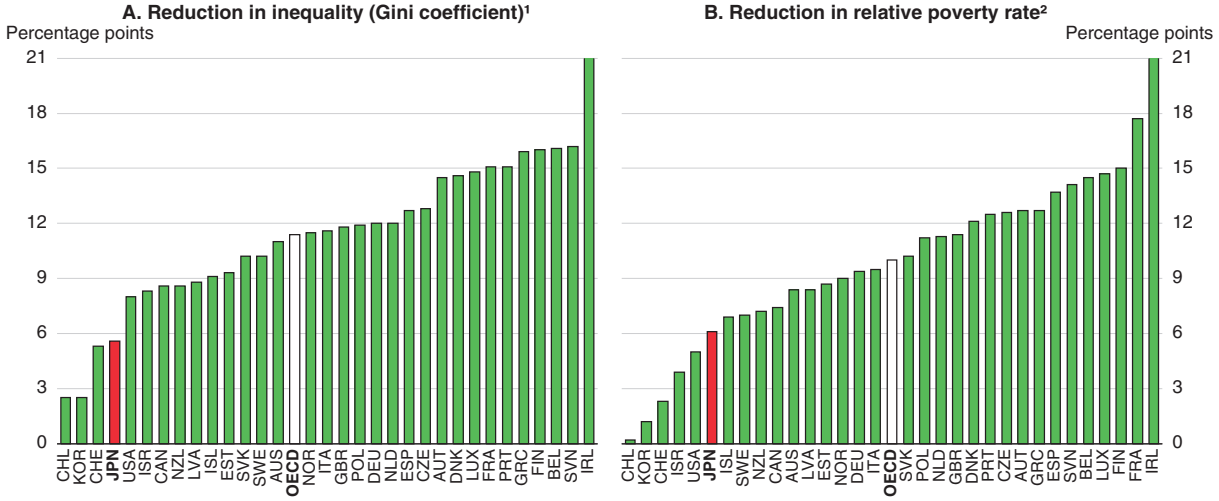
Reconciling fiscal consolidation and inclusive growth

Japan's fiscal consolidation strategy needs to take into account the importance of inclusive growth, given rising income inequality and relative poverty (Chapter 1). The impact of Japan's tax and benefit system on income inequality and relative poverty for the working-age population is weaker than the OECD average (Figure 2.6), reflecting the fact that it primarily redistributes income between rather than within generations. Indeed, social spending's impact on the Gini coefficient is significant only among the elderly (2015 *OECD Economic Survey of Japan*). The share of social spending allocated to programmes focused on the elderly – pensions, health and long-term care – is more than four-fifths, the second highest in the OECD in 2014.

Social spending rose from 11% of GDP in 1990 to 23% in 2014, surpassing the OECD average, while tax revenue has not kept pace (Figure 2.7). Consequently, much of the rise in

Figure 2.6. **The impact of the social safety net on the working-age population is weak in Japan**

In 2014 or latest year available



1. For the working-age population. The Gini index has a range from zero (when everybody has identical incomes) to 100 (when all income goes to only one person). Increasing values of the Gini coefficient thus indicate higher inequality in the distribution of income.
2. For the working-age population. The relative poverty rate is the percentage of households whose income is less than half of the median income.

Source: OECD (2017d), *OECD Income Distribution* (database).

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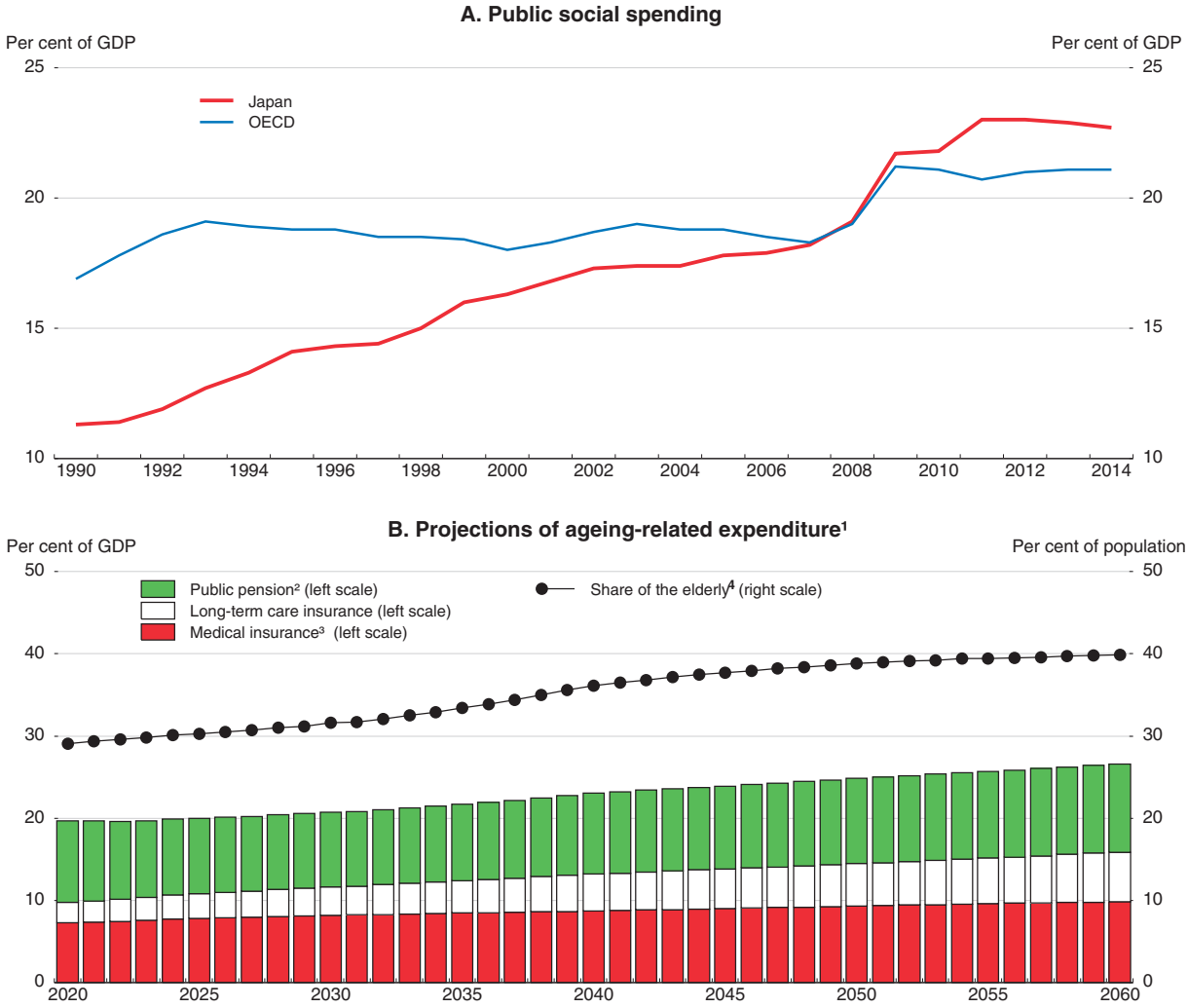
social spending was financed by borrowing, pushing up government debt. Aligning social spending and the tax burden requires limiting social spending and hiking revenue, particularly as ageing-related spending is projected to rise by 7% of GDP – from 20% of GDP in 2020 to 27% in 2060 – under the current framework (Panel B).

Transfers from the working-age population to the elderly are substantial, raising questions of inter-generational fairness. Net average transfers to households with a person aged 60 and over were 1.9 million yen (USD 16 700) in 2009 (Figure 2.8), amounting to more than 40% of their disposable income. For households headed by a person under age 60, net transfers were negative, amounting to 1.1 million, 18% of their disposable income. The burden was heaviest for households headed by a worker under 30. Over 1994-2009, the tax and social security burden as a share of disposable income rose, particularly among the working-age population (Panel B, left-hand side). Meanwhile, social security benefits increased significantly for the population aged 65 and over (Panel B, right-hand side).

The transfers result in a high level of inter-generational inequality: a person born in 1940 receives 16.4% of lifetime earnings in net transfers, while one born in 2010 pays 12% (Figure 2.8, Panel C). In terms of inter-generational justice, Japan is estimated to be the second worst among 29 OECD countries (Bertelsmann Stiftung, 2013). Given Japan's fiscal situation, it will be difficult to continue increasing, or even to maintain, the current level of inter-generational transfers.

The large transfers significantly increase the income of the elderly. For a household with someone aged 60 or over, disposable income was 95% of that for the under 60 age group (after adjusting for household size) in 2009 (Figure 2.9). Older persons have relatively large assets: in households with a person age 60+, assets are nearly ten times the average household disposable income for the entire population, compared to only 4.3 times for households headed by a person under age 60 (Panel B). Large social transfers and accumulated assets boost consumption by the elderly. Including in-kind benefits provided

Figure 2.7. **The upward trend in public social spending in Japan is projected to continue**



1. Fiscal System Council estimates based on the current framework, following the method of the European Commission (2012). Ageing-related spending is defined as programmes where per capita expenditure differs by age, such as pensions.
2. Public pension spending is based on the actuarial valuation by the Ministry of Health, Labor and Welfare (2014), Case C.
3. Medical assistance in the Basic Livelihood Protection Program is included in "medical insurance".
4. The population over age 65 as a share of the total population.

Source: OECD (2017e), *OECD Social Expenditure Statistics* (database); Fiscal System Council (2015).

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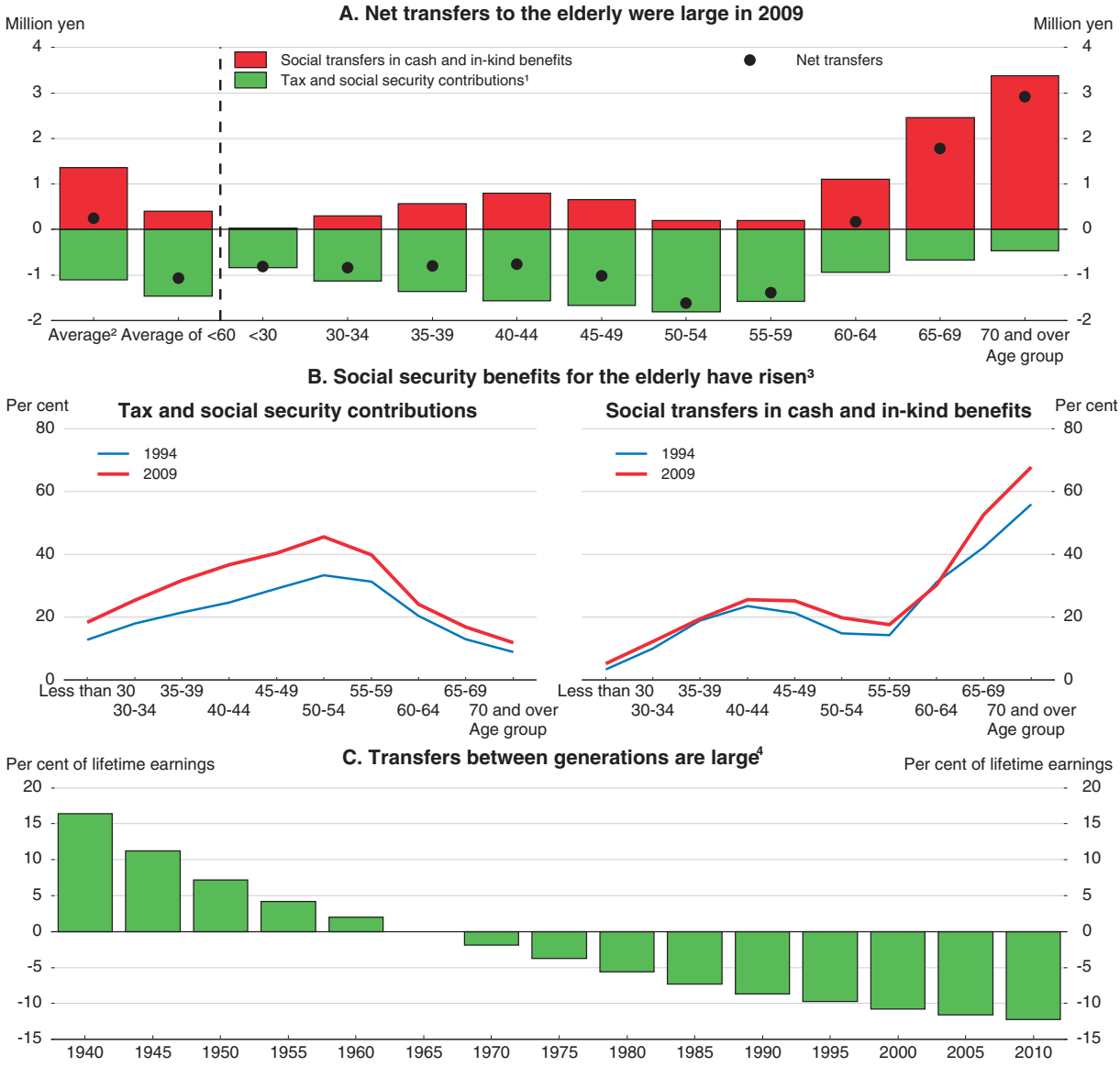
by the government, such as health and long-term care and education, "actual final consumption" (Panel A) of a household with someone age 60+ is one-third higher than for households headed by someone below age 60. Even excluding in-kind benefits, consumption of households with someone age 60+ is higher.

Keeping Japan's promises to provide pensions and health and long-term care to its current and future elderly citizens requires achieving fiscal sustainability. At the same time, it is crucial to protect the large number of elderly living alone and in relative poverty. Achieving social inclusion also depends on the well-being of the working-age population. Japanese youth are the most pessimistic among 18 countries surveyed, with 37% expecting to work until they die (Manpower Group, 2016). This pessimism is reflected in the significant fall in the number of youth contributing to the basic pension and national health

Figure 2.8. **The tax and transfer system redistributes income from the working-age to the elderly**



1. Includes the consumption tax.
2. For the total population.
3. As a percentage of average household disposable income.
4. For men covered by employee pension and health insurance and with a non-working wife. The Employees' Pension Insurance premiums are assumed to rise steadily from 18.3% in FY 2017 to 23.8% in FY 2032, and to stabilise at that level. Other assumptions include: i) an investment yield of 2.5%: ii) 2% wage growth; iii) 1% inflation, and iv) lifetime wages of workers equal to 300 million yen.

Source: Hamada (2003 and 2012); Maeda and Umeda (2013), Suzuki (2014).

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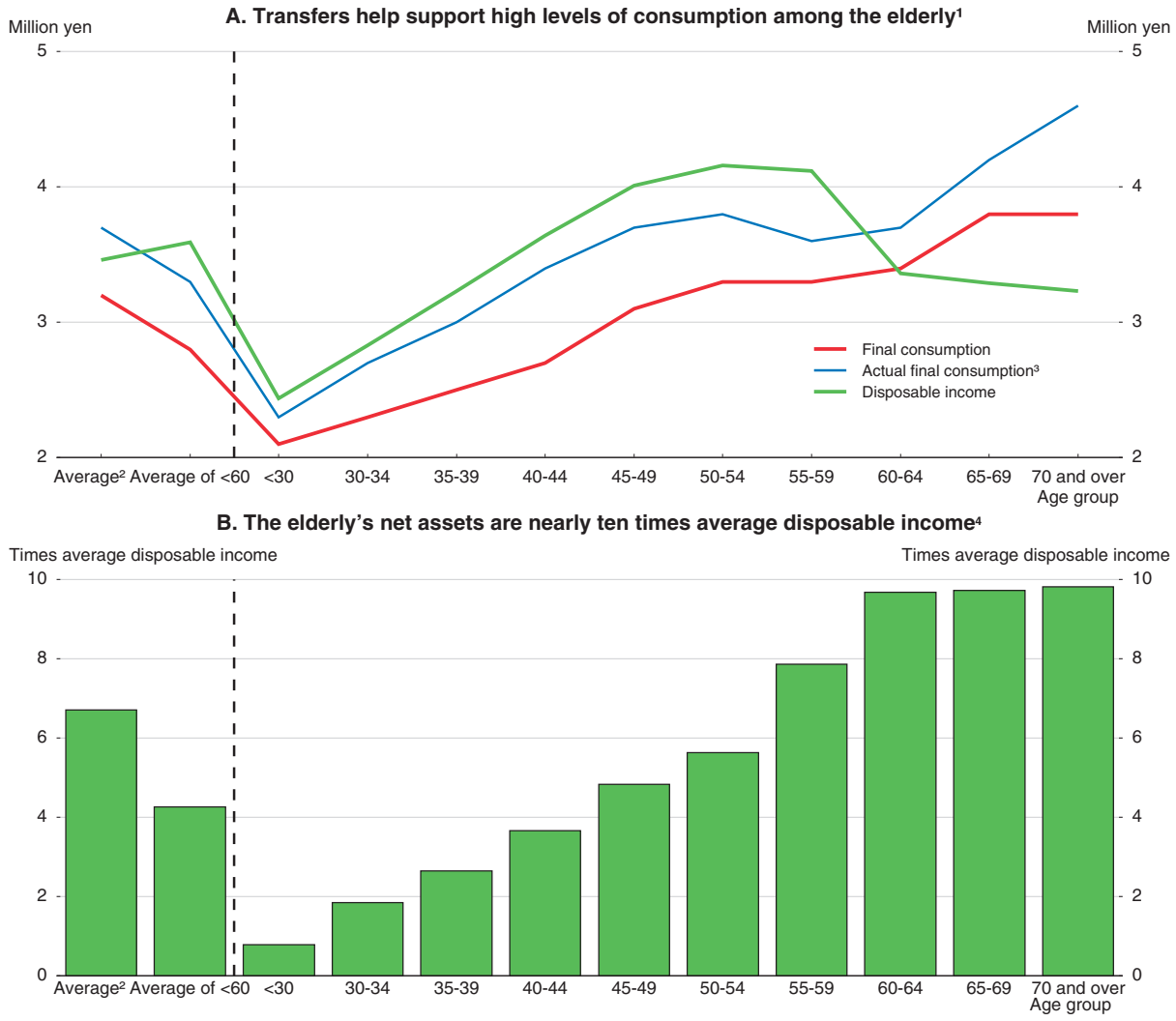
insurance, even though both are legally mandatory. In a 2016 survey, only 21% of Japanese voiced optimism about the future of their country. The major reason for pessimism was a lack of effective measures to cope with the rapidly ageing and shrinking population (Geji, 2016). The following sections set out policy directions to achieve social inclusion and fiscal sustainability.

Figure 2.9. **Transfers and asset holdings support high levels of consumption among the elderly**

In 2009



1. Data are from SNA distribution statistics. Disposable income includes depreciation of fixed capital. Consumption (both final and actual final) includes imputed rent. Each series is on an equivalised basis (the square root of household size).
2. Average of total population.
3. Includes in-kind benefits provided by the government, such as health and long-term care and education.
4. As a ratio to the average household disposable income.

Source: Hamada (2012).

StatLink http://dx.doi.org/10.1787/888933469454

Policies to control social spending

Social security reform is the priority to control government expenditures. Spending is financed by premium payments by employees and employers and by central and local governments (Table 2.3). This section discusses ageing-related programmes and the Basic Livelihood Protection Program. The following section addresses programmes where local governments play an important role.

Table 2.3. **Social security benefits and contributions**

	FY 1990		FY 2000		FY 2014	
	Trillion yen	% of GDP	Trillion yen	% of GDP	Trillion yen	% of GDP
Total benefits	**47.4**	**10.2**	**78.4**	**14.8**	**112.1**	**21.6**
Pension	24.0	5.2	41.2	7.8	54.3	10.5
Healthcare	18.6	4.0	26.2	5.0	36.3	7.0
Long-term care	-		3.3	0.6	9.2	1.8
Other	4.8	1.0	7.7	1.5	12.2	2.4
Total contributions	**55.7**	**12.0**	**80.0**	**15.1**	**109.9**	**21.2**
Premium payments	39.5	8.5	55.0	10.4	65.1	12.6
Of which:						
Insured persons	18.5	4.0	26.7	5.1	34.3	6.6
Employers	21.0	4.5	28.3	5.4	30.9	6.0
Government	16.2	3.5	25.1	4.8	44.8	8.7
Central	13.5	2.9	19.7	3.7	31.8	6.1
Local [1]	2.7	0.6	5.4	1.0	13.0	2.5

1. Contributions by local government basically include those set by national law. Payments on the initiative of local governments only cover those related to medical benefits and operating costs for public long-term care facilities.

Source: National Institute of Population and Social Security Research (2016).

Health and long-term care reform

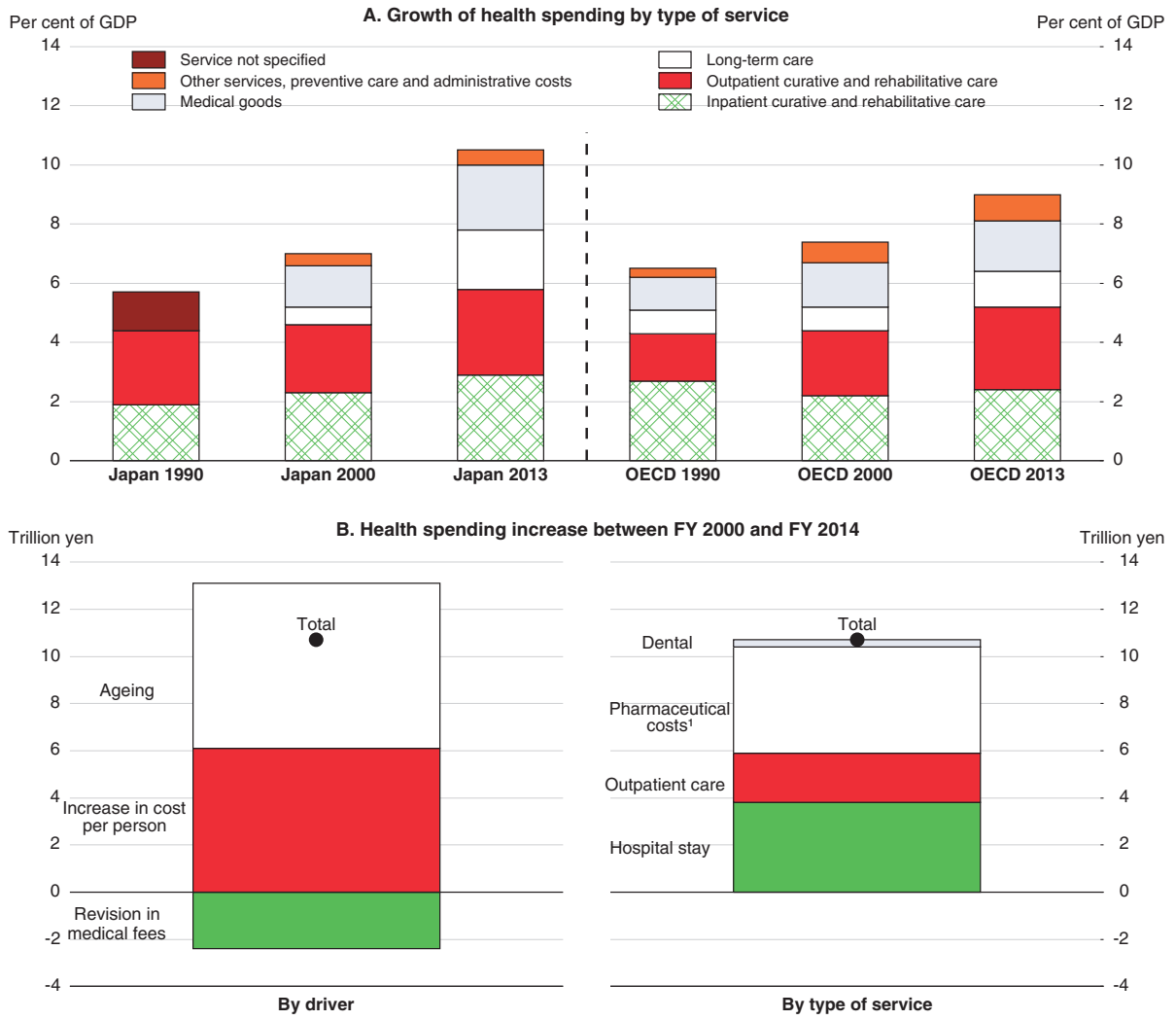
Healthcare spending (public and private), including long-term care, increased at a 2.7% annual rate over 2000-15, while nominal GDP was unchanged. Japan's total health spending as a share of GDP increased from 7.2% in 2000, close to the OECD average, to 10.8% in 2013 (Figure 2.10), the eighth highest. Spending in all four categories – medical goods, outpatient care, inpatient care and long-term care – is above the OECD average as a share of GDP. The upward trend in health spending is driven in almost equal measure by population ageing and rising costs per person (Panel B). These two factors were partially offset by cuts of around 3% in medical fees in 2002 and 2006.

Pharmaceuticals

Pharmaceuticals accounted for 43% of the rise in health spending over FY 2000-14 (Figure 2.10, Panel B). Japan's per capita consumption of pharmaceuticals is the second highest in the OECD at 47% above the OECD average, boosted by population ageing and the low use of generic drugs. The price at which new pharmaceuticals are reimbursed by health insurance takes into account the price and cost effectiveness of similar medicines in the package. In 2016, the government introduced the Health Technology Assessment to adjust the price at which pharmaceuticals are reimbursed by insurance. On the other hand, some countries, such as France, Germany and the United Kingdom, base the decision on whether to include a medicine in national health insurance coverage on its impact on patients' quality-adjusted life years. Japan's 2016 initiative should be extended to a wider range of pharmaceuticals and used to judge which pharmaceuticals should be included in public insurance coverage in the first place.

Increased use of generics is one of the measures in the Economic and Fiscal Revitalization Action Program (Box 2.1). Generics accounted for 34% of the pharmaceutical market in 2015 in volume terms in Japan, below the OECD average of 50% (Figure 2.11). The price of generics was reduced from 60% of that of branded drugs to 50% in 2016. Given that the co-payment by patients is 30% (10% for the elderly), the price difference has not been

Figure 2.10. **Health spending in Japan increased rapidly due to ageing and more intensive care**



1. Includes only pharmaceuticals sold at pharmacies. Those sold elsewhere are included in the other categories.

Source: OECD (2017c), *OECD Health Statistics* (database); Ministry of Health, Labor and Welfare, *National Health Expenditure*; Ministry of Internal Affairs and Communications, *Demographic Statistics*; OECD calculations.

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large enough to significantly push up demand for generics. To increase the share, generics should be made the standard for reimbursement for every prescription.

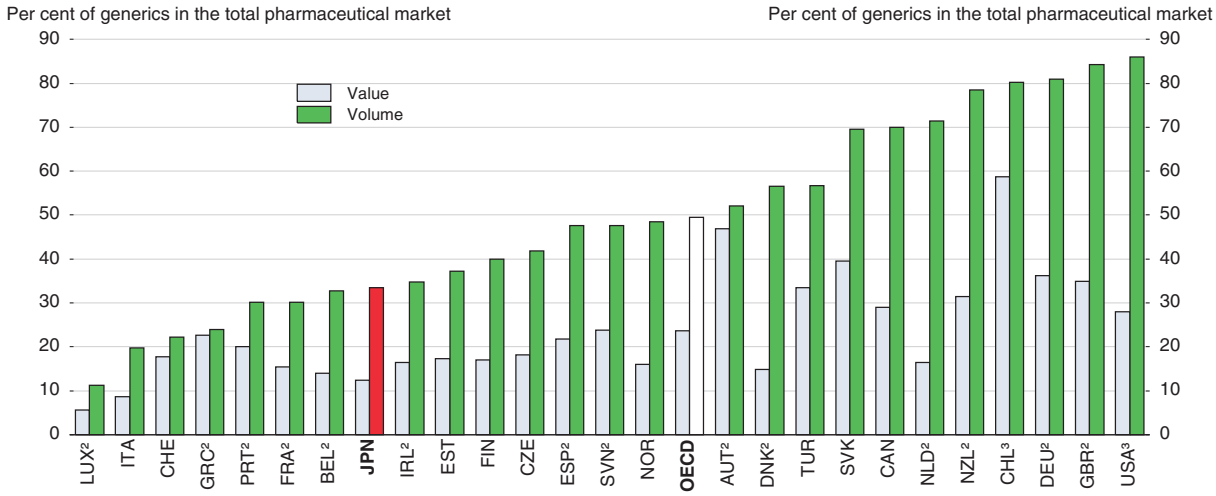
Outpatient care

Outpatient care accounted for 20% of the rise in health spending over FY 2000-14 (Figure 2.10). Japan stands out for its exceptionally frequent medical consultations, which averaged 12.8 times per year per capita, almost double the OECD average (Table 2.4). The number of visits is particularly high among the elderly: 58% of the population over age 60 use medical care at least once a month, well above other major countries, even though elderly Japanese claim to have relatively good health (Figure 2.12).

The high use of outpatient care is, in part, supply-induced. One study showed that the volume of outpatient care for diabetes and high blood pressure is positively associated

Figure 2.11. **The use of generic drugs in Japan is low**

In 2015 or latest year[1]



1. Including medical non-durables.
2. Reimbursed pharmaceutical market.
3. Community pharmacy market.

Source: OECD (2017c), *OECD Health Statistics* (database).

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with the regional density of doctors, while there was no relation to patients' health conditions (Ii and Sekimoto, 2014). Containing outpatient spending requires shifting from a fee-for-service to a pay-for-performance system, which offers financial incentives to providers to meet performance measures, and the standardisation of treatment to reduce the number of doctor consultations. Allowing nurse practitioners to provide primary care could also lower costs, while increasing patient satisfaction and providing high-quality care (Horrocks et al., 2002).

Low out-of-pocket payments are another factor driving the frequency of medical consultations: private expenditure covers only 17.1% of the cost of consultations compared to the OECD average of 33.3% (Table 2.4). Most persons aged 70 or more face co-payments of only 10% (except those earning as much as the working age-population, who pay the standard 30% rate). Persons between the ages of 70 and 74, who reached age 70 after April 2014, now pay 20%, which is a step in the right direction. In addition, co-payments for

Table 2.4. **International comparisons show room for healthcare cost savings in Japan**

In 2014 or latest year available

	Number of doctor consultations per capita per year	Share of private expenditure on outpatient care (%)	Average total hospital stay[1]	Average hospital stay for acute care[1]	Total number of hospital beds[2]	Number of acute-care beds[2,3]	Number of long-term care beds[2,3]	Number of beds in long-term care facilities[2]
Japan	**12.8**	**17.1**	**29.9**	**16.9**	**13.2**	**7.9**	**2.7**	**6.2**
OECD average	6.8	33.3	8.3	6.4	4.7	3.6	0.6	7.3
Highest country	14.9	54.9	29.9	16.9	13.2	7.9	4.2	12.8
Lowest country	2.6	13.3	4.0	3.5	1.6	1.6	0.0	0.5

1. In days.
2. Per 1 000 population.
3. In hospitals.

Source: OECD (2017c), *OECD Health Statistics* (database).

Figure 2.12. **The elderly in Japan make frequent use of medical services**

In 2015

Source: Cabinet Office (2016d).

StatLink http://dx.doi.org/10.1787/888933468886

outpatient care are limited to a ceiling of 12 000 yen (USD 106) per month for most persons 70 years or older. It will be increased in two steps to 18 000 in 2018, still well below the 57 600 yen (USD 510) ceiling for persons below age 70.

The low co-payment rate and the upper limit on co-payments for the elderly increase the quantity of outpatient care, but have little positive effect on patient health (Shigeoka, 2014). Low co-payments for the elderly were originally aimed at protecting those with low income. However, a government survey found that only 9% of the population age 75 and over found the co-payment to be burdensome, compared to 20% in the working-age population (MHLW, 2013). The standard co-payment rate for those aged 75 or older should be increased to the 20% paid by the 70-74 group. In addition, introducing a small flat-rate fee on outpatient care for all age groups would increase the current low share of out-of-pocket payments. The ceiling on co-payments for outpatient care for those age 70 or older should be increased to the same level as for inpatient care, while ensuring that low-income elderly do not lose access to necessary healthcare.

Inpatient care

Low co-payments are also problematic for hospital care, which accounted for 36% of the rise in health spending over FY 2000-14 (Figure 2.10). The co-payment rate is reduced to 10% for persons above age 75, compared to 30% for the working-age population. The co-payment rate and ceilings on co-payments for the elderly with income in the middle and low-income brackets should be more in line with those for working-age persons.

Japan stands out for its exceptionally long hospital stays, which averaged 29.9 days in 2014, almost four times the OECD average (Table 2.4). This partly reflects the provision of long-term care in hospitals, which is much more expensive (Jones, 2009). Indeed, long-term care beds in hospitals cost up to 596 000 yen (USD 5 245) per month, more than double the cost of beds in long-term care facilities. The higher cost of long-term care in hospitals reflects regulations on the number of medical staff and equipment. In addition, many acute-care beds in hospitals are used entirely for long-term care. Only about half of hospital patients in

acute-care beds even receive healthcare, with the remainder just getting help with daily living at most (Tsutsui et al., 2015). This approach is wasteful given the much higher costs of hospital care: the basic hospital fee in 2016 for the first month was 571 020 yen, again more than double the fee in long-term care facilities. The large profit margins of long-term care in hospitals resulted in a sharp rise in capacity over 2006-13 (Cabinet Office, 2014b). To reduce the number of such beds, the government decided in 2016 to tighten the definition of acute care. To further remedy this misallocation of resources, the reimbursement of long-term care beds by public health insurance needs to be reduced.

Long hospital stays are linked to the number of hospital beds, which is the highest in the OECD (Table 2.4), reflecting the number of acute-care beds (highest in the OECD) and the number of long-term care beds (second highest). In addition, the regional variation in the number of hospital beds per capita is by far the highest in the OECD (OECD, 2015c). As is the case for outpatient care, supply induces demand (Yamada, 2002; Yuda, 2013): the number of hospital beds by prefecture is strongly correlated with the hospitalisation rate (Figure 2.13). Moreover, the higher the number of beds in a prefecture, the longer the average hospital stay and the higher the costs (Panel B). Reducing the number of hospital beds where they are in over-supply is thus essential to cut the hospitalisation rate and the length of hospital stays, which at 16.9 days for acute-care beds, is the longest in the OECD and far above the average of 6.4 days. This requires weakening the incentives to keep unused hospital beds in public and private hospitals. The latter have 71% of hospital beds.

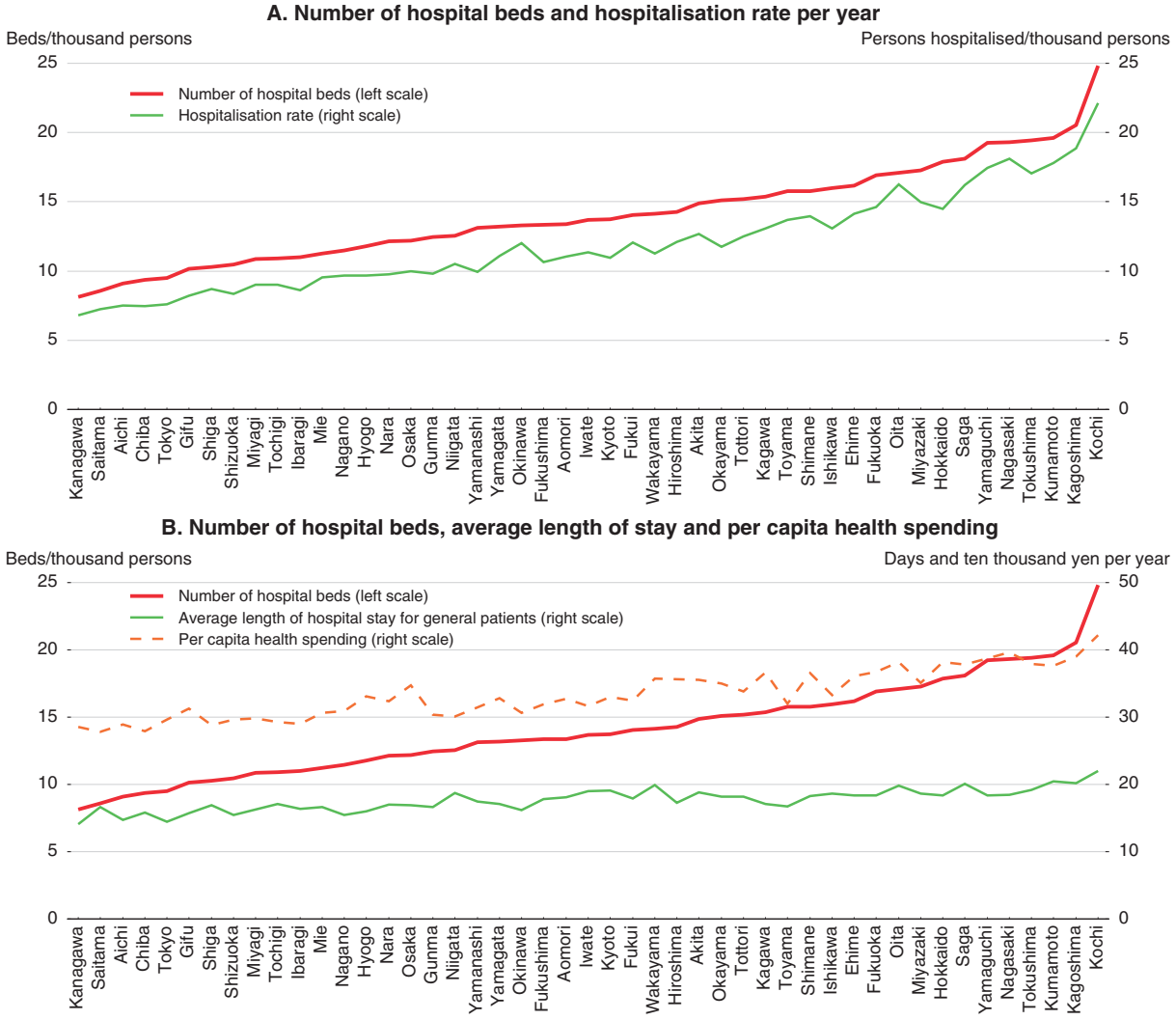
The Economic and Fiscal Revitalization Action Program aims to reduce regional differences in health and long-term care spending (Box 2.1). Towards this end, the central government requires prefectures to develop community healthcare visions by March 2017 based on guidelines issued in 2015. The visions should project healthcare demand in 2025 and specify the function of each hospital, while promoting co-ordination between them. Each prefecture is divided into areas based on factors such as population and the time needed to reach a major hospital. Each area is expected to cut its hospitalisation rate in long-term care hospital beds to the most efficient prefecture in 2013 or by the ratio of the least efficient prefecture to the median prefecture in 2013.

The projection for healthcare demand in 2025 is based on the hospitalisation rate in 2013. With the hospitalisation rate on a downward trend, falling 9% between 1999 and 2011, basing projections on the 2013 rate may not be sufficiently ambitious. In addition, the guideline is a “reference” for a “flexible” target-setting process (Maeda, 2015), which may allow prefectures to avoid difficult choices. The government should strictly monitor the prefectural medical plans, in particular to promote the shift of hospital beds to long-term care facilities to boost efficiency and enhance the satisfaction of recipients.

Shifting further from a fee-for-service system to a diagnosis-related group approach is another priority. In 2003, Japan introduced a case-mix based payment system, the Diagnosis Procedure Combination (DPC), which sets an overall fee according to the illness, while promoting the standardisation of treatment and length of hospital stay. The DPC needs to be made more effective by increasing the coverage of hospitals and illnesses and basing fees on the most efficient hospitals. Finally, efficiency in healthcare, as well as other social services such as long-term care, should be increased by eliminating rules that limit or prohibit the entry of corporations, thereby protecting social welfare organisations (Chapter 1). For example, rules limiting the management of hospitals and clinics to medical doctors and restrictions on equity finance should be abolished (2015 *OECD Economic Survey of Japan*).

Figure 2.13. **The higher the number of beds, the longer are hospital stays, leading to greater health spending**

In 2014



Source: Cabinet Office, *Visualization Database*.

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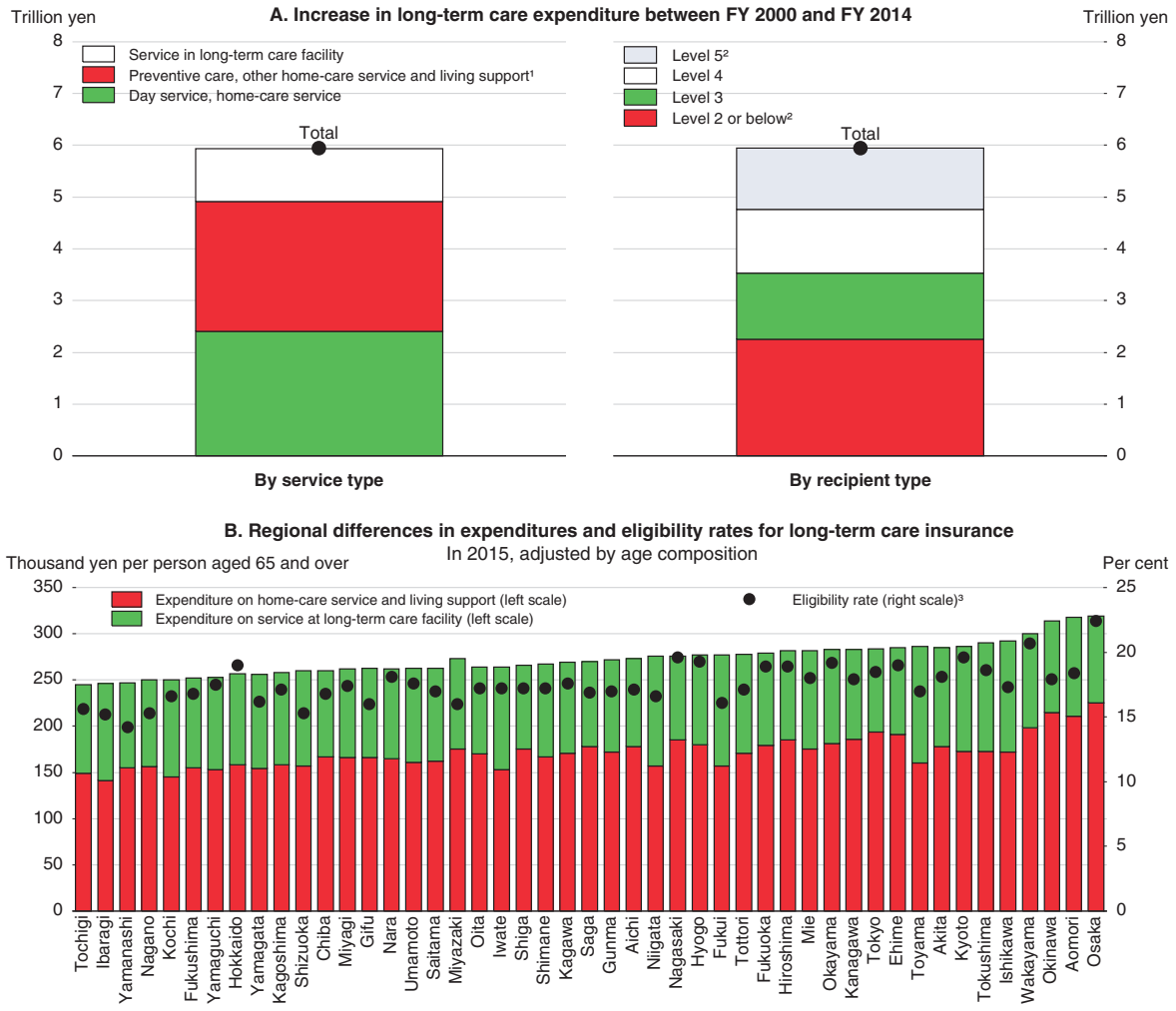
Long-term care

Following the introduction of long-term care insurance in 2000, long-term care spending increased by 2.6 times by FY 2014, the most among social security programmes (Figure 2.14). The number of care recipients rose by 3.3 times over that period, reaching 17.8% of the elderly population, the fourth highest in the OECD and well above the OECD average of 11.8%. The long-term care insurance premium, which must be paid by everyone aged 40 and over, increased by 2.6 times for persons aged 40-64 over FY 2000-16 and by 1.9 times for those over 65. The government projects that the pace of increase in long-term care spending will continue to be the fastest among social insurance programmes (Figure 2.7).

The share of long-term care recipients receiving care at home is high, reflecting generous insurance coverage for such assistance. Indeed, "living support" (i.e., housecleaning,

Figure 2.14. **Long-term care expenditure has more than doubled in 14 years**



1. Preventive care and other home care include short-stay service, rental of welfare equipment and fees for home repair, etc. Preventive care services started in 2006.
2. Level 5 is the highest level of need for long-term care and level 1 the lowest. Under the need for care level 1, there are two levels of need for assistance.
3. In order to use long-term care insurance to receive long-term care, the person must first obtain a long-term care certification. The eligibility rate is the share of persons certified as needing long-term care or assistance as a share of the population over age 65.

Source: Ministry of Health, Labor and Welfare, *Survey of Actual Condition of Long-term Care Benefits in FY 2000 and FY 2014*.

StatLink http://dx.doi.org/10.1787/888933468890

shopping, cooking, etc.) is covered by insurance, with low co-payment rates of 10%. Day service – elderly persons visiting long-term care facilities for meals and bathing – is also popular. In some cases, it is just entertaining elderly persons, even including casino-type activities. The variation between prefectures in per capita spending for home care, living support and day service is larger than for care provided in long-term care facilities, even after adjusting for age composition (Hida, 2015). Around two-thirds of those using living support and day service have needs that are classified as "less severe" (level 2 or below). Living support and day services for those with less severe needs should be excluded from long-term care insurance, and should instead be provided by local governments. In addition, the scope for combining care not covered by insurance with that which is covered (so-called "double billing") should be expanded.

A number of studies have found insurance-induced demand both for living support and day service (Yuda, 2005; Tajika and Yui, 2004) and for care at facilities (Hida, 2015). One reason is moral hazard between individuals who want to receive care and business entities that want to provide it (Tajika and Kikuchi, 2006). In addition, municipalities face a conflict of interest between encouraging such care, which boosts local firms and employment, and appropriately administering the insurance. Moreover, municipal governments have insufficient financial resources to act as insurers, a role that should be shifted to the prefectural level. Some supply controls should also be considered, including reintroducing volume control for facility-based services, which had been abolished in 2012.

Increasing co-payments is another priority to limit the projected rise in long-term costs (Figure 2.7). Private expenditure covered 8.6% of long-term care spending in 2013, much lower than the 15.7% for total health spending. In 2015, the government increased the co-payment rate to 20% and it plans to raise it further to 30% in 2018, in addition to raising the monthly payment ceiling by 19% to 44 000 yen (USD 387) per household. However, these reforms apply only to elderly earning as much as the working-age population, who are likely to be relatively few. Further increasing the co-payment rate to the level applied to overall health spending is essential.

Pension reform

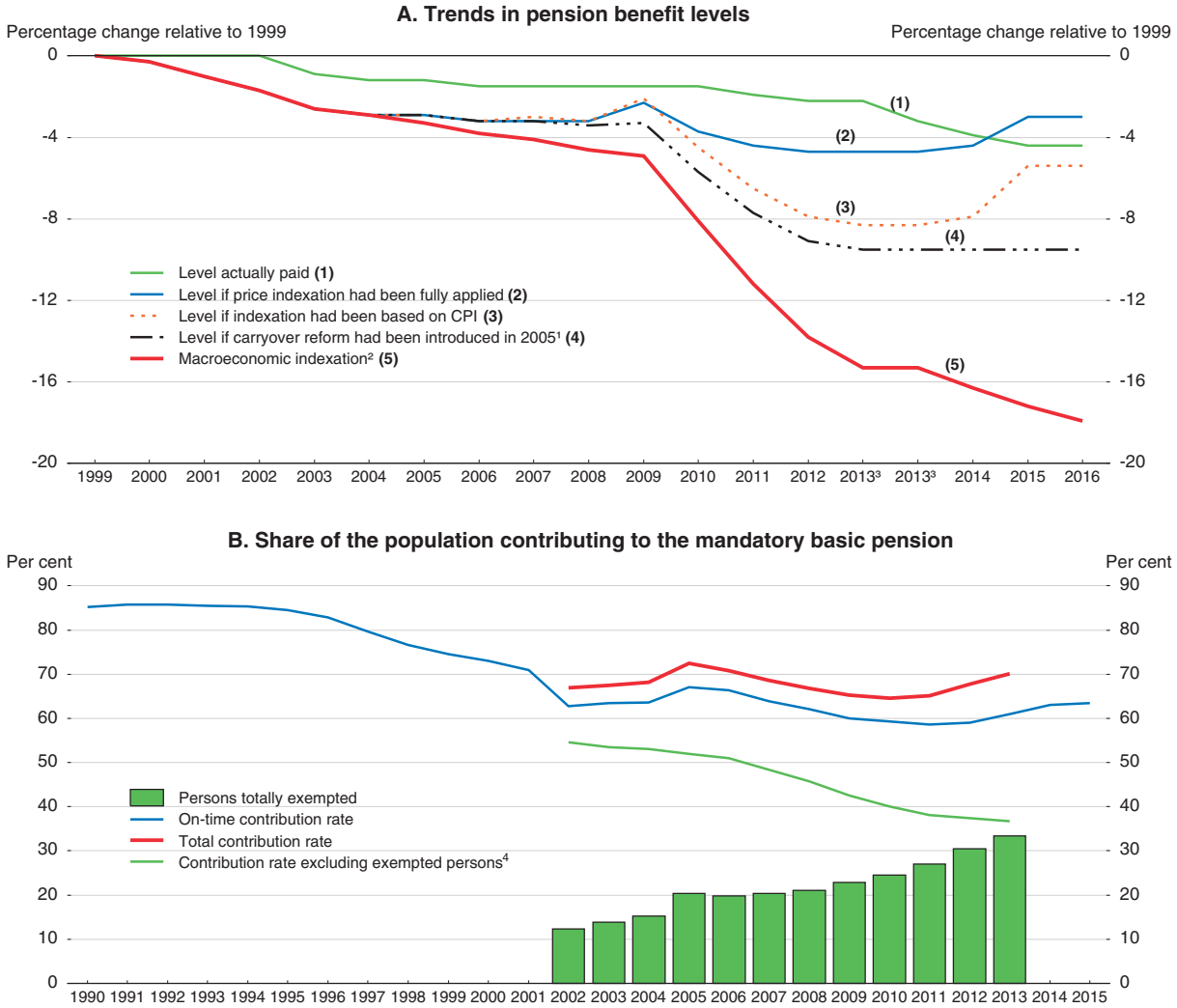
The failure to set pension benefits based on the indexation plans in place has led, cumulatively, to excess payments of 41 trillion yen (7.6% of 2016 GDP) since FY 2000 (Figure 2.15). This reflects: i) the suspension of price indexation over 2000-14 in the context of deflation; ii) the effect of not moving to wage indexation in FY 2000; and iii) the effect of not fully applying macroeconomic indexation:

- Price indexation of benefits was suspended in the early 2000s. Consequently, pension benefits fell only 2% over FY 1999-2012 (first line), rather than matching the 5% drop in the CPI (second line). The failure to index benefits resulted in 9 trillion yen of excess pension payments (the area between the first and second lines) over FY 2000-14.
- In 2004, the government decided to adjust pension benefits in line with wage growth when it is less than CPI inflation (as long as both were positive). When wage growth is negative, the pension revision is based on CPI inflation or zero (whichever is lower). This approach left the pension benefit rate 1% higher in FY 2016 (the third line). Under the 2016 reform that will be implemented in FY 2021, benefits will be based on wage growth when it is negative and less than CPI inflation. If this reform had been introduced in 2005, pension spending would have been 8 trillion yen lower (the area between the second and third lines). This overpayment will continue until FY 2021.
- In 2004, the government introduced “macroeconomic indexation”, which adjusts pension benefits based on changes in the number of contributors and life expectancy. However, it was not applied when inflation was negative. Had it been fully implemented, the benefit level in FY 2016 would have been 13.5 percentage points lower (fifth line) than the level actually paid (first line). Under the 2016 reform, a carryover system will be introduced in FY 2018 in which benefit revisions that are cancelled in years of negative inflation are added in later years (fourth line). If the carryover provision had been introduced in 2005, pension payments over FY 2005-16 would have been 8 trillion yen less (the area between the third and fourth lines).

Excess pension payments have contributed to a depletion of the pension reserve fund averaging around 5 trillion yen (1% of GDP) since FY 2009, despite the rise in the pension contribution rate from 13.6% in FY 2004 to 18.3% in FY 2017. To limit pension spending, macroeconomic and price indexation should be allowed to operate fully, even under deflation or low inflation of around 1% or less. Otherwise, pension benefits will remain higher than intended.

The share of the population contributing to the mandatory basic pension has remained around 68% since FY 2002 (Figure 2.15, Panel B). If persons whose contributions are exempted are excluded, the actual contribution rate was 36.7% in FY 2013. With fewer people eligible to receive the basic pension benefit in the future, outlays under the main social welfare programme, the Basic Livelihood Protection Program (BLPP), are projected to rise from 0.75% of GDP in FY 2015 to 1.7% in FY 2050 (Yoneda et al., 2015). The share of the

Figure 2.15. **Problems in Japan's pension system**



1. Level of pension benefits paid if reform decided in 2016 were applied since 2005.
2. Level of pension benefits paid compared to the level if macroeconomic indexation had been fully applied, even during periods of deflation.
3. There were two revisions in 2013 (April and October).
4. This measure excludes only those who are totally exempted from contributions (but not those partially excluded).

Source: Nakajima (2016); Ministry of Health, Labor and Welfare, *Participation and Payment of the National Pension.*

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population contributing to the mandatory basic pension is lower among youth, suggesting that they have less confidence in its future, as well as lower incomes (see below). The contribution rate is also low among non-regular workers: the share who have paid contributions for 40 years is only 30%, compared to 60% for the self-employed (Oshio, 2013).

In addition, many small firms do not participate in the Employees' Pension Insurance (EPI), although it is legally mandatory. In 2014, an estimated 0.8 million business entities (out of a total of 2.5 million) deducted personal income tax payments from their workers' salaries at source, but did not pay pension insurance premiums for them. It is necessary, therefore, to strengthen the enforcement of the EPI.

To contain the growth of pension spending, increasing the pension eligibility age is a priority (2015 *OECD Economic Survey of Japan*). Even after the age for the EPI is raised to 65 by 2025 for men and 2030 for women, it will remain relatively low compared to Japan's life expectancy, which is now the world's longest at 81 years for men and 87 for women. Accelerating the increase in the eligibility age to 65 and raising it further would improve intergenerational equality and lift output growth. Government simulations suggest that raising the eligibility age from 65 to 68 by FY 2033 would keep the pension replacement rate at close to its current level (Table 2.5). A further increase to 70 years would allow a significant rise in the replacement rate and a reduction in government outlays on pensions. In 2014, the share of the Government Pension Investment Fund held in equities was increased from 25% to 50%, equally split between domestic and foreign shares, while cutting the share of government bonds. This should lift the Fund's return, given very low interest rates, thereby easing the burden of financing pensions. At the same time, it is important to monitor the associated increase in risk. A 50% share for equities is around the median in OECD countries (OECD, 2016a).

Table 2.5. **Raising the pensionable age leads to a large increase in the replacement rate**

Per cent

Cases[1]	Real GDP growth rate		Replacement rate[2] (%) in 2050 for pension eligibility age of:		
	FY 2014-23	FY 2024 onward	65 years	68 years	70 years
Case C	1.1	0.9	51.0	63.9	72.5
Case E	1.1	0.4	50.5	63.3	71.8
Case G[3]	0.2	-0.2	42.0	52.8	60.0
Case H[4]	0.2	-0.4	41.9	52.7	59.8

1. The table shows four of the eight simulations done by the Ministry of Health, Labor and Welfare (2014). Total pension benefit payments are fixed, resulting in variations in the replacement rate.
2. Pension benefit, including the impact of macroeconomic indexation, as a percentage of final earnings. The replacement rate was 62.7% in FY 2014.
3. For the retirement age of 65, the replacement rate is for 2058.
4. For the retirement age of 65, the replacement rate is for 2054.

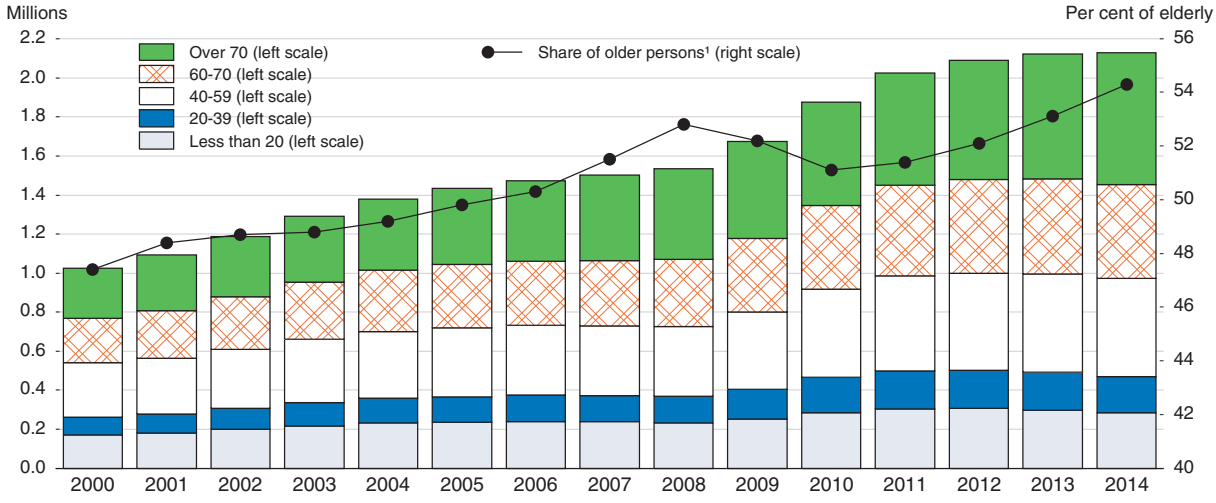
Source: Ministry of Health, Labor and Welfare (2014); OECD calculations.

Minimum-income benefit reform

Japan's tax and social security benefit system mainly redistributes income from the working-age population to the elderly through social insurance. In addition, more than half of the recipients of the BLPP, the main social welfare programme, are over age 60 (Figure 2.16). The BLPP assists those with an income below the absolute poverty line who meet the eligibility criteria, which take into account their assets and the ability of family

Figure 2.16. **The coverage of the Basic Livelihood Protection Program is rising**

Number of BLPP recipients by age



1. Share of recipients over age 60.

Source: Ministry of Health, Labor and Welfare; Ministry of Internal Affairs and Communications.

StatLink http://dx.doi.org/10.1787/888933468911

members to provide help. The number of recipients was 2.1 million (1.6% of the population) in 2014, which is low compared to the 16% of the population in relative poverty, although social insurance programmes also provide assistance. For those who receive it, the BLPP benefit is generous compared to basic social welfare benefits in other OECD countries. In 2014, the benefit for lone parents was the highest in the OECD relative to median income, while that for a single person was the third highest. The BLPP benefit, which is set at the "minimum living standard", is based on the consumption level of the lowest-income families. The high level of benefits and low coverage suggest scope for broadening coverage and reducing benefits.

Apart from its narrow coverage, the BLPP has a number of problems. *First*, it weakens work incentives due to high effective tax rates on persons leaving the BLPP to accept full-time employment. For those who can earn the average wage, the participation tax rate (the proportion of earnings that are lost to either lower benefits or higher taxes and social security contributions) for a single parent was 83% in 2014, the highest in the OECD. Consequently, persons who qualify for the BLPP tend to receive benefits for a long time. Moreover, the BLPP's medical assistance, which provides free healthcare without any co-payment, encourages excessive use of healthcare. Working-age persons covered by medical assistance are hospitalised five times more than those covered by public health insurance, who make co-payments of 30%. Moreover, those with medical assistance receive outpatient care at hospitals more than twice as frequently. The authorities should determine to what extent the higher healthcare demand is due to the poorer health status of BLPP recipients rather than the lack of a co-payment. Introducing a small co-payment could reduce unnecessary healthcare spending.

Reducing the generosity of BLPP benefits would help eliminate the poverty trap. In 2013, some measures to encourage work were taken by revising the work income deduction: i) the fully deductible limit was raised from 8 000 yen per month to 15 000 yen (USD 132); and ii) the deduction rate was changed from a range of 0% to 17.2% to a flat rate

of 10%. A one-time in-work benefit introduced in July 2014 is another step in the right direction: when BLPP recipients leave the Program, they receive a lump-sum benefit based on the amount they earned while receiving public assistance. To further strengthen work incentives, the lump-sum benefit should be raised from its current maximum of 30% of earned income up to a ceiling of 100 000 yen (USD 880) for a single household. In addition, Japan could consider reducing the generosity of the BLPP over time in some cases.

Expanding opportunities for training

For working-age people with weak skills, it is important to provide training and job support. In 2015, the government introduced a programme to offer comprehensive consultations, including for employment, and training for people in financial distress, but not eligible for the BLPP. In the first year, about 226 000 persons received consultations and over 10% of them found employment. Such an approach should be applied actively to youth not in employment, education or training (NEETs), who numbered 1.8 million between the ages of 15 and 29 in 2014 (OECD, 2017a). Expanding active labour market policies would enhance independence and thereby reduce reliance on the BLPP.

The top priority is to introduce an earned income tax credit (EITC) to encourage BLPP recipients to accept employment. Indeed, some countries have negative effective tax rates for those who return to work, thanks to an EITC. An EITC would also reduce the large number of working poor. Japan's share of households in relative poverty despite having two or more workers is the second highest in the OECD. In addition, raising participation in public pensions is important to limit reliance on the BLPP in the future.

Controlling spending by local governments

Overview of local government fiscal trends and directions

Local governments, which play an important role in Japan (Box 2.2), are required to pursue fiscal consolidation in tandem with the central government, as stated in the 2016 Basic Policies. The level of local government spending has been quite constant since 1994, but its composition has changed markedly. On a national accounts basis, public investment has fallen by more than half, while social assistance benefits and other current transfers increased by 82% and 96%, respectively (Figure 2.18). On a budget settlement basis, social spending rose by 116% and now accounts for a quarter of local government outlays (Panel B).

Box 2.2. **Overview of local governments in Japan**

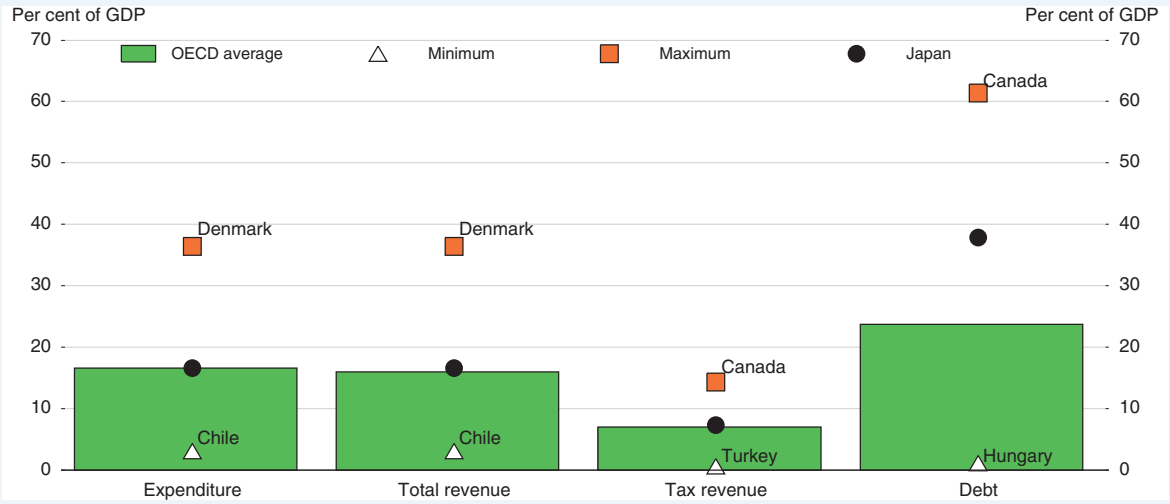
Subnational governments (SNG) in Japan consist of 47 prefectures and 1 719 municipalities (810 cities and 909 villages and towns), down from more than 10 000 in 1945. Still, more than a quarter of municipalities have less than 10 000 inhabitants, limiting efficiency in the provision of public services. SNGs play an important role, supplying many public services important for the daily life of citizens, such as education, long-term care, and police and fire protection. They account for 39% of national tax revenue and 72% of national expenditure. In terms of GDP, this puts Japan close to the OECD average (Figure 2.17).

SNG debt, at 38% of GDP, is much higher than the OECD average, but accounts for less than one-fifth of general government debt in Japan. Local debt was contained by relatively strict discipline, such as requiring central government approval of bond issuance by SNGs until 2006. Since then, issuance of bonds by SNGs only requires consultation with the central government, as long as debt and deficits are below certain thresholds. Once the thresholds are breached, central government permission is once again necessary.

Box 2.2. **Overview of local governments in Japan** *(cont.)*

Figure 2.17. **Subnational government revenue, expenditure and debt in Japan relative to the OECD**

In 2014



Source: OECD (2016c).

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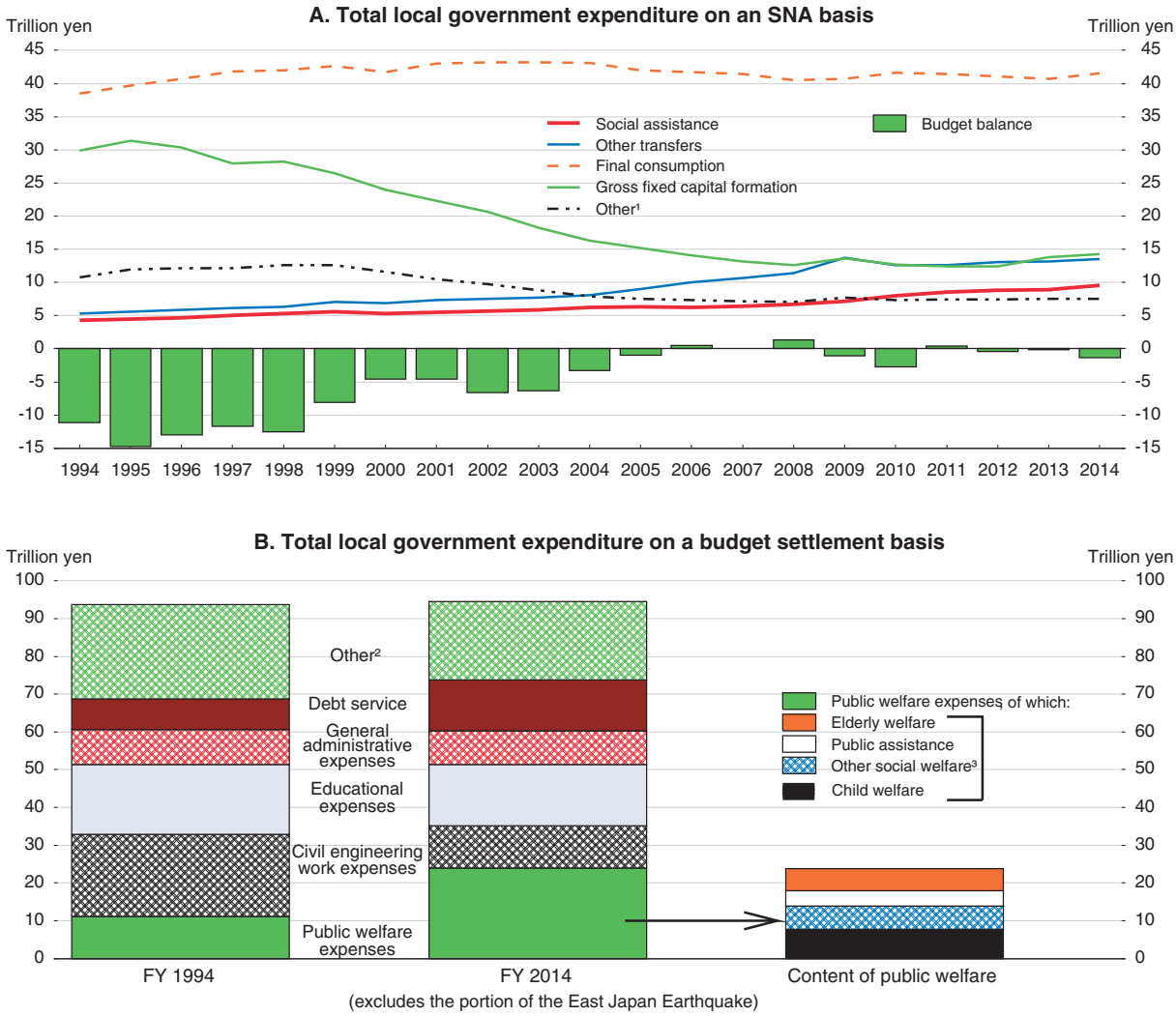
The gap between SNGs' own resources and their spending requires substantial inter-governmental transfers, which amounted to 7.0% of GDP in FY 2014. The most important central government transfer to SNGs is the Local Allocation Tax (LAT), a general-purpose block grant that accounted for 17% of SNG revenue in FY 2014. Earmarked grants, which are conditional or limited to a specific purpose, accounted for another 15% of SNG revenue. Earmarked grants are distributed by line ministries for designated local projects in education, health, infrastructure and other areas. Decision-making authority rests largely with the central government, which imposes rules and regulations, in part to ensure a high quality of services throughout the country. At the same time, such rules limit the ability of SNGs to innovate and to tailor services to local citizens' preferences. The earmarked transfers finance a portion of project costs, generally at least half, leaving the balance to be covered by SNG revenues and bonds.

The "Trinity Reform" in the early 2000s launched an ambitious reform of SNG financing. It transferred 3 trillion yen (0.6% of GDP) of national tax revenue to SNGs and reduced both earmarked grants and the LAT (2005 *OECD Economic Survey of Japan*). The reform aimed to expand freedom of choice at local levels and reduce incentives that had led to excessive spending on public works (OECD, 2016b). The declining share of public works spending at the SNG level indicates that the latter objective has been achieved (Figure 2.18). On the other hand, earmarked transfers are used to ensure at least a certain level of growth-enhancing investment and prevent an excessive emphasis on public consumption.

The LAT revenue is calculated as a function of five national taxes, but the amount of SNG expenditure is decided separately by the local government fiscal plan. The LAT, local tax and other revenue, are consistently below local government expenditure. The gap between expenditure in the fiscal plan and revenue is filled by additional LAT provided by the central government and local government debt. The accumulated central government deficits from filling the gap between the LAT and spending, as determined in the local government fiscal plan, amounts to 80 trillion yen (15% of 2016 GDP) since 1990 (Ministry of Finance, 2016).

Figure 2.18. **Local government expenditure is steady but its composition is changing**



1. Other includes subsidies, property income payment and capital transfer payment.
2. Other includes expenses for sanitation, commerce and industry and agriculture, forestry and fishery, etc.
3. Other social welfare includes assistance for disabled persons, and other comprehensive social welfare measures, etc.

Source: Cabinet Office, *National Accounts*; Ministry of Internal Affairs and Communications.

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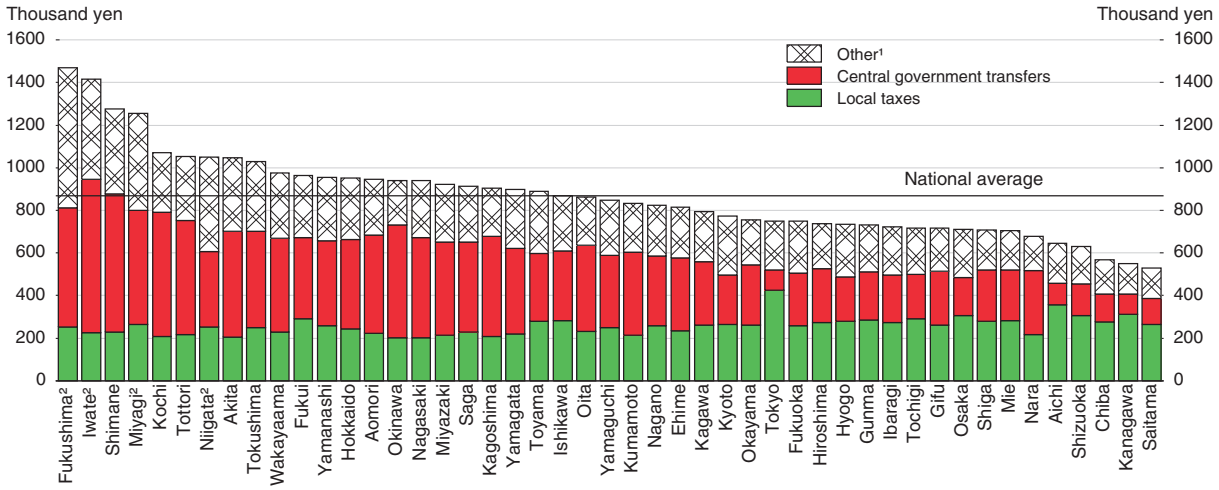
Per capita government expenditure in the highest-spending prefecture (excluding those affected by the Great East Japan Earthquake) was 2.4 times higher than in the lowest-spending prefecture in FY 2014 (Figure 2.19). The large gap in spending between prefectures suggests scope for reducing spending. Prefectures with high per capita spending also have lower tax receipts per capita and thus rely more on supplementary transfers from the central government and borrowing (Box 2.2).

Per capita spending increases as the share of elderly in a municipality rises (Figure 2.20). In addition, per capita spending rises as population density falls (Panel B), reflecting fewer economies of scale. Looking ahead, population decline is projected to accelerate, except in a few major urban centres. Indeed, cities with less than 10 000 people will lose almost half of their population by 2050, according to a government projection (MLIT, 2014). The challenges of depopulation and ageing are already evident in a number of municipalities,

Figure 2.19. **Differences in per capita spending is largely financed by central government transfers**

FY 2014



1. Other includes local bonds, loan redemption income, transferred money, balances brought forward, user fees, commissions, etc.
2. Prefectures affected by the Great East Japan Earthquake (Fukushima, Iwate and Miyagi) received money from a fund financed by national treasury disbursements. The "other" category of Niigata prefecture is high because of the loan principal and interest income from the Niigata Prefecture Chuetsu Earthquake Reconstruction Fund.

Source: Cabinet Office (2016a).

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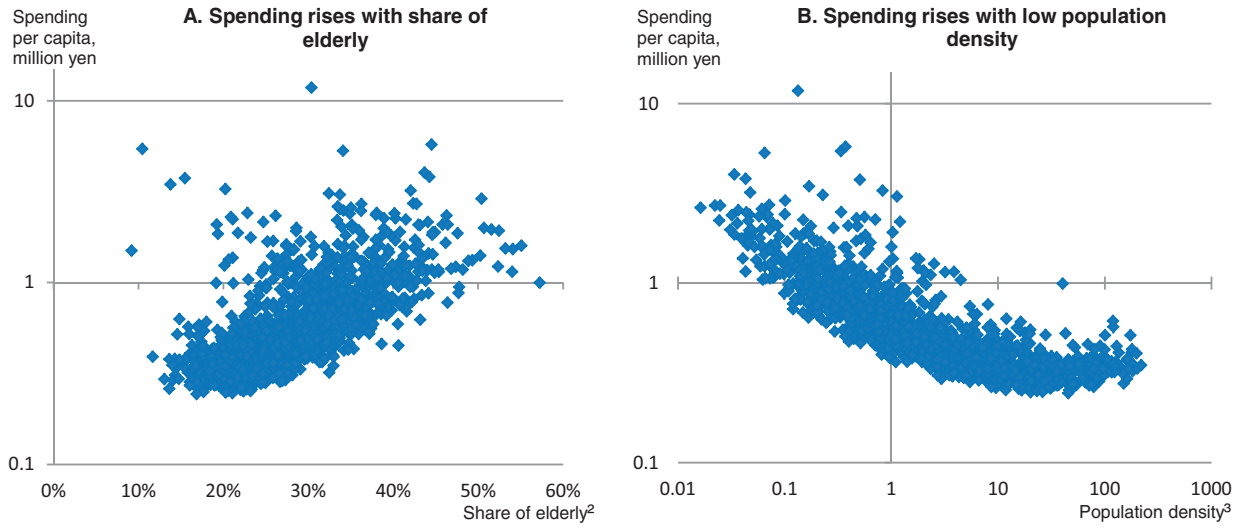
such as Yubari (Box 2.3). Falling population density and an increasing share of elderly will boost per capita spending by municipalities while reducing revenues, leading to increased reliance on central government transfers. LAT outlays are projected to rise by 1.5 times by FY 2030 (Cabinet Office, 2016e).

Figure 2.20. **Spending by municipalities is driven up by ageing and falling population density**

In 2010 for 1 741 municipalities[1]



1. Logarithmic scales, except for the horizontal axis in Panel A.
2. Share of population aged over 65 in the total population.
3. In persons per square hectare.

Source: Cabinet Office, *Visualization Database*.

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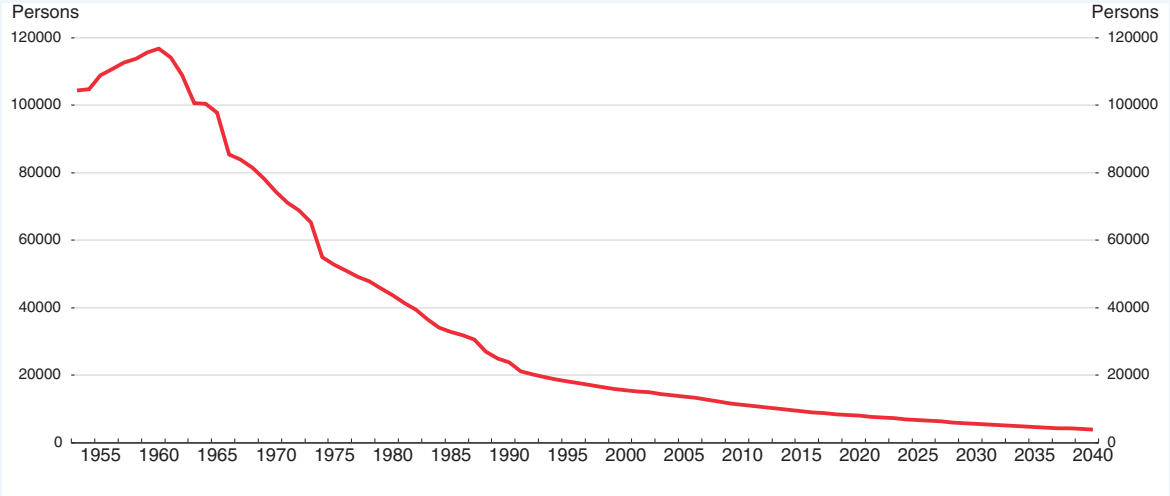
Box 2.3. **Policies to cope with population decline and ageing**

Yubari, once a major coal-mining town in Hokkaido, declared bankruptcy in 2006 when its debt was large enough to have a nationwide impact. Under the leadership of its young mayor, Naomichi Suzuki, it is taking unprecedented measures to meet a severe fiscal crisis in the face of a declining population. Yubari provides a case study for hundreds of other local governments facing similar challenges.

Yubari's population peaked in 1960 at 117 000 (Figure 2.21). However, following the shift in the national energy policy from coal to oil in 1959, its coal industry declined rapidly and its last mine closed in 1990. Yubari then pursued a policy "from mines to tourism", aided by subsidies from the central and prefectural governments to build tourist attractions, such as a coal-mining museum. However, faced with severe competition, the tourism effort failed (Seaton, 2010) and the population dropped below 10 000 in 2014. Yubari is famous for its melons: in a 2016 auction, a pair sold for 3 million yen (USD 26 400). But melons have not been able to replace coal as an economic base. With young people leaving the town, persons over age 65 now account for half of the population.

Figure 2.21. **The decline in Yubari's population is projected to continue**[1]



1. The projection from 2017 onwards is from the National Institute of Population and Social Security Research.
Source: Yubari City (2016); National Institute of Population and Social Security Research (2013).

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Yubari's fiscal problems were provoked by several factors:

- Public investment soared in the unsuccessful effort to attract tourism.
- Yubari spent 58.3 billion yen (USD 513 million) over 1974-94 to purchase assets, such as apartments, hospitals, and water and sewage facilities, owned by departing coal-mining companies (Tsujido, 2010).
- Local tax revenue and the LAT transfer from the central government shrank sharply with the closure of coal mines and depopulation.
- The size of the problem was hidden by accounting fraud.

By 2006, Yubari's debt had reached 35.3 billion yen, which was eight times its annual general revenue, including the LAT and other central government transfers (Kato, 2016). In 2007, the city drafted a Financial Restoration Plan to pay back the debt over 2007-25 under the supervision of the central government and the Hokkaido prefectural government. Revenue was increased by raising the municipal income tax and fixed-income tax rates to the highest levels allowed and charging for garbage collection. On the spending side:

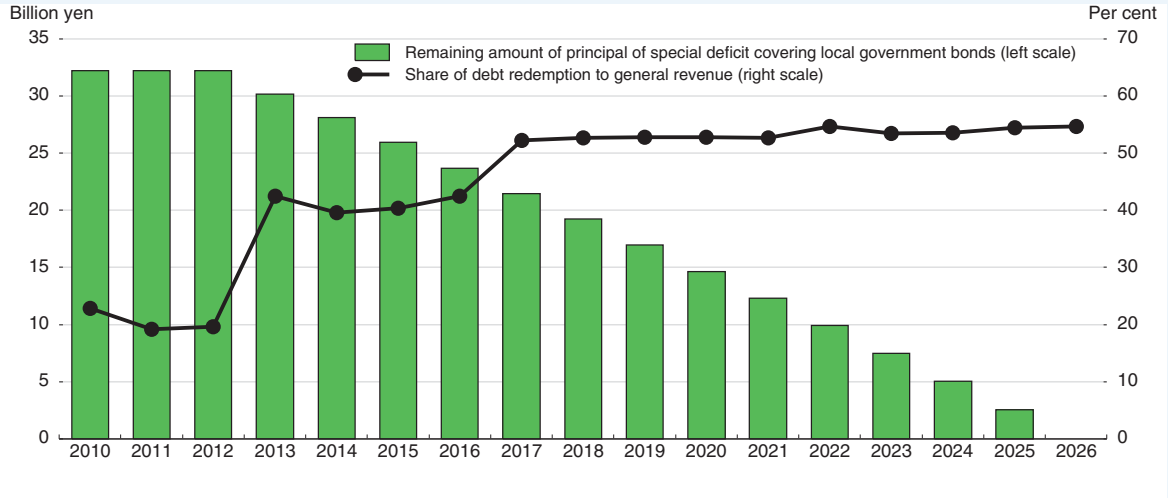
Box 2.3. **Policies to cope with population decline and ageing** *(cont.)*

- The number of city officials was slashed from 269 in 2006 to 103 in 2010, reducing the number per resident to the lowest among towns in the same size category as Yubari.
- Salaries of city officials were cut by 30% on average to the lowest level in Japan, while the mayor's salary was reduced by 70%.
- Current expenditures were sharply reduced: spending on goods fell by 40% and subsidies by 80%.
- Schools were consolidated: by FY 2011, six elementary schools and three junior high schools had been combined into one school at each level.
- Facilities such as parks, swimming pools, and public long-term care facilities were closed.
- The public hospital was scaled down to a clinic, which is now run by a private entity.

In the aftermath of the "Yubari shock", the Act on the Assurance of the Sound Financial Status of Local Governments was passed in 2007. It requires all local authorities to report four indicators of their fiscal position, including the accounts of local public corporations and "third sector" joint public-private organisations. This law helped to enhance the transparency of local government finances and contributed to the improvement in their budget balances (Figure 2.18).

In 2010, Yubari established a Financial Rebuilding Plan based on the criteria in the new law. The plan eased some of the spending cuts. For example, the salary cut for city officials was reduced from 30% to 20% on average, but most of the measures remain. Under the new Plan, Yubari issued 32 billion yen of bonds at a 1.5% interest rate, with 1.25% covered by the central and prefectural governments. The debt is to be repaid by FY 2026 (Figure 2.22).

Figure 2.22. **Yubari is paying more than half of its general revenue for debt redemption**



Source: Yubari City (2010); Yubari City (2016); OECD calculations.

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By FY 2015, Yubari had reimbursed 9.5 billion yen of its debt. However, the burden is large: debt repayment accounted for 40% of general revenue (funds that the city can choose how to spend) in FY 2016 and the share will rise above 50% in FY 2017 and remain there through FY 2026. While cutting spending, Yubari is also trying to raise revenue by attracting industry, but it is a difficult challenge. With a high local tax burden and low public services, the population is projected to fall by half over the next decade (Figure 2.21). The objective is to achieve the fiscal plan, while promoting the well-being of those who remain.

Box 2.3. **Policies to cope with population decline and ageing** *(cont.)*

Yubari offers important lessons for other towns facing similar challenges. A government research institute estimates that 20% of municipalities will have a population below 5 000 by 2040 (National Institute of Population and Social Security Research, 2013). The government projects that 20% of residential areas in Japan will become ghost towns by 2050 (MLIT, 2015).

One area where Yubari is setting an example is in the creation of compact cities. Some small communities have merged to reduce public administration costs, but this has led to small governments administering a large area, making it difficult to provide services to remote residents (Mogi and Hagiwara, 2016). Such a solution would be ineffective in Yubari, which has an area of 760 km^2 in a mountainous region. Instead, Yubari has consolidated schools, housing and other services in its centre. The most drastic measure has been the relocation of hundreds of residents from public housing on the city's outskirts to new, low-rise apartments close to the city centre.

Achieving fiscal consolidation at the local government level

The 2015 Basic Policy on Economic and Fiscal Management and Reform stated that "local government expenditures will be controlled in line with the efforts of the central government". Local government revenues are to be maintained at the same level as in the FY 2015 local government fiscal plan until FY 2018. Given Japan's fiscal situation, more ambitious targets for local governments should be considered. The local government fiscal plan should be set in relation to population developments and extra central government support beyond the LAT and earmarked transfers should be limited. Local government should also increase their tax revenue and user fees. Japanese SNGs obtained only 5.8% of their revenue in 2014 from taxes and fees compared to the OECD average of 14.9% (OECD, 2016c).

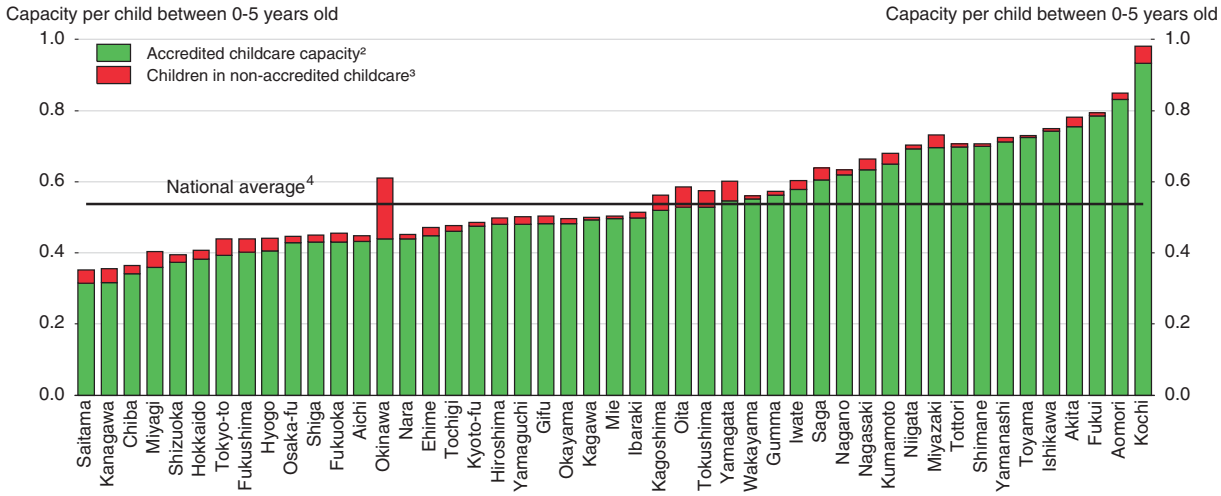
Achieving greater fiscal consolidation at the local government level would be facilitated by reforms to enhance the ability of local authorities to innovate and provide services matching local citizens' preferences. Greater local autonomy should be accompanied by greater fiscal discipline in local governments by strengthening fiscal rules, including spending limits, while support to local jurisdictions facing financial troubles should be reduced, so as to limit moral hazard. Financial markets should be allowed to play a more prominent role in disciplining local government behaviour through credit ratings in bond markets. This would require that the central government state clearly that it will not intervene as a lender of last resort to local governments and ensure that adequate information on local governments' outstanding debt and implicit liabilities is readily available. An effective solvency regime is also necessary. The following sections will consider spending areas important to local governments, such as childcare, education, public investment, local public corporations and general administrative expenses.

Childcare spending

The government is promoting the "dynamic engagement of all citizens", in part by expanding childcare capacity by 0.5 million over FY 2013-17. The wages of childcare personnel are also being increased. Childcare capacity varies widely between prefectures, with shortages observed primarily in urban areas, such as Tokyo and Osaka (Figure 2.23). For example, childcare capacity per child in Kochi prefecture is more than three time higher than in Saitama prefecture, which is close to Tokyo. Policies to increase capacity and raise wages of childcare workers should thus concentrate on major urban areas.

Figure 2.23. **Childcare capacity is limited in major urban areas**

Capacity in accredited childcare centres relative to the number of children[1] by prefecture in 2016



1. Number of children aged 0-5. Number of children aged 5 is calculated as one-fifth of children aged 5-9.
2. Based on the number of accredited childcare facilities and Kodomo-en (combined childcare and kindergartens). The capacity of each Kodomo-en is assumed to be the same in all prefectures.
3. Based on a survey by the Ministry of Health, Labor and Welfare in 2012.
4. Accredited childcare capacity (including Kodomo-en).

Source: Ministry of Health, Labor and Welfare; Cabinet Office; OECD calculations.

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The fiscal burden would be eased by expanding the capacity of private childcare. *First*, entry by corporations is virtually restricted by policies such as a reduced corporate income tax and subsidies for social welfare organisations. Consequently, such organisations are prevalent in providing childcare. *Second*, quality regulations, such as the minimum area for childcare centres, set by some local governments, exceed national standards. The rationale for more stringent standards, which limit entry by new suppliers, should be reviewed (Yashiro, 2016). *Third*, measures to cope with childcare personnel shortages are needed, including further promoting the return of qualified nursery teachers who are not currently employed in childcare centres. In addition, some workers with experience in related fields, such as kindergarten or nursing, should be allowed to work in childcare even without formal qualifications.

Education spending

Municipalities are responsible for primary and middle schools and prefectural governments for high schools. With the number of children in primary and middle school falling by around a quarter during the past 20 years, educational costs paid by local governments decreased by 10% to 16.7 trillion yen in FY 2014. The savings were achieved by declines in the number of schools and classes by 13% and 11%, respectively, while the number of teachers fell by 6%. Consequently, the number of students per teacher in primary and middle school fell from 19 in 1994 to 15 in 2014, almost matching the OECD average.

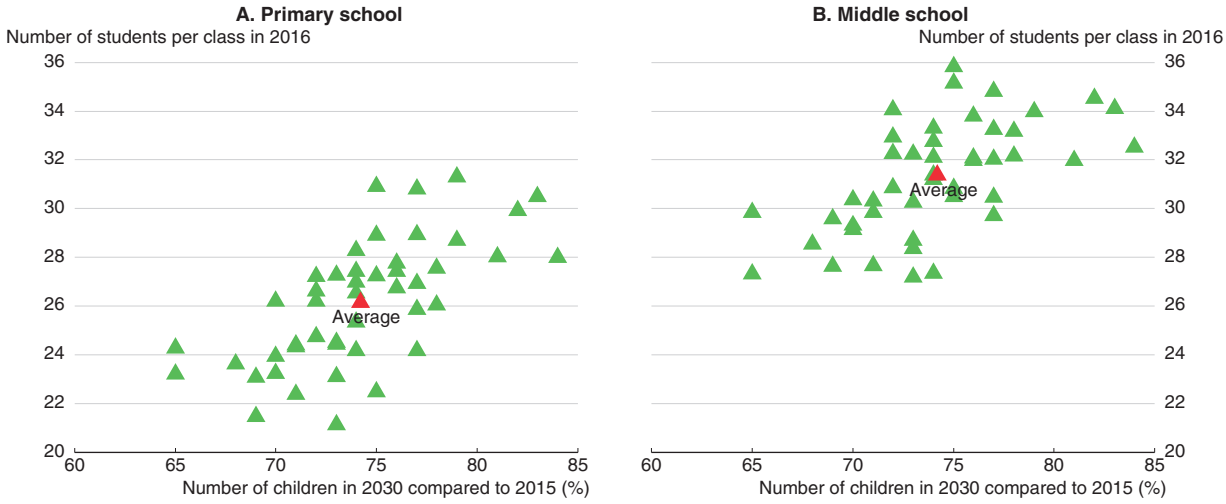
The fall in the number of students per teacher was intended in part to improve the quality of education. However, it also reflects disincentives for school consolidation in the LAT, which is based on the number of schools and classes as well as on the number of children. To improve incentives, the LAT added an "adjustment coefficient" that is applied for several years following school consolidation. The cost savings of consolidation, though,

are primarily accrued by national and prefectural governments, who pay teacher salaries, rather than by municipalities (Honda, 2012).

By 2030, the school-age population (5-14) will shrink by another quarter (Figure 2.24). The decline can be used to lower average class size in prefectures where it is still high. However, the largest declines will be in prefectures where class size is already low, creating scope for further reductions in the number of schools and classes. To realise savings, incentives for municipalities to consolidate schools and classes should be enhanced. Indeed, a government study shows positive consequences of maintaining adequate class size on learning (MEXT, 2015).

Figure 2.24. **The fall in the number of school-age children allows scope for school consolidation**

Number of students per class and the number of school-age children in 2030 as a percentage of the 2015 level[1]



1. Each triangle represents one of Japan's 47 prefectures.

Source: Ministry of Education, Culture, Sports, Science and Technology; National Institute of Population and Social Security Research; OECD calculations.

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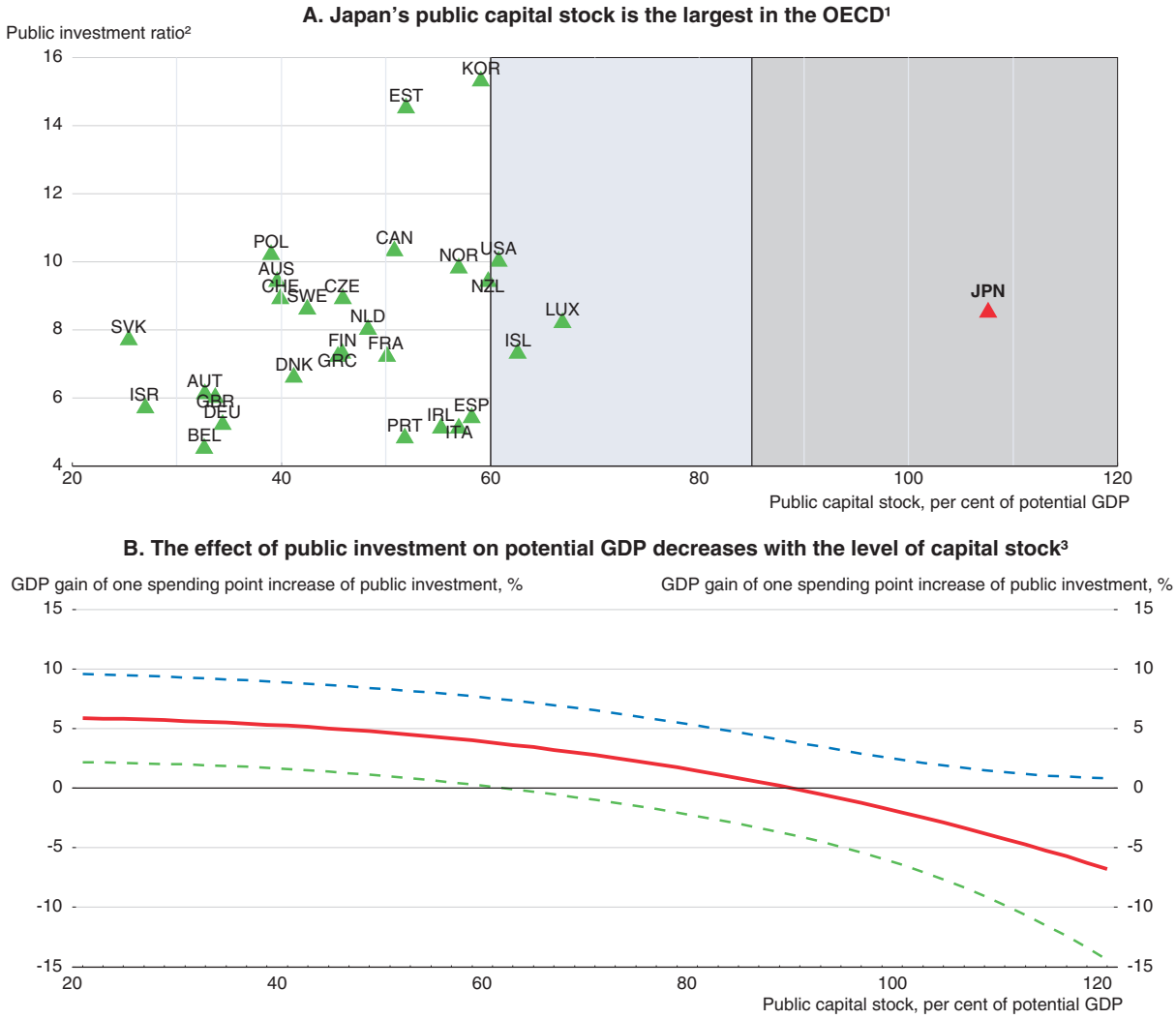
Public investment

Japan's stock of public capital is high, reaching 107% of GDP in 2013, compared to between 34% and 65% in other G7 economies (Figure 2.25). The high level reflects large-scale public investment during the 1990s, when fiscal packages focused on public investment were launched nearly every year in an effort to revitalise the economy. For example, the length of express highways increased by around 70% between FY 1994 and FY 2015, while the population rose by only 1.4%. The marginal return on additional public investment in Japan is estimated to be negative (Fournier, 2016). Japanese public investment has decreased from 8.9% of GDP in FY 1994 to 5.0% in FY 2015, but is still the highest among G7 countries.

With public investment falling, the average age of public infrastructure is rising (Table 2.6), which will put upward pressure on local government expenditure for maintenance and replacement, especially in rural areas (Panel B). The government estimates that replacement and maintenance costs for ten types of infrastructure will rise from 3.6 trillion yen (0.7% of GDP) in FY 2013 to between 4.3 and 5.1 trillion yen in 2023. With the population falling, local governments need to carefully select which infrastructure to keep open to limit maintenance costs, with due regard to the welfare of local residents.

Figure 2.25. **The public capital stock in Japan is exceptionally large**

In 2013



1. The data on the capital stock, which are from the IMF, depend on the rate of capital depreciation. Japanese government estimates range from 77-96%. The light shading indicates a positive but not significant impact from the investment effect and the darker shading indicates a negative, but not significant effect based on the results in Panel B.
2. Public investment as a percentage of underlying primary public spending.
3. The dashed line indicates the 95% confidence interval.

Source: Fournier (2016).

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Policies to promote compact cities would bring a number of benefits: i) greater convenience by improving access to social services, such as health and education; ii) higher productivity in services, for example through increased sales in retail outlets; and iii) lower administrative costs (MLIT, 2015). The government recently launched a National Spatial Strategy to develop compact, networked and diverse cities (OECD, 2016b). This requires more effective land-use regulations and further consolidation of urban functions and residences in designated areas through "location optimization plans" (MLIT, 2016). Such an approach should avoid excessive construction to provide services on a small scale to towns in remote areas and building connective infrastructure to link such areas (OECD, 2016b). To form compact cities, local governments need to co-operate with private entities and neighbouring cities.

Table 2.6. **The ageing of public infrastructure poses challenges for local governments**

A. Indicators of infrastructure ageing

Type of infrastructure	Local government share (%)	Share of assets over 50 years old (%)		
		2013	2023	2033
Roads and bridges (length > 2 metres)	90.0	18	43	67
Tunnels	72.0	20	34	50
River management facilities	92.6	25	43	64
Sewerages	100.0	2	9	24
Port quays (water depth > 4.5 metres)	100.0	8	32	58

B. Burden of roads, public buildings and sewage facilities by size of municipality[1]

Size of municipality	Roadway per capita (m^2)	Future replacement cost[2]	Public building space per capita (m^2)	Future replacement cost[2]	Sewage capacity per capita (metres)	Future replacement cost[2]
National average	32.0	194.5	3.2	243.6	3.6	283.1
Major cities	21.6	73.8	3.4	201.1	2.7	215.1
Cities[3]	62.4	417.2	3.6	222.3	4.1	452.8
Towns[4]	242.1	860.0	10.6	295.6	6.3	986.0

1. Estimates are based on a Ministry of Internal Affairs and Communications survey of 111 municipal governments.
2. As a percentage of current expenditure.
3. Population of 50 000 to 100 000.
4. Population of less than 10 000.

Source: OECD (2016b).

In the context of a falling population and the tight fiscal situation, public investment needs to be more focused on projects with the highest returns. The wide regional variation in the marginal productivity of public capital suggests room for improvement. For example, the marginal productivity of transport infrastructure in southern Kanto (which includes Tokyo) is three times higher than in rural areas such as Hokkaido and Shikoku (Cabinet Office, 2014b). Infrastructure should be directed more toward metropolitan areas to boost productivity and support Japan's international competitiveness, and less on reducing regional difference in income (2015 *OECD Economic Survey of Japan*).

Local public corporations

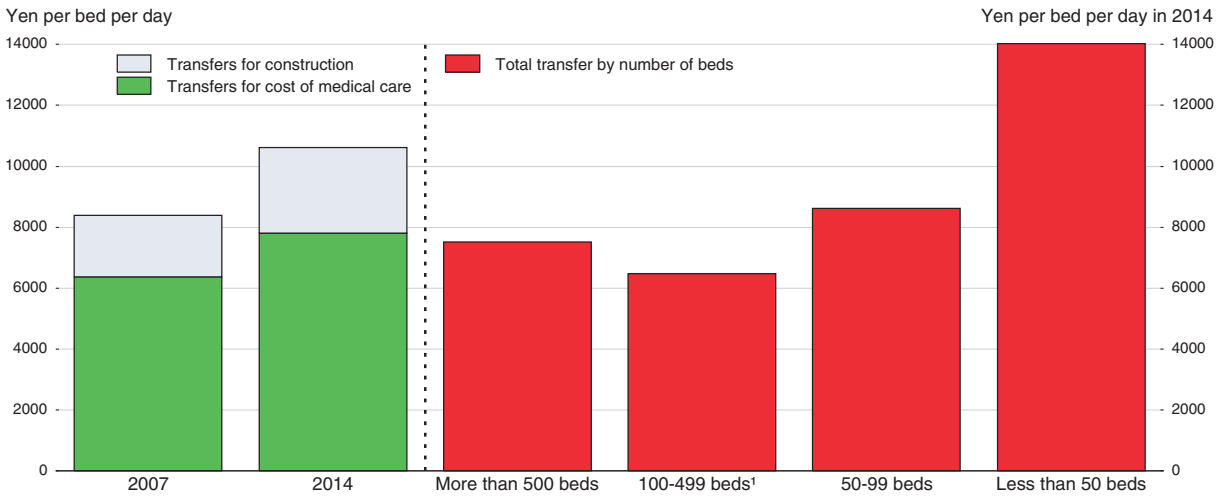
Japan had 8 662 local public corporations (LPCs) in FY 2014 (not including 7 745 LPCs established jointly with private firms). They play an important role in services such as water, public transport and hospitals. LPC spending amounts to around one-fifth of local government spending (OECD, 2016b) and is largely financed by fees for services and transfers from local governments, which amounted to 3.1 trillion yen (0.6% of GDP) in FY 2014. Without such transfers, LPC losses would have amounted to 2.6 trillion yen. LPCs pose a fiscal threat, as their losses will eventually have to be absorbed by local governments. As population shrinks, LPC fee income will decline, while the ageing infrastructure that they manage will require greater maintenance, further undermining their financial position (Table 2.6). To maintain scale economies and limit LPC losses, municipalities need to consider a range of options such as consolidation, scaling down and closing existing facilities, expanding LPC business areas and increasing user fees.

The second largest transfer by local governments to LPCs in FY 2014 was 0.8 trillion yen to public hospitals to cover their losses (Cabinet Office, 2016b). The government set

guidelines for public hospital reform in 2007 and requested that local governments take measures to enhance efficiency. Over FY 2009-13, 162 of the 892 public hospitals pursued restructuring and networking and 227 changed their management structure, including 50 hospitals that transferred business to private entities or downsized (MIAC, 2015). Even so, transfers from local governments to public hospitals did not decline between FY 2007 when the reforms were launched and FY 2014. As the number of beds in public hospitals fell 17% over that period, transfers per bed rose from 3.0 million yen per year to 3.9 million yen (about 10 000 yen or USD 88 per day) (Figure 2.26). Transfers to small hospitals are almost double those to larger hospitals. Following reforms, the profits of smaller hospitals fell due to a decrease in the number of patients (Cabinet Office, 2016b). Further merger and consolidation of public hospitals would raise efficiency: if half of small public hospitals were consolidated to 400-500 bed hospitals, their profits would increase by 0.23 trillion yen (Ito, 2010).

Figure 2.26. **Government transfers to public hospitals have increased**

Transfers from the government per hospital bed per day



1. Calculated as the simple average of transfers to hospitals with 100-199, 200-299, 300-399, and 400-499 beds.

Source: Ministry of Internal Affairs and Communications.

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In 2015, the government updated the reform guideline by clarifying the role of public hospitals, integrating them into the community healthcare initiative, and further promoting restructuring and networking, in part by supporting facility construction. In addition, it will change the basis of calculation of LAT for the operating expenses of public hospitals from the number of beds in a hospital to the number that are occupied, thus enhancing efficiency. Given the exceptionally large number of hospital beds in Japan (Table 2.4) and its link to longer hospital stays and higher medical costs (Figure 2.13), the further expansion of the number of hospital beds, public or private, should be avoided.

Local administrative services

Enhancing the efficiency of administrative services is essential to control local government spending. Administrative services show strong economies of scale: the average per capita cost in the five prefectures with the smallest populations is twice as high in the

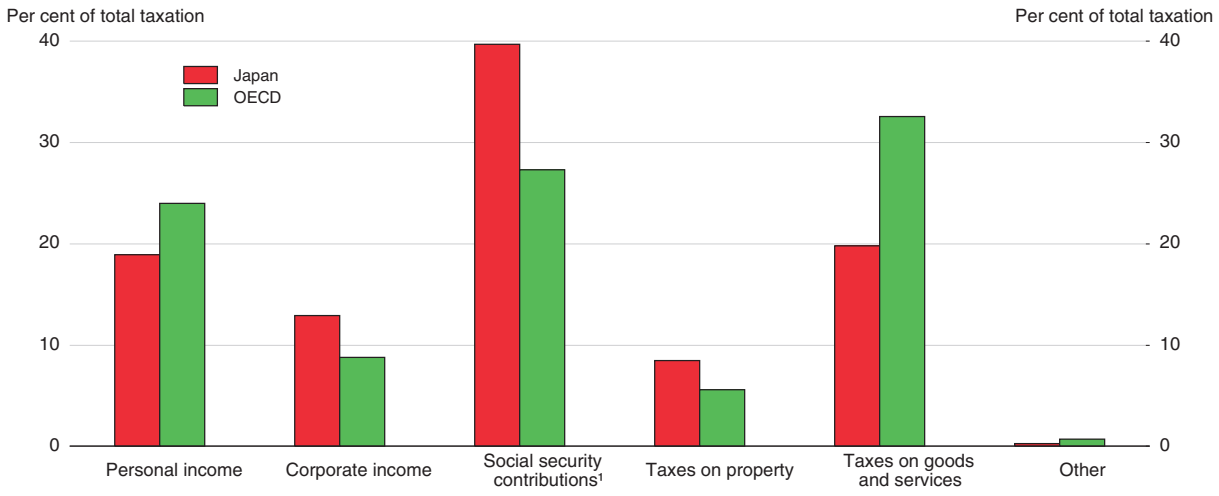
five prefectures with the largest, even after adjusting for differences in salary levels (Cabinet Office, 2016e). To reduce such costs, the government launched in FY 2016 the "Top Runner" method, which calculates unit costs based on the levels in local governments that carried out administrative reform for 16 types of tasks, such as collecting garbage and preparing school lunches. Two additional services are to be outsourced in FY 2017. Currently, there is a wide difference by prefecture in outsourcing, with rural areas lagging behind. Further initiatives to enhance efficiency in local administrative services are necessary.

Increasing revenue while promoting inclusive growth

With the share of elderly projected to reach 33% of the population by 2035, keeping Japan's promises to provide health and long-term care and pension benefits requires boosting government revenue from its relatively low level. Taxes and social insurance contributions rose from 30% of GDP in 2013 to 32% in 2014, but remained below the 34% OECD average. The lower level reflects smaller contributions from taxes on consumption and personal income (Figure 2.27). In contrast, the shares of social security contributions, corporate income tax and property tax in government revenue are above the OECD average.

Figure 2.27. **Japan's taxes on goods and services, and personal income are relatively low**

In 2014 or latest year available as a percentage of total taxation



1. Contributions include other payroll taxes.

Source: OECD (2017f), *OECD Tax Statistics* (database).

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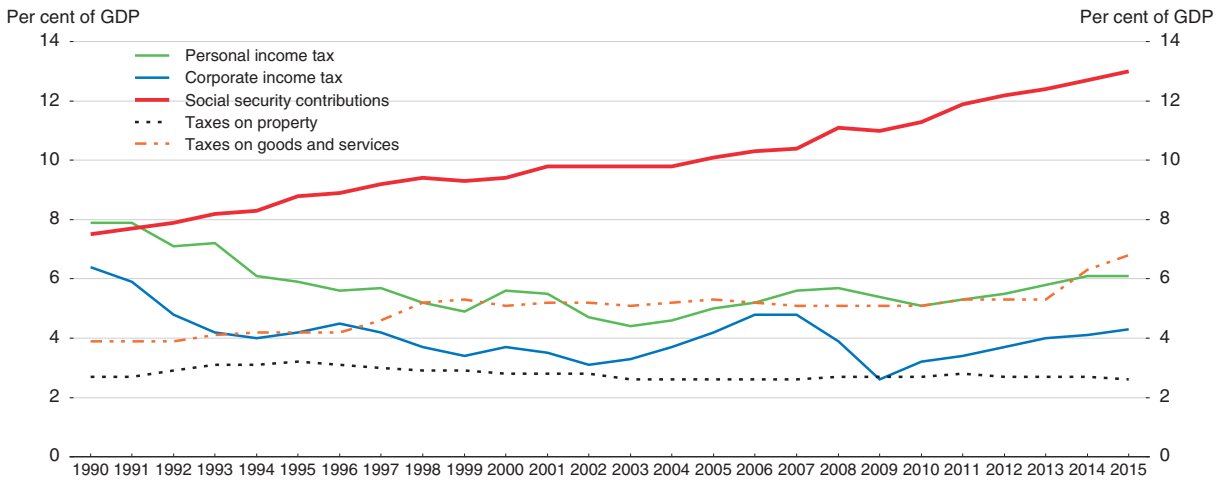
Social security contributions as a share of GDP have risen substantially since the early 1990s, in part due to the introduction of long-term care insurance in FY 2000 (Figure 2.28). In addition, the premiums for health and long-term care insurance and the pension contribution rate have increased steadily. However, this has been offset by a fall in corporate and personal income tax revenues as a share of GDP, reflecting cuts in tax rates. Increases in personal income tax revenue have also been limited by the stagnation in wage income since the early 1990s, and the decline in nominal per capita income. In addition, interest income has dropped to less than one-tenth of its 1991 peak, while capital gains have fallen to around one-fourth. Government revenue should be increased through a comprehensive approach that includes the consumption tax, personal and corporate

Figure 2.28. **Social security contributions have risen significantly during the past 25 years**



Source: OECD (2017f), *OECD Tax Statistics* (database).

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income tax, social security contributions and the inheritance tax. At the same time, inclusive growth should be promoted by expanding the personal income tax base, thereby making it more effective in redistributing income, and introducing an EITC.

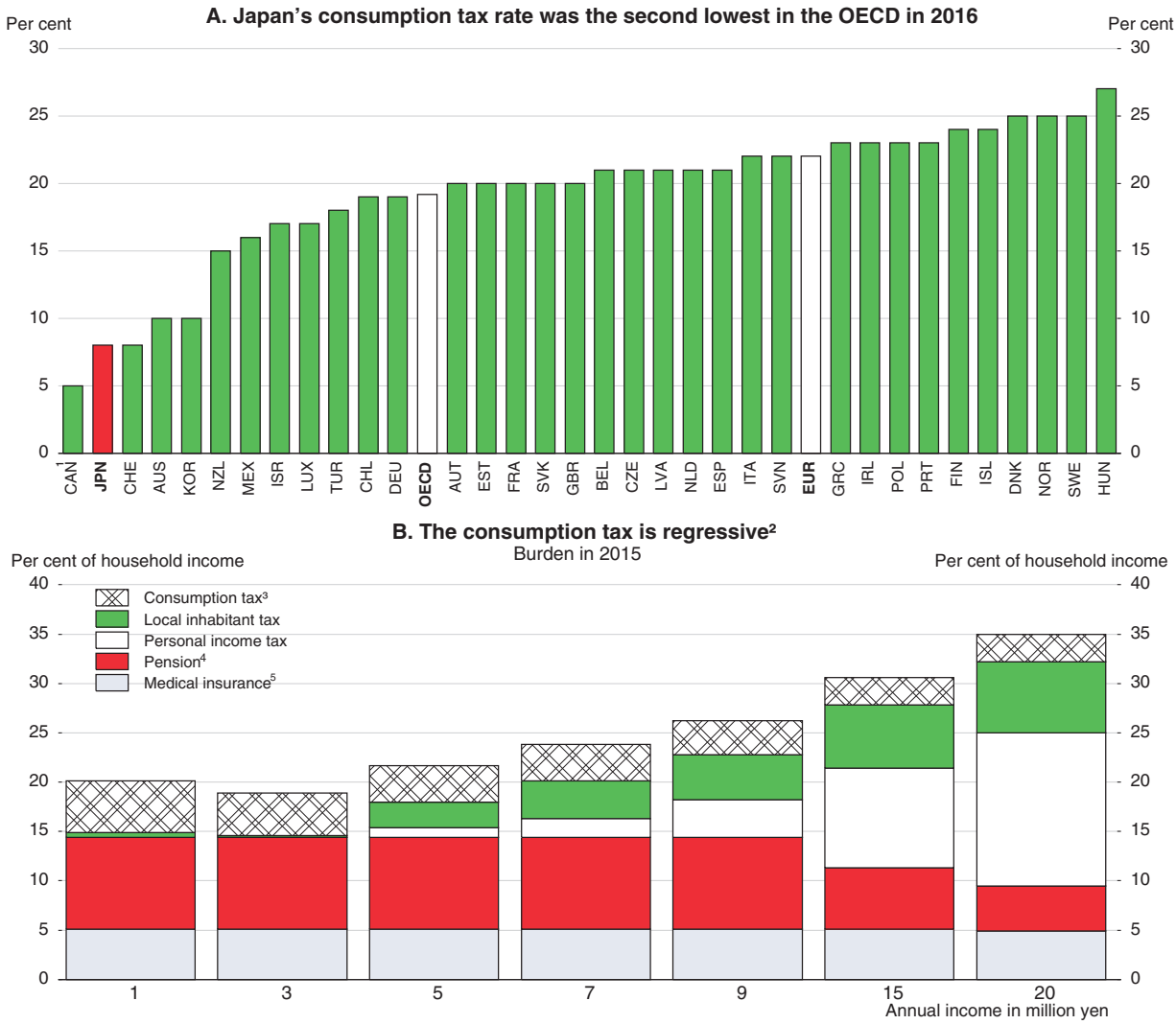
Further raise the consumption tax, while keeping a single rate

A greater role for the consumption tax would improve intergenerational equity, as the elderly would bear more of the tax burden. In addition, the consumption tax is a relatively stable revenue source and is less harmful for economic growth, as it imposes fewer distortions on employment and investment (Arnold et al., 2011). In short, a VAT is the most appropriate tax for raising revenue in Japan. In addition, raising excise duties on alcohol and cigarettes, which also helps enhance health and reduce medical spending, would be a good source of additional tax revenue (*OECD Economic Survey of Japan, 2009*).

As noted above, a fiscal consolidation of around 7½ per cent of GDP is necessary to stabilise the government debt ratio. Achieving this through consumption tax hikes alone would require boosting the rate by 15 percentage points. Consequently, the rate would have to rise from 8%, the second lowest in the OECD, to 23%, close to the European average (Figure 2.29). Hikes in the consumption tax rate should be achieved through a path of gradual increases to limit the impact on the economy.

Japan's single consumption tax rate has been effective in raising revenue. However, with the planned increase in the rate to 10% in 2019, the government intends to introduce multiple rates in an effort to soften the regressive impact. The consumption tax is regressive: it is equivalent to 5.2% of the income of a typical four-person household with an income below 2 million yen compared to 2.8% for those earning more than 15 million yen (Figure 2.29, Panel B). However, multiple tax rates are not effective in mitigating the regressive impact of the consumption tax rate, as most of the benefits go to high-income households (OECD, 2014). An 8% rate for food and drinks, excluding alcoholic beverages and eating out, would cut the consumption tax payments of households with an annual income of 15 million yen by an average of 24 000 yen per year, while the benefit for households with an income of 3 million yen would be only 12 000 yen, 0.7% of their income.

Figure 2.29. **Japan's consumption tax is relatively low**



1. In Canada, the provinces can levy a consumption tax on top of the federal tax, making it higher than Japan's 8%.
2. Average households consist of four members; a couple (one earner) with two children, one of whom is between the age of 19 and 23 and the other is between 16 and 18. The calculation assumes that annual bonus payments are equal to four months of salary.
3. The consumption tax burden is based on the consumption spending of four-member households reported in the Family Income and Expenditure Survey, consisting of a couple (one earner) with two children.
4. Pension contributions for the Employees' Pension Insurance.
5. Medical insurance is for the Japan Health Insurance Association-Managed Health Insurance. The long-term care insurance premium is not included.

Source: OECD Consumption Tax Trends 2016; Ministry of Internal Affairs and Communications, *The Family Income and Expenditure Survey 2015*; OECD calculations.

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The revenue foregone by introducing a lower rate for food and drinks, excluding alcoholic beverages and eating out, would be better used to finance an EITC, an in-work benefit for low-income earners, as it better targets government assistance on those in need. However, one obstacle to introducing an EITC is concern about the lack of transparency about income, notably among the self-employed. The introduction in 2016 of identification numbers ("my number") for taxpayers and social security contributors should enhance income transparency. However, the take-up of the identification cards has been slower than

expected, as less than 10 million cards were issued during the year after the introduction of the system. Introducing an EITC would also allow the government to reduce its contribution to the basic pension and the Japan Health Insurance Association-Managed Health Insurance (JHIAHI), thus helping to offset the cost of an EITC. Redistribution through the EITC would be better targeted and would increase transparency about the burden and beneficiaries than government contributions to the basic pension and the JHIAHI (Nishizawa, 2011).

In addition to failing to promote income equality, a multiple-rate consumption tax limits revenue gains, thus requiring an even higher standard rate. An 8% rate for food and drinks, excluding alcoholic beverages and eating out, would reduce tax revenue by 1.0 trillion yen (0.2% of GDP), requiring a standard rate of 10.4% to offset it. Introducing multiple VAT rates has additional drawbacks (2013 *OECD Economic Survey of Japan*). *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.

Reforming personal income tax and social security contributions would promote inclusive growth

Personal income tax revenue in Japan is low as less than half of personal income is taxable (Table 2.7). *First*, the largest deduction is for wages. At 62 trillion yen, it is much larger than the costs faced by employees (such as commuting), as it is intended to equalise the tax burden with the self-employed, who tend to avoid a significant share of their tax liability. Reducing the wage deduction is a key to broadening the personal income tax base. As the income of the self-employed becomes more transparent through the "my number" system, the employment deduction could be reduced to the level of the actual costs faced by

Table 2.7. **Japan's personal income tax base is subject to a range of deductions**

Trillion yen based on the FY 2014 budget

Personal income = 260 trillion yen (of which, wages – 210 trillion yen; pension benefits – 30 trillion yen; income from business/real estate – 20 trillion yen)

Deductions = around 140 trillion yen

Deductions for expenses (about 80 trillion yen)		Income deduction (60 trillion yen)		
		Personal exemptions (30 trillion yen)	Other (about 30 trillion yen)	
Wage income deduction (62 trillion yen)	Public pension deduction, etc. (14 trillion yen)	Basic deduction (18 trillion yen) Spouse deduction (5 trillion yen) General allowance for dependents (2 trillion yen) Special allowance for dependents (19-22) (1 trillion yen) Allowance for elderly dependents (1 trillion yen) Other (3 trillion yen)	Exemption for social insurance premiums (26 trillion yen) Exemption for life insurance premiums (2 trillion yen) Other (2 trillion yen)	Personal income tax base (110 trillion yen)
				Personal income tax (11.7 trillion yen)[1]

1. Tax payments are further reduced by a tax deduction of 0.7 trillion yen for home mortgage payments and dividends.

Source: Ministry of Finance.

employees. *Second*, the public pension deduction covers nearly half of pension benefits. In Japan, pension contributions and investment earnings are not taxed (an exempt-exempt-tax system), and the taxation of benefits is low. Increasing the taxation of pension benefits would also contribute to inter-generational fairness (Ihori, 2010), and could promote efficiency by reducing the tax burden on the working-age population, thereby encouraging them to work and save.

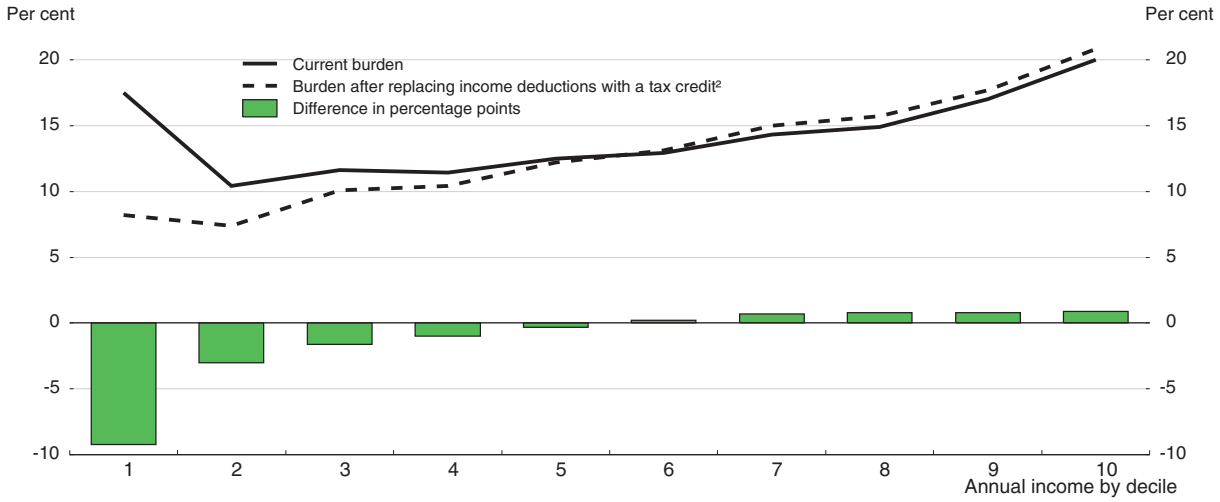
Other income deductions further lower taxable income by around 60 trillion yen. One of the most important is the deduction for spouses, which exempts 380 000 yen from the main earners' taxable income if the second earner is earning 1.03 million yen or less per year and allows them to be claimed as a dependent by the main earner. However, it reduces the labour supply by encouraging second earners, who are often women, to work part-time and supports the traditional pattern of a primary male earner and low-paid female second earner. Moreover, most of the benefits of the deduction go to high-income households (2015 *OECD Economic Survey of Japan*). The government considered a number of options, including abolishing the deduction in 2014 and 2016. In the end, it decided to raise the ceiling to 1.5 million yen subject to a limit on the primary earner's income. This will allow second earners to work more without being subject to tax and increase the supply of married non-regular workers. While it is a positive step for increasing the participation of second earners, a more comprehensive approach is needed to enhance the equality between second earners working part-time and those working full-time.

Increasing the share of personal income that is taxed would reduce inequality. Under the current system, the tax wedge, which takes into account tax and social security paid both by workers and employers and the family benefits that workers receive in the form of cash transfers, is significantly higher than the OECD average for low-income families with children and is relatively flat across the income distribution (Jones and Fukawa, 2015). Reducing deductions would raise more tax revenue, some of which could be used to cut the tax burden on low-income households. If the spouse deduction, the basic deduction and allowances for dependents for personal income and local inhabitant tax were abolished and replaced by a tax credit distributed evenly across the income distribution to offset tax and social security contributions, the tax and social security burden of the lowest-income decile would be cut by nearly 10 percentage points (Figure 2.30). The reduced tax burden on the lower half of the income distribution would be offset by slightly higher burdens for the upper half. Targeting the tax credit on lower-income households would have an even larger impact on income distribution. In addition, phasing out tax deductions for housing loans and dividends would broaden the tax base, while enhancing the redistributive impact of personal income taxes.

A major concern is the regressive nature of social security contributions for non-regular workers, who are not eligible for employee health and pension insurance, and are instead covered by the National Health Insurance (NHI) and the basic pension, which is mandatory. Of the 33 million people covered by the NHI in FY 2014, 34% were employees and they accounted for 11% of total employees in Japan (All-Japan Federation of National Health Insurance Organizations, 2016). A four-person household earning 2 million yen per year – less than the poverty line – paid nearly 10% of their income for health insurance (Figure 2.31). In contrast, employees covered by Society-Managed Health Insurance (SMHI) (primarily regular workers in large companies) and JHIAHI (primarily regular workers in small companies) pay only around 3.5% and 5.0%, respectively, of their income. Adding premiums for the mandatory basic pension makes the burden for non-regular workers

Figure 2.30. **Replacing income deductions with a tax credit lowers the burden on low-income households**

Tax and employee social security payments as a percentage of household income by income decile[1]



Note: This figures shows the impact of abolishing the spouse deduction, the basic deduction and allowances for dependents for personal income and local inhabitant tax and replacing it by a tax credit distributed evenly across the income distribution.

1. Tax and employee social security payments (personal income and local inhabitant tax and contributions to health, long-term care, pension, and employment insurance) in 2009 are divided by household income, which includes salary and business income as well as income from rent, interest, dividends, public and private pension benefits, livelihood subsidies and childcare allowances. This is based on a household panel survey from 2009.
2. The extra income tax revenue is evenly divided among households as a tax credit (186 000 yen), which is assumed to be used to reduce their social security burden.

Source: Doi and Park (2011); OECD calculations.

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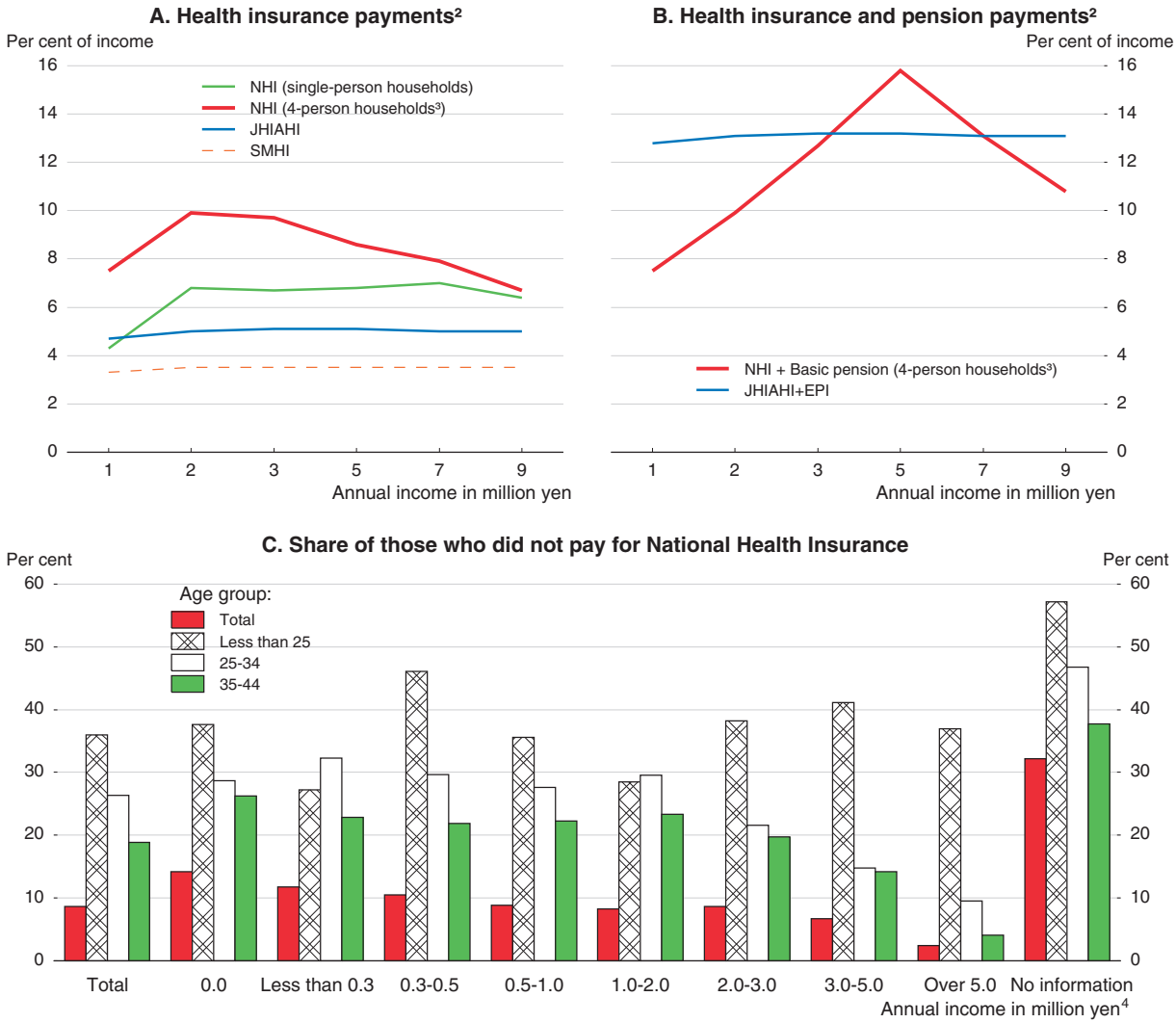
earning between 3 and 7 million yen as high as or even higher than for regular workers covered by JHIAHI and the EPI (Panel B). However, the basic pension, which pays only 65 000 yen (USD 572) per month after 40 years of contribution, is much smaller than the EPI pension. The share of the population not contributing to the NHI, although it is mandatory, is high for those with low income and for persons under the age of 45 (Panel C), reflecting the substantial burden of the insurance premium. In 2013, around 30% of persons aged 25 to 34 with an income less than 1 million yen, which is below the poverty line for single households, did not pay the premium.

The best solution would be to expand the coverage of employee-based social insurance to non-regular workers. This would make firms bear the same financial burden for social insurance payments for non-regular workers as for regular workers, thereby reducing the incentive to offer non-regular contracts. If such an approach is not feasible, the government should address the problem by shifting from an income deduction to a tax credit, thus increasing the progressivity of the tax and social contribution systems.

In addition to reducing deductions, taxes on capital income levied at the individual level should be increased to restore the progressivity of the tax system. Indeed, the effective tax rate peaks at 29% for those with an income between 50 million and 100 million yen per year (USD 44 000 to 88 000) and then falls steadily to 17% for those with an income over 10 billion yen (Figure 2.32). The lower burden reflects the fact that high-income earners have more capital income, which is taxed separately at a lower rate than other income. The share of capital gains in total income, which is close to zero for those earning less than 50 million,

Figure 2.31. **Social security contributions pose heavy burdens on non-regular workers**

In FY 2013[1]



1. The SMHI is mainly for regular workers in large companies, and JHIAHI is mainly for regular workers in small companies. Contributions paid by employers are not included in the figure. National Health Insurance (NHI) is for those who are not covered by employee health insurance schemes (SMHI and JHIAHI).
2. The calculation assumes that annual bonus payments are equal to four months of salary.
3. Average households consist of four members; a couple (one earner) with two children, one of whom is between the age of 19 and 23 and the other is between 16 and 18.
4. Annual household income before basic deductions.

Source: All-Japan Federation of National Health Insurance Organizations (2014); MHLW, *National Health Insurance Survey*; OECD calculations.

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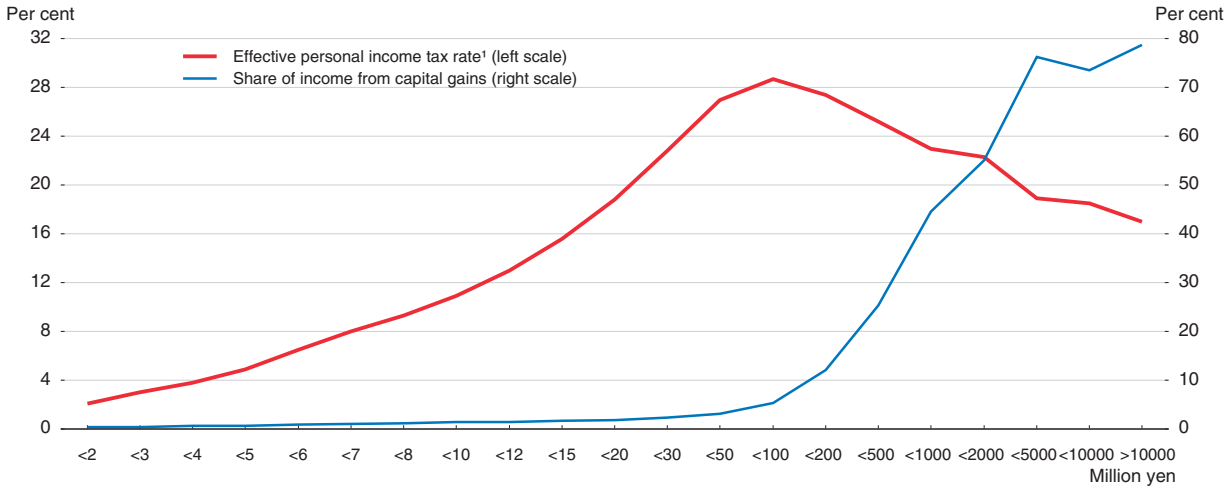
rises to 79% for those with an income above 10 billion yen. Raising the tax rate on interest income, dividends and capital gains from 20% to 25% would increase tax revenue (Morinobu, 2016). Capital income should continue to be taxed separately to limit tax evasion.

Inheritance taxes

Inheritance in Japan has traditionally been considered to be compensation for caring for one's parents, but with the introduction of long-term care insurance in 2000, such care

Figure 2.32. **The effective personal income tax rate on high earners is reduced by low rates on capital gains**

As a percentage of total income in 2014



1. Calculated by dividing personal income tax payments by total personal income, including labour and capital income (dividends, interest, and rental income). The data cover persons making personal income tax declarations (income taxed at source is not included).

Source: National Tax Agency.

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is increasingly the responsibility of society as a whole. In 2007, the government cited "progress in social support for the elderly" as a rationale for expanding the inheritance tax (Tax Committee, 2007). Persons aged 75 or older will have received net social benefits amounting to 16% of their lifetime income (Figure 2.8). Even with the expansion of the inheritance tax base in 2015, only 8% of the deceased are taxed. Further broadening the base would generate revenue and enhance fairness between generations. Some experts go as far as to recommend using the inheritance tax to recover all the excess benefits received by the older generation (Atsumi 2005; Suzuki, 2014).

Broadening the corporate income tax base

Japan reduced its combined (national and local government) corporate income tax rate from 37% in FY 2013, the second highest in the OECD, to 29.97% in FY 2016 to promote growth, while broadening the base. This initiative is intended to "raise companies' profitability by spreading the tax burden more widely and reducing the burden on companies with profit-earning power" (Ministry of Finance, 2015). The government intends to lower the rate slightly to 29.74% in FY 2018, edging it closer to the OECD average of 25%. Given the fiscal situation, broadening the tax base is essential to make corporate tax reform revenue neutral. The priority in this regard is to abolish and limit special tax incentives based on constant reviews of their effectiveness.

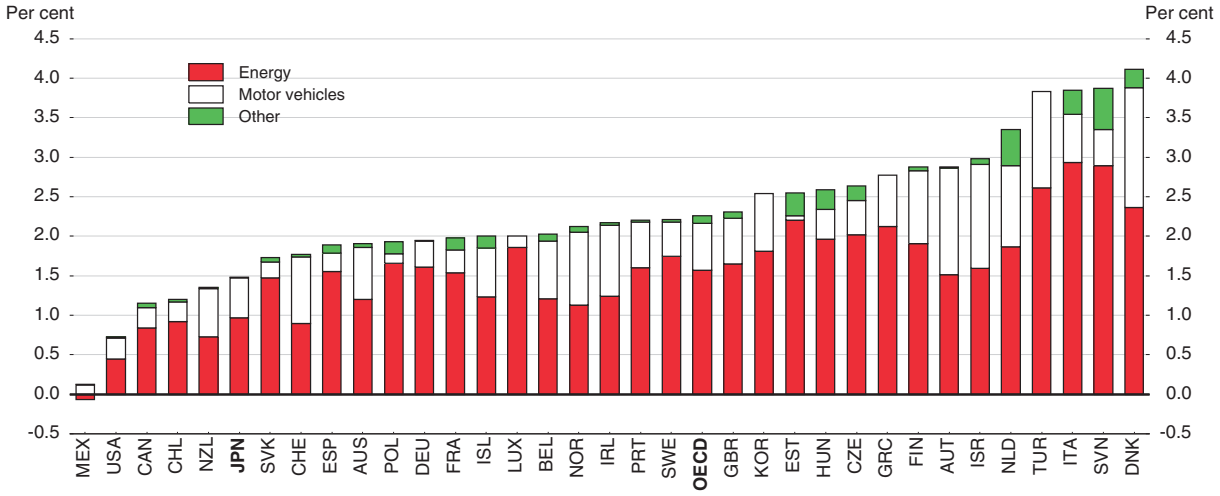
Environmentally-related taxes

Japan's economy has long been characterised by relatively high energy efficiency and low greenhouse gas (GHG) emissions. However, the closure of the nuclear power plants resulted in a rise in the carbon intensity of Japan's energy mix since 2011. Japan's Intended Nationally Determined Contribution aims to cut the country's emissions by 26% from 2013 levels by 2030 through a comprehensive approach that promotes energy efficiency and uses low-carbon

energy sources, such as nuclear and renewable energy. Raising environmentally-related taxes would also boost revenue while helping to reduce GHG emissions and achieve other environmental objectives, such as improving air quality (2013 *OECD Economic Survey of Japan*). Japan has taken steps in this regard, notably by introducing the Tax for Climate Change Mitigation, which increased an existing tax on petroleum and coal in three steps in 2012, 2014 and 2016, with the revenues earmarked for renewable energy and energy conservation. However, in 2014, environmentally-related taxes were only 1.5% of GDP, the sixth lowest in the OECD and well below the mean (Figure 2.33), suggesting scope for raising revenue.

Figure 2.33. **Environmentally-related taxes in Japan are well below the OECD mean**

Percentage of GDP in 2014



Source: OECD (2016d).

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Main policy recommendations to ensure fiscal sustainability in the context of a shrinking and ageing population

Key recommendations

- 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.
- Gradually raise the consumption tax rate.
- Enhance equity by introducing an earned income tax credit.
- Fully apply macroeconomic indexation as soon as possible.
- Raise the pension eligibility age above 65.
- Take long-term care out of hospitals and reduce long-term care insurance coverage for those with less severe needs.
- Increase the use of generics.

Other recommendations

- Improve the fiscal framework.
- 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.

Main policy recommendations to ensure fiscal sustainability in the context of a shrinking and ageing population *(cont.)*

- Expand the coverage of the Basic Livelihood Protection Program, while reforming it to encourage work.
- 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.
- Enhance incentives for school consolidation to adjust to the falling number of children.
- Focus increases in childcare capacity on urban areas facing shortages, in part by facilitating greater entry by private firms.
- Lower public investment by carefully reducing public infrastructure in line with demographic changes and concentrating new investment on projects with the highest returns.
- Maintain the financial viability of local public corporations through consolidation, expansion of business areas and increased user fees.
- Raise taxes on capital income to increase the effective tax rate on high-income earners.
- Increase the coverage of firm-based social insurance and ensure better compliance with the public pension schemes.

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