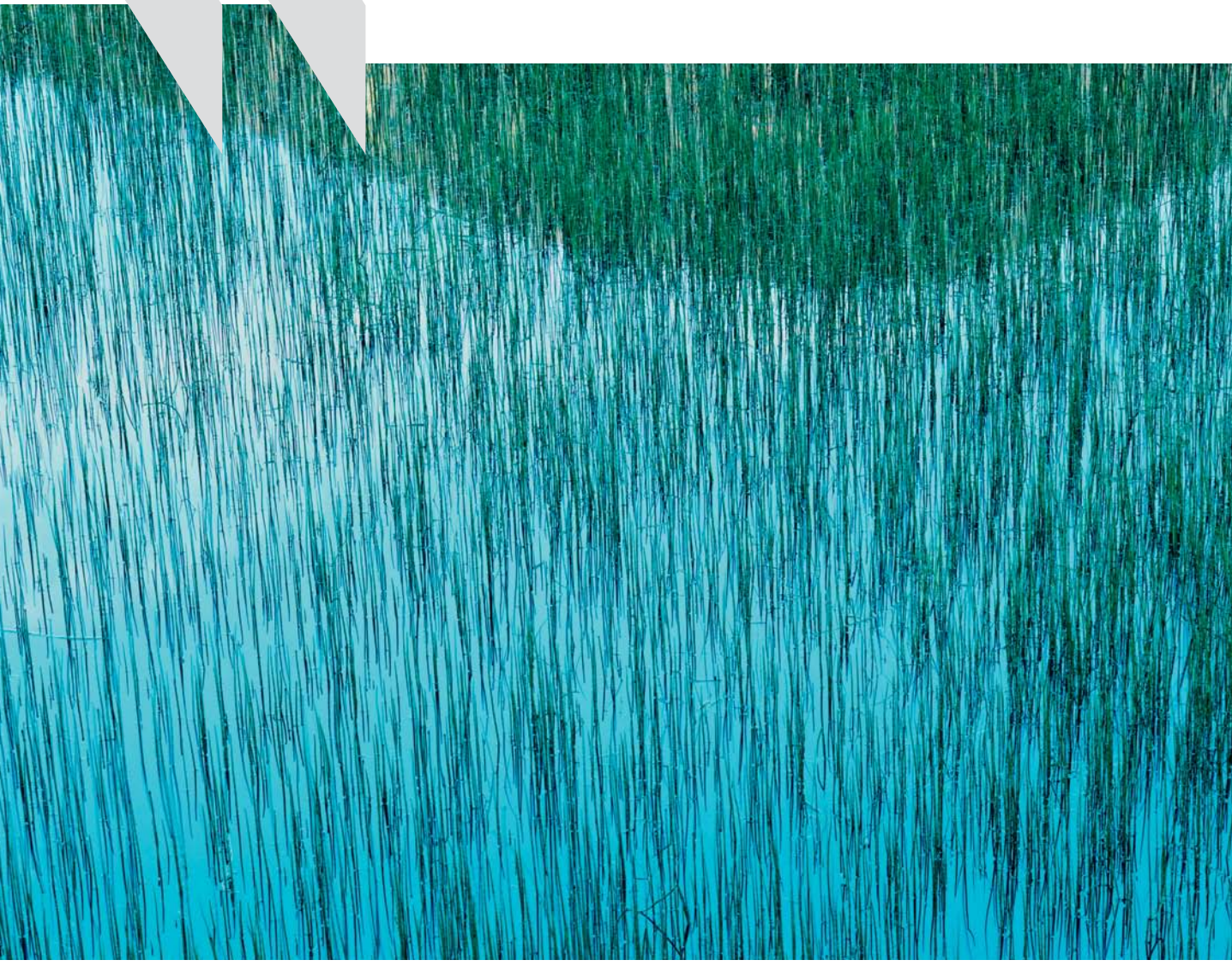
# OECD Economic Surveys

# JAPAN



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# OECD Economic Surveys: Japan 2009

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*This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.*

*The economic situation and policies of Japan were reviewed by the Committee on 7th September 2009. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 21 September 2009.*

*The report was prepared before the August 2009 general elections. Annex 1.A1 outlines the economic policy proposals announced by the coalition government on 9 September, but the report does not assess the new government's economic policy agenda.*

*The Secretariat's draft report was prepared for the Committee by Randall S. Jones, Masahiko Tsutsumi and Byungseo Yoo under the supervision of Vincent Koen.*

*Research assistance was provided by Lutecia Daniel.*

*The previous Survey of Japan was issued in April 2008.*

*Information about the latest as well as previous Surveys and more information about how Surveys are prepared is available at* www.oecd.org/eco/surveys.

# BASIC STATISTICS OF JAPAN

## THE LAND

| | |
|---|---|
| Area (1 000 sq. km), 2007 | 377.9 |
| Cultivated agricultural land (1 000 sq. km), 2005 | 47.0 |
| Forest (1 000 sq.km), 2005 | 251.0 |
| Densely inhabited districts[1] (1 000 sq. km), 2005 | 12.6 |

Major cities, 2009 (million inhabitants):

| | |
|---|---|
| Tokyo (23 wards) | 8.8 |
| Yokohama | 3.7 |
| Osaka | 2.7 |
| Nagoya | 2.3 |
| Sapporo | 1.9 |
| Kobe | 1.5 |
| Kyoto | 1.5 |

## THE PEOPLE

| | |
|---|---|
| Population, March 2009 estimate (1 000) | 127 567 |
| Number of persons per sq. km in 2007 | 342.6 |
| Percentage of population living in densely inhabited districts in 2005* | 66.0 |
| Net annual rate of population increase (2000-2009) | 0.1 |
| Labour force in per cent of total population, 2008 | 52.1 |

Percentage distribution of workers, 2008

| | |
|---|---|
| Agriculture and forestry | 3.8 |
| Manufacturing | 18.6 |
| Service | 63.9 |
| Other | 14.3 |

## PRODUCTION

| | |
|---|---|
| Nominal gross domestic product in 2008 (billion yen) | 507 569 |
| Real growth of real GDP, 2008 | –0.7 |
| Gross fixed investment in 2008 (per cent of GDP) | 21.5 |
| Growth of real gross fixed investment, 2008 | –5.0 |
| Share of agriculture, forestry and fishery[2] | 1.4 |
| Share of manufacturing[2] | 20.6 |
| Growth of industrial production, per cent in 2008 | –3.4 |

## THE GOVERNMENT

| | |
|---|---|
| Public consumption in 2008 (in per cent of GDP) | 18.5 |
| Current public revenue in 2007 (in per cent of GDP) | 32.1 |
| Government employees in per cent of total employment, 2008 | 7.8 |

Composition of Parliament, September 2009:

| | House of Representatives | House of Councillors |
|---|---|---|
| Democratic Party | 311 | 118 |
| Liberal Democratic Party | 118 | 85 |
| Peace and Reform (*Komei*) | 21 | 21 |
| Communist Party | 9 | 7 |
| Others | 21 | 9 |
| Vacancy | 0 | 2 |
| Total | 480 | 242 |
| Last elections | August 2009 | July 2007 |

## FOREIGN TRADE AND PAYMENTS

(2008, billion yen)

| | |
|---|---|
| Commodity exports (fob) | 77 334.9 |
| Commodity imports (fob) | 73 307.1 |
| Services | –2 137.9 |
| Investment income | 15 841.5 |
| Current balance | 16 379.8 |
| Exports of goods and services (in per cent of GDP) | 17.4 |
| Imports of goods and services (in per cent of GDP) | 17.3 |

| | Exports | Imports |
|---|---|---|
| By country (in per cent) | | |
| USA | 17.5 | 10.2 |
| EU | 14.1 | 10.1 |
| Asia | 49.3 | 40.6 |
| Other | 19.0 | 39.1 |
| By commodity (in per cent) | | |
| Foodstuff | 0.5 | 7.9 |
| Mineral fuels | 2.3 | 35.0 |
| General machinery, electric equipment, and transport equipment | 63.5 | 21.5 |
| Other | 33.7 | 35.6 |

## THE CURRENCY

Monetary unit: Yen

Currency unit per US$, average of daily figures

| | |
|---|---|
| Year 2008 | 103.4 |
| August 2009 | 94.8 |

1. Areas whose population density exceeds 5 000 persons per sq. km.
2. In gross domestic product, at producer prices in 2007 (per cent).

# *Executive summary*

*In the context of the global economic crisis, the Japanese economy has fallen into its deepest recession of the post-war era. Output is projected to contract by around 6% in 2009, reflecting a plunge in exports and tighter financial conditions. Prompt action by the authorities to stabilise financial markets, cut the policy interest rate and implement large-scale fiscal stimulus is cushioning the blow and sets the stage for a mild recovery, against the backdrop of a projected sluggish rebound in world trade. With deflation entrenched, the Bank of Japan should keep the policy interest rate close to zero. As the stimulus packages fade and fiscal consolidation begins, sustaining the expansion will depend increasingly on private domestic demand, which requires economic reforms to create new drivers of growth. Reforms in the labour market, where rising dualism has constrained wages and private consumption, and the non-manufacturing sector, where productivity gains lag far behind manufacturing, are especially important. Policy reforms in a number of other areas are needed for robust and sustainable growth.*

**Stabilising the financial market and improving its efficiency.** *Emergency measures to steady the financial market and promote credit flows are proving effective. As an economic recovery takes hold, these measures should be phased out to limit their distortionary effects while improving the regulatory architecture to further reduce banks' equity holdings, enhance the transparency of securitised products and markets and improve the quality and fairness in the rating process of credit rating agencies. Reforms to increase efficiency and overcome chronic problems, notably the low profitability in the banking sector, particularly in regional institutions, are a priority to support Japan's growth potential.*

**Achieving progress in fiscal consolidation.** *The crisis and the stimulus packages are projected to boost the budget deficit to 10% of GDP in 2010 and gross public debt to 200%, calling for a detailed and credible medium-term fiscal consolidation plan to sustain the confidence of financial markets. Once a recovery is in place, such a plan should be implemented to put the public debt ratio on a downward path. This will require reversing the upward trend in spending, focusing on cuts in public investment. Additional revenues are also necessary, in part to finance the planned improvement in social welfare programmes. Revenue should be increased through a comprehensive tax reform that also limits the negative impact on economic growth.*

**Reforming health and long-term care.** *The health-care system has contributed to outstanding health outcomes in Japan while keeping expenditures below the OECD average. However, rapid population ageing and the plan to improve social welfare programmes will put upward pressure on health spending. It is important, particularly in light of the difficult fiscal situation, to introduce efficiency-enhancing reforms to shift long-term care out of hospitals to less expensive institutions and home-based care, expand the use of generic drugs and promote healthy ageing. Efficiency gains should be accompanied by measures to promote higher quality to address growing public dissatisfaction with health care. The keys are to improve access to new drugs, medical devices and advanced medical treatments, in part by allowing more mixed billing. Imbalances and shortages in the system reflect shortcomings in the current fee-setting system, which*

*should adopt a more scientific approach. Finally, universal coverage requires improving compliance in paying premiums.*

**Addressing global warming.** *Japan has introduced a wide range of policies aimed at achieving its Kyoto Protocol target of reducing greenhouse gas emissions. Nevertheless, emissions have risen, indicating the need to introduce more binding, market-based mechanisms to achieve its targets for 2020 and 2050 in a cost-effective manner. Japan should shift from its voluntary emissions trading system to a mandatory system that covers the entire economy, including transport, drawing on the lessons from other countries and Japan's voluntary system. In addition, the emissions trading system should be linked to those in other countries and Japan should make greater use of a well-functioning Clean Development Mechanism as it is already relatively energy-efficient. Policies to promote the development of renewable energy sources in the short run should be based on transparent and efficient instruments.*

# Assessment and recommendations

*Faced with a free fall in production from September 2008…*

The export-led expansion that began in 2002 ran out of steam in late 2007 in the context of slowing world trade. Output began to contract from the second quarter of 2008, even before the global financial crisis intensified in September. Although Japan was not at the epicentre of the crisis, its export-dependent economy was vulnerable to the collapse in world trade, which resulted in its most severe recession of the post-war era. Exports and industrial production each fell by around a third in volume terms between September 2008 and February 2009, leading to a rise in unemployment to unprecedented levels by mid-2009 and to a decline in wages. Financial market conditions deteriorated as credit conditions tightened and the capitalisation of the Tokyo Stock Exchange fell by half. By March 2009, the confidence of large manufacturing firms had plummeted to its lowest level since 1975, causing a major retrenchment in their investment plans. Headline inflation has turned negative and by mid-2009 prices were down around 2% year-on-year. Output is projected to drop by around 6% in 2009, following a 0.7% decline in 2008.

*… the authorities implemented a wide range of financial, monetary and fiscal policies…*

The authorities responded quickly to the crisis. In the financial sector, policies are aimed at sustaining credit flows and stabilising markets. The government revived a scheme to inject public capital in depository institutions, encouraged lending to small and medium-sized enterprises (SMEs), took steps to stabilise the stock market and launched a programme to provide emergency loans to firms. Additional support was provided by the Bank of Japan, which launched a major scheme to facilitate corporate financing, increased purchases of government bonds and started buying commercial paper and corporate bonds. Both the central bank and the government resumed purchases of equities from banks to support their capital base. In addition, the Bank lowered the policy interest rate from 0.5% to 0.1% by the end of 2008. These measures have improved credit conditions and have flattened the yield curve. On the fiscal front, the government has launched four crisis-driven stimulus plans since August 2008, amounting to 4.7% of 2008 GDP, above the average of 3.9% for OECD countries adopting stimulus programmes. Increased spending, at 4.2% of GDP, accounted for the bulk of the stimulus in Japan. As a result of the stimulus and the severe recession, the government budget deficit is projected to reach 10% in 2010.

### *… that have helped to lay the foundation for a gradual upturn in the second half of 2009*

The first green shoots of recovery appeared in the second quarter of 2009 with gains in exports and industrial production, while financial conditions improved, reflecting a rebound in the stock market. Output is projected to continue increasing in the second half of 2009, thanks primarily to fiscal stimulus. However, the pace of recovery is likely to be restrained by subdued export growth, as world trade picks up only gradually and the appreciation of the yen over the past year reduces Japan's market share. Consequently, output growth is projected to remain below 1% during 2010, resulting in entrenched deflation and a continued rise in the unemployment rate. While a stronger pick-up in world trade could lead to a faster rebound in Japan, there are a number of downside risks, particularly from the deteriorating labour market and possible negative second-round effects from the financial sector. In addition, Japan's huge public debt makes it vulnerable to a rise in long-term interest rates.

### *A sustained and robust expansion depends on economic reforms…*

As the impact of the stimulus packages wanes and the focus shifts to fiscal consolidation, sustaining growth will depend increasingly on private domestic demand. The 2002-07 expansion, the longest in Japan's post-war history, was driven primarily by the export-oriented manufacturing sector and failed to spark strong domestic demand growth. The result was an unbalanced upturn that exacerbated gaps between sectors, regions and small and large firms. Creating a new growth model depends on reforms to boost domestic demand. The previous government's *Medium to Long-term Fiscal Policy and an Economic and Fiscal Policy Outlook for the Next Ten Years* recognised the importance of "pursuing economic growth through reform in the medium to long-term". It is important to implement reforms promptly, given that their benefits often take considerable time to materialise. Indeed, OECD experience shows that key reforms are most often implemented during deep recessions. Reform, focusing on the labour market and the non-manufacturing sector, should be a top priority for the new government.

### *… particularly in the labour market…*

The rise in the share of non-regular workers, from 20% in 1990 to 34% in 2008, has put downward pressure on wages and private consumption, as they are paid substantially less than regular workers. The increasing proportion also has negative implications for long-term productivity as firms invest less in training non-regular workers. Equity problems are a concern as well, given that the difference in productivity between regular and non-regular workers is much smaller than the wage gap. In short, the dualistic labour market traps a large proportion of the labour force, especially youth, in low-paying jobs with little employment security and limited access to training. Moreover, non-regular workers receive only limited coverage from the social insurance system. Reversing dualism requires addressing the factors that encourage firms to hire non-regular workers, notably the savings in labour costs, in part due to lower social insurance contributions, and enhanced employment flexibility. A comprehensive approach is necessary, including increasing the

coverage of non-regular workers by social security insurance schemes, reducing employment protection for regular workers and upgrading training programmes to enhance the job prospects of non-regular workers. At the same time, it is important to raise female labour force participation by reducing or eliminating aspects of the tax and social security system that discourage full-time work by women, providing more attractive job opportunities and encouraging flexible working arrangements, including by expanding the availability and quality of child care. Such changes would make for a better "work-life balance" and could help end the downward trend in the fertility rate.

### *… and the non-manufacturing sector…*

During the export-led expansion beginning in 2002, labour productivity growth accelerated to more than 7% per year in manufacturing while remaining below 2% in services. As services account for 70% of value-added and employment in Japan, boosting productivity in this sector is essential to sustain output growth and narrow the gap with the top OECD performers. The weak productivity performance in services highlights the importance of strengthening competition through a number of policies:

- Competition policy should be further upgraded by reducing exemptions to the Anti-Monopoly Act, increasing administrative fines and phasing out the special treatment of SMEs, which play a dominant role in services.
- Regulatory reform should be accelerated, focusing on reducing entry barriers, as international comparisons indicate that starting a business in Japan is relatively complicated, costly and time-consuming. In addition, the reforms introduced in the special zones should be expanded nationwide.
- International competition should be enhanced by reducing barriers to service imports and encouraging inward foreign direct investment (FDI). Increasing inflows requires removing barriers to FDI and product market regulations that discourage potential foreign investors.

In addition, competition in key service industries, such as retail, energy, transport and business services, needs to be strengthened through wide-ranging reforms. In particular, an independent sectoral regulator should be established for both the electricity and gas sectors and more consumers should be allowed to choose their supplier. Finally, reform of agricultural policies would bring significant benefits to consumers as the high level of assistance to farmers boosts the average price received by agricultural producers to a level nearly twice as high as the world price. Market price supports, which distort trade and production decisions, should be replaced.

### *… accompanied by reforms in the financial market…*

Reforms should also include the financial sector, where the focus at present is appropriately on emergency measures. These encompass increasing guarantees on loans to SMEs, expanding loans by public financial institutions, purchasing equities from banks and regulatory forbearance. Once a recovery takes hold, these measures should be withdrawn to limit distortions. It is also necessary to improve the regulatory architecture. While this is part of an international initiative, a number of priorities stand out for Japan.

*First*, banks' equity holdings should be further reduced. The experience of 2008 demonstrates once again that corrections in the stock market threaten banks' capital adequacy and their ability to lend. *Second*, the transparency of securitised products needs to be enhanced to promote the stability of financial institutions and to revive this market. *Third*, quality and fairness in the rating process of credit rating agencies should be improved, in part through rules that prevent conflicts of interest, while progressively removing their ratings from financial regulation.

### *… including measures to address long-standing weaknesses*

Another priority is to introduce reforms to enhance the efficiency of the financial sector and address chronic problems, notably the low profitability of the banking sector, particularly in regional institutions. It is important to accelerate the privatisation of public financial institutions to reduce distortions in resource allocation and to facilitate banks' entry into financing sectors, such as agriculture, that remain relatively closed to them. The authorities should reduce preferential regulatory treatment of regional institutions, which leads to distortions and moral hazard problems, and encourage the rationalisation of this sector. To increase efficiency in the context of an ageing population, obstacles to the use of reverse mortgages need to be removed, thereby reducing liquidity constraints on the elderly.

### *The policy interest rate should be kept near zero*

In addition to promoting financial market stability and facilitating corporate financing, the Bank of Japan should support economic growth by keeping the policy interest rate close to zero, given entrenched deflation and downside risks to economic activity, while taking into account the risk of financial imbalances in the medium term. Once deflation has been overcome, the central bank's Policy Board should revise the understanding of price stability as inflation between 0 and 2% by increasing the lower end of the range to ensure an adequate buffer against renewed deflation. The course of monetary policy will need to take into account the pace of economic growth and the evolution of inflation, which will depend in part on progress in fiscal consolidation.

### *With the ballooning of the budget deficit in the wake of the crisis…*

The reduction in the budget deficit – from 8.2% of GDP (excluding one-off factors) in 2002 to 3.2% in 2007 – is rapidly being reversed, putting the target of a primary budget surplus for central and local governments by FY 2011 out of reach. Gross government debt is projected to rise to 200% of GDP in 2010, and to 100% in net terms, raising serious concerns about the sustainability of the fiscal situation. It is essential, therefore, to develop a credible and detailed medium-term fiscal consolidation programme to maintain the confidence of financial markets and to implement it once an economic recovery is firmly in place. The December 2008 programme to upgrade the social welfare system would make fiscal consolidation even more challenging as it implies increasing public social spending

from its current level, which is below the OECD average, making the required rise in revenues even larger.

*… the previous government established fiscal targets…*

In June 2009, the government set out new targets for fiscal consolidation: stabilising the public debt ratio by the mid-2010s and putting it on a downward trend from the early 2020s. This was to be accomplished by halving the primary budget deficit of central and local governments by FY 2013 and achieving a surplus by FY 2019. It is essential that a more ambitious fiscal consolidation objective be adopted to limit the run-up in debt and the risk of higher interest rates. Japanese interest rates have remained surprisingly low and stable despite rising public debt, reflecting abundant domestic saving, significant home bias and consistently large purchases of government bonds by financial institutions in a context where attractive domestic investment opportunities are limited. Looking ahead, the conditions fostering low interest rates are likely to weaken. For example, the new Japan Post Bank and the national pension funds may expand their investments in other assets. An effective fiscal consolidation programme is thus essential to limit the risk of a substantial rise in interest rates. Moreover, given the objective of reducing the public debt ratio, it is important to shift the focus of consolidation from the primary to the overall budget balance.

*… that require expenditure reductions,…*

Cutting expenditures should play an important role in achieving the fiscal targets. After falling from 39% of GDP to 36% during the 2002-07 expansion, public spending is projected to reach 42% in 2010. The decline in public investment, from 8.4% of GDP in 1996 to 4.0% in 2008, was partly reversed by the fiscal stimulus packages. Unwinding this increase would reduce total spending by almost 1% of GDP. Cuts in investment should be accompanied by better allocation to enhance its productivity. The cost of maintaining existing infrastructure is projected to exceed new investment by 2011 and completely crowd it out by 2022. Maintaining scope for productivity-enhancing public investment thus requires closing under-utilised infrastructure, based on strict cost-benefit analysis in the context of a declining population. There is also room for further cuts in the government wage bill as hikes in public-sector salaries have far outstripped those in the private sector during the past 15 years. Efforts to scale back the wage bill should be focused on local governments, public enterprises and government-affiliated organisations, which account for more than 90% of public-sector employment. In any case, the scope for expenditure cuts in this area is limited by the small size of Japan's public sector relative to other major OECD economies.

*… revenue increases, mainly from the general consumption tax…*

Given the limited scope for spending cuts, achieving the fiscal targets will require additional revenue, preferably through a fundamental reform of the tax system, as outlined in the *2008 Survey of Japan*. Such a reform should boost revenue, while limiting the

negative impact on Japan's growth potential, addressing concerns about income inequality and relative poverty and improving the local tax system. The key elements of such a reform would include:

- A hike in the consumption tax rate should be the main source of additional revenue, as it limits the negative impact of higher taxes on economic growth.
- Broadening the corporate tax base, thereby lowering the proportion of firms that do not pay tax, would provide scope for cutting tax rates, which would spur economic growth.
- Broadening the personal income tax base would also raise needed revenue, given that less than half of wage income is taxed and the self-employed under-pay taxes. Reform of the income tax should include the introduction of an earned income tax credit to address the issues of income distribution and relative poverty.
- Improving the local tax system, which is exceptionally complicated with 23 taxes, and allowing more fiscal autonomy to local governments would be beneficial.

The previous government proposed to allocate all consumption tax revenue to social security. Although earmarking may make it politically easier to raise the consumption tax rate, it could also limit flexibility in spending.

### *… and ensuring the long-run sustainability of the pension system*

Controlling public pension spending in the face of rapid ageing is essential to reduce the public debt ratio. The 2004 reform aims at ensuring the sustainability of the pension system for 100 years by introducing "macroeconomic indexation". This is projected to reduce the benefit replacement rate from 62% to around 50%. It also involves raising the contribution rate from 13.6% in FY 2004 to 18.3% by FY 2017 and increasing the government contribution to the basic pension from one-third to one-half in FY 2009. As the long-run projection is sensitive to economic and demographic assumptions, additional reforms may become necessary in the future. In that case, rather than further raise the contribution rate or lower the replacement rate, the best option would be to further increase the pension eligibility age, which under current plans will reach 65 by 2025 for men and 2030 for women. Other reforms are needed to limit the negative impact of the pension system on labour supply. In particular, the exemption from contributions to the pension system, as well as for health and long-term care, for second earners in households with an income below a certain threshold encourages them to restrict their working hours.

### *Reform of the health-care system is important…*

Reform of the pension system should be accompanied by changes in the health and long-term care systems. Japan's health-care system is outstanding in a number of respects, contributing to the excellent health status of the Japanese, which is near the top of the OECD in a variety of indicators, while holding spending as a share of GDP below the OECD average. In addition, it provides universal access in principle to all medical institutions in the country. Nevertheless, it faces a number of important challenges. *First*, despite a 7½ per cent cut in medical fees and prices since 2000, health spending has risen significantly in recent years, which has weakened the fiscal position as more than 86% of health care is publicly financed. Under the current framework and utilisation patterns, health-care

spending is projected to rise by around 2% of GDP by 2025, owing to rapid population ageing. *Second*, there is growing dissatisfaction with the quality of health care, which culminated in the 2008 decision to upgrade social welfare programmes. *Third*, the system faces a number of imbalances by region and by type of care. *Fourth*, universal coverage requires improving compliance in paying premiums.

*… to increase efficiency, thereby limiting the future rise in health spending,…*

The current strategy of cutting fees for physicians and hospitals and the prices of drugs and equipment is unsustainable, making it important to increase efficiency. One key area for reform is the length of hospitals stays, which is four times the OECD average, reflecting in part the important role of hospitals in providing long-term care for the elderly. The introduction of long-term care insurance in 2000 has led to an expansion in long-term care facilities, but the shift of long-term care from hospitals to these lower-cost facilities and to home-based care needs to be accelerated by adjusting the fee schedule and improving the monitoring of patient classification. Reforms are also needed to reduce the length of hospital stays for acute care, which is about three times higher than the OECD average. In particular, it is essential to move away from a *per diem* payment scheme and toward a "diagnostic-related group" approach, which sets an overall fee according to the illness, while promoting the standardisation of treatment and length of hospital stay. Efficiency in the hospital sector should be promoted by abolishing the rule limiting the direction of hospitals and clinics to medical doctors and relaxing restrictions on equity finance. Encouraging the use of generic drugs, for example by moving towards making them the standard for reimbursement, would also reduce health spending. The government initiative to promote healthy ageing through medical check-ups and the provision of information should be supplemented by economic incentives, notably higher taxes on cigarettes.

*… to upgrade the quality of health care,…*

Concerns about quality have become more prominent as medical fees and prices have declined. One major issue is the "drug lag"; one-quarter of the world's top-selling drugs in 2006 had not been introduced in Japan and half had become available on average six years after their global launch. The situation is similar for medical devices. It is necessary to shorten the drug and medical device lags by implementing the action plan for their speedy review by the relevant authority. This involves accelerating the review process by greater use of scientific measures, encouraging manufacturers' efforts by reducing the cost of clinical trials in Japan and ensuring that reimbursement levels are appropriate. A second issue is the ban on "mixed billing". Patients wishing to combine a new medicine or treatment that is not included in the prescribed treatment in the health insurance package with services that are included must pay not only the cost of the additional treatment but also the cost of services that would normally be covered by health insurance, although some treatments that are deemed to be safe and effective are exceptions to the ban on mixed billing. In effect, this regulation discourages patients from choosing new drugs and treatments that are not listed in public health insurance. Allowing more mixed billing would increase patient satisfaction by facilitating their access to new health services, while

potentially easing the burden on public finances. However, an increase in the use of drugs and treatments that are not covered by health insurance should not be allowed to erode the quality of the health insurance package, which should include all essential treatments.

### *… to address imbalances by improving the fee-setting mechanism…*

The health-care system faces shortages in some areas, notably for emergency care and paediatricians, reflecting problems in setting prices. The fees for the thousands of medical treatments covered by insurance and the prices of more than 10 000 drugs are revised every two years by the government, in line with the basic policy set by an advisory board and the result of discussions between the health insurers and health-care providers, subject to a constraint on total spending imposed by the government. A more rigorous approach should be adopted that sets prices based on cost studies showing, for example, the time required for medical personnel to perform each treatment.

### *… and to ensure universal insurance coverage*

Another concern is the share of the population that does not pay health insurance premiums. By 2008, about 21% of households (8% of the total) that were covered by National Health Insurance (which includes primarily the self-employed, economically inactive and elderly) failed to pay the premium. Of this group, some (amounting to around 1.5% of total households) have to pay health costs out-of-pocket (these costs can be reimbursed but overdue premiums can be subtracted). It is important to reduce this share by improving compliance, as well as to include more non-regular workers in employer-based insurance. Another equity problem is that a significant portion of households limit their use of health care for financial reasons according to a 2007 poll. It is important to reduce the monthly ceiling on co-payments to ensure adequate health care, particularly for those with serious or chronic illnesses.

### *Addressing the challenge of climate change…*

Japan has been active in the global effort to limit climate change and increase energy efficiency. Under the Kyoto Protocol, it committed to reducing greenhouse gas emissions by 6% relative to 1990 over the period 2008-12 from an already relatively low level among advanced economies. However, emissions were up by 9% by 2007 and its emissions per capita have risen faster than the OECD average since 1990. Japan has relied primarily on voluntary measures, largely in the manufacturing sector, without binding commitments and price signals. In June 2009, Japan established a medium-term target of reducing emissions by 15% from the 2005 level by 2020 (through domestic reductions alone) as a step to its long-term objective of cutting emissions by 60% to 80% by 2050.

*… requires market instruments that set a price on carbon…*

Achieving these targets requires changing the policy framework by introducing market-based instruments to reduce emissions in a cost-effective manner. Market instruments are efficient insofar as they equalise abatement costs across all emitters and, over the long run, provide incentives to develop new technologies that lower abatement costs. Japan should shift from its voluntary emissions trading system (ETS) to a mandatory system based on cap-and-trade that covers the entire economy, including transport, drawing lessons from the experience of other countries and Japan's voluntary system. Ideally, the initial permits should be allocated by auctioning, which would help generate much needed revenue. The scheme should include banking of permits, and possibly borrowing as well, to limit volatility, risk and uncertainty. Additionally, consideration should be given to applying a carbon tax to sectors not covered by the ETS. As Japan is already relatively energy-efficient, meeting the long-run target requires linking its ETS to those in other countries, which should substantially reduce the cost of emission abatement in Japan. Another option to reduce the cost is greater use of the Clean Development Mechanism (CDM), which allows countries to meet their emission targets through credits earned from projects that reduce emissions in developing countries. Greater use of a well-functioning CDM to utilise the vast low-cost abatement potential in developing countries is thus a cost-effective option for Japan. Financing CDM projects, though, should not lead to a decrease in Official Development Assistance (ODA) funds.

*… and other instruments, while ensuring adequate R&D*

Price-based measures should be accompanied by other policy instruments in markets that are less responsive to price signals. Ideally, these should take the form of performance-based regulations that allow the choice of the most efficient technology. Moreover, price signals alone do not ensure adequate R&D and innovation, especially in the area of climate change. Public investment in R&D, particularly basic research, is important. Finally, transparent and effective instruments are necessary to accelerate the development of renewable energy in the short run while relying on market instruments in the longer run, which will minimise the cost of meeting emission reduction targets.

*Chapter 1*

# Overcoming the global crisis: the need for a new growth model

*Despite its limited direct exposure to the global financial crisis, Japan's export-dependent economy has fallen into its deepest recession of the post-war era. Prompt actions to stabilise financial markets, provide a large fiscal stimulus and cut interest rates are projected to lead to positive output growth in the second half of 2009. However, the pace is projected to remain sluggish at less than 1% in the context of a protracted recovery in world trade that will limit Japanese export growth. Meanwhile, fiscal consolidation will become a priority as the gross public debt is projected to reach 200% of GDP by 2010. Sustaining output growth must depend increasingly on boosting private domestic demand, requiring economic reforms, particularly in the labour market and the non-manufacturing sector. The key objectives should be to stem labour market dualism, which puts downward pressure on wages, and to pursue regulatory reform, particularly in services, to increase productivity.*

## Japan's longest expansion of the post-war era is followed by its deepest recession

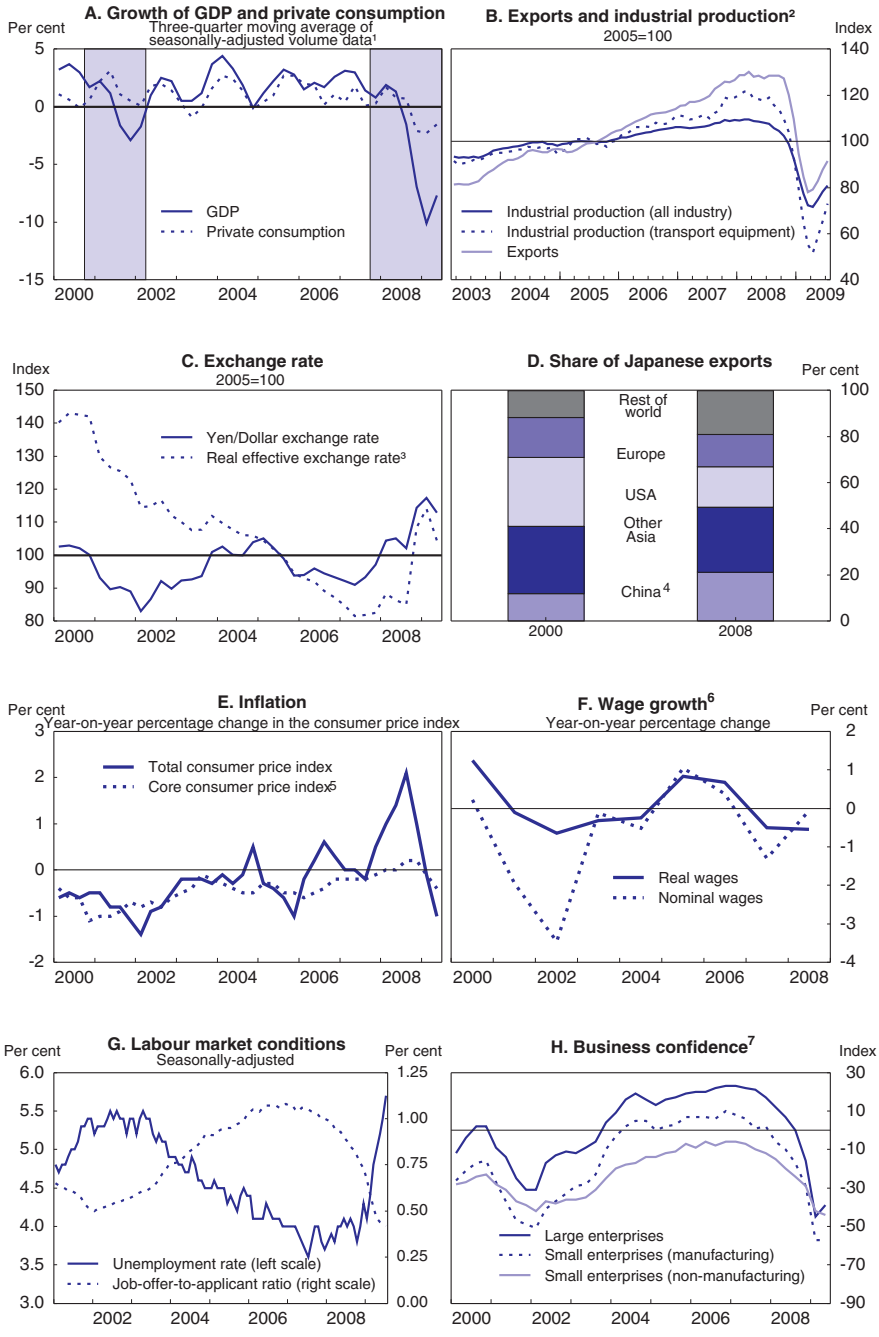
Japan's economic expansion came to an end in late 2007 and output growth fell into negative territory by the second quarter of 2008 (Figure 1.1, Panel A). The 2002-07 expansion – the longest in Japan's post-war history – was driven primarily by double-digit export growth (Panel B), which accounted for almost two-thirds of output growth. It was fuelled in part by a weakening yen and deepening integration with other Asian countries. The yen fell by 17% in real effective terms during the course of the expansion (Panel C), resulting in market share gains for Japan. China was a major source of external demand, boosting Asia's share of Japanese exports to almost half (Panel D). Buoyant exports, in turn, generated strong business investment growth at a nearly 5% annual rate during the expansion, accounting for one-third of the rise in output.[1] Total output increased at a 2.1% annual rate during the expansion, about double the OECD estimate of potential growth over that period. Nevertheless, underlying inflation remained negative (Panel E).

Buoyant export growth primarily benefited manufacturing, resulting in an unbalanced expansion as the rest of the economy, which depends more on domestic demand, lagged behind. As a result, the rate of return on assets in manufacturing, which was 2.6% at the beginning of the expansion in 2002 – slightly below that in non-manufacturing – reached almost 6% in 2007, the highest since the 1980s. In contrast, the rate for non-manufacturing increased only modestly between 2002 and 2007. Moreover, as 90% of small and medium-sized enterprises (SMEs) are in non-manufacturing, the polarised expansion also exacerbated the gap between large and small firms. Indeed, wages fell nearly 10% between 2000 and 2007 at firms with less than 30 employees, compared to only 5% at those with more than 30 employees. The dualistic expansion has also increased regional disparities, as reflected in land prices and the labour market. For example, in Hokkaido, the northern island which has little manufacturing activity, the job-offer-to-applicant ratio was only 0.5 in late 2007, the same as at the beginning of the expansion, compared with an increase from 0.7 to 1.5 in the region of Nagoya, which includes many large manufacturers.

### *The export-driven expansion ended in late 2007*

The long and robust expansion thus failed to spark an upturn led by domestic demand. Indeed, domestic demand, excluding business investment, increased by less than 1% per year during the expansion, as it was limited by a number of factors. *First*, private consumption growth was constrained by stagnant household income, which was partly explained by structural changes in the labour market. The marked rise in the share of lower-paid non-regular workers in total employment put downward pressure on nominal wages (Figure 1.2), which declined at a 0.7% annual rate (Figure 1.1, Panel F). Consequently, despite job gains that cut unemployment to its lowest rate in a decade (Panel G), labour's share of national income fell from 54% to 51% during the expansion.[2]

## Figure 1.1. **The evolution of the Japanese economy since 2000**




1. Annualised growth rates. The shaded areas represent economic downturns.
2. Three-month moving averages of seasonally-adjusted volume data. Transport excludes ships and rolling stock.
3. The effective rate *vis-à-vis* 41 trading partners adjusted by relative consumer prices.
4. Includes Hong Kong, China.
5. Core CPI is the OECD definition, which excludes food and energy products.
6. Wages in the private sector, deflated by the private consumption deflator. OECD estimate for 2008.
7. Diffusion index of "favourable" minus "unfavourable" business conditions in the Tankan survey. There is a disconnect between the third and fourth quarters of 2003 due to data revisions.

*Source:* Cabinet Office, Ministry of Economy, Trade and Industry, Bank of Japan, Ministry of Internal Affairs and Communications and Ministry of Health, Labour and Welfare and OECD, *Economic Outlook*, No. 85.

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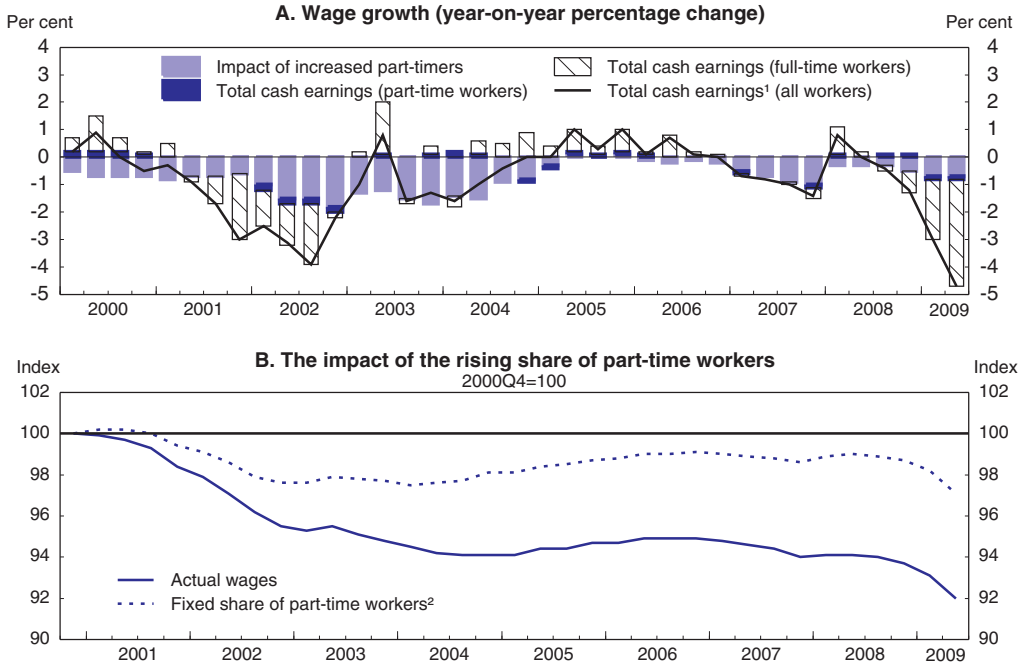
Figure 1.2. **Wage developments and the rising share of part-time workers**




1. Total cash earnings of all workers, including bonuses.
2. The share of part-time workers is held fixed at its 2000 level.

*Source:* Ministry of Health, Labour and Welfare, *Monthly Labour Survey*.

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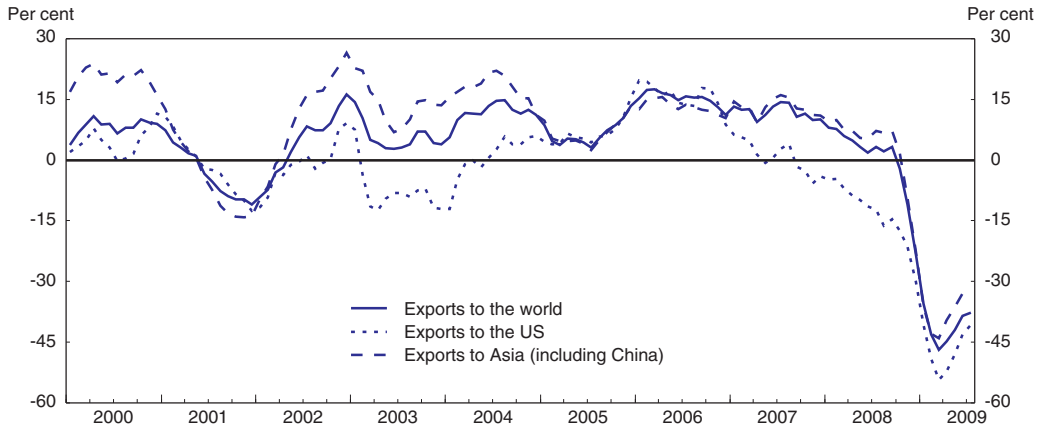
Weak income growth limited private consumption growth to 1% in volume terms despite a further fall in the household saving rate. *Second*, public expenditure contracted by 2.6% of GDP between 2002 and 2007, as part of the fiscal consolidation plan, reducing the output growth rate by almost a full percentage point during the expansion, although part of the decline may have been offset by faster increases in private domestic demand than would otherwise have occurred.

The export-led nature of the expansion left Japan vulnerable to the deceleration and ultimate collapse of world trade that began in 2007. Initially, buoyant shipments to Asia and other regions, particularly those producing oil, sustained Japanese exports in the face of declining US demand, creating an illusion of decoupling. Indeed, even as exports to the United States fell in the autumn of 2007, total exports continued to expand at double-digit rates (Figure 1.3). However, shipments to Asia and other regions soon faltered, pushing total export volume growth into negative territory by the second quarter of 2008. The commodity price rise also reduced corporate profitability as firms had difficulty in fully passing on higher costs. The increase in headline consumer price inflation, which peaked at 2.2% in the third quarter of 2008, reduced household real income, thus damping private consumption. Hence, Japan was firmly in recession prior to the intensification of the global economic and financial crisis in September 2008.

The negative fallout of the global crisis was initially expected to be limited because Japanese financial institutions were relatively insulated from financial turmoil. Indeed, the banking sector had focused on traditional banking activities and its exposure to risky assets was therefore relatively small (Chapter 2). In the event, Japan's GDP contracted at a

Figure 1.3. **Japanese export growth by region**

Year-on-year growth rates in per cent




*Source:* Ministry of Finance, *Trade Statistics*.

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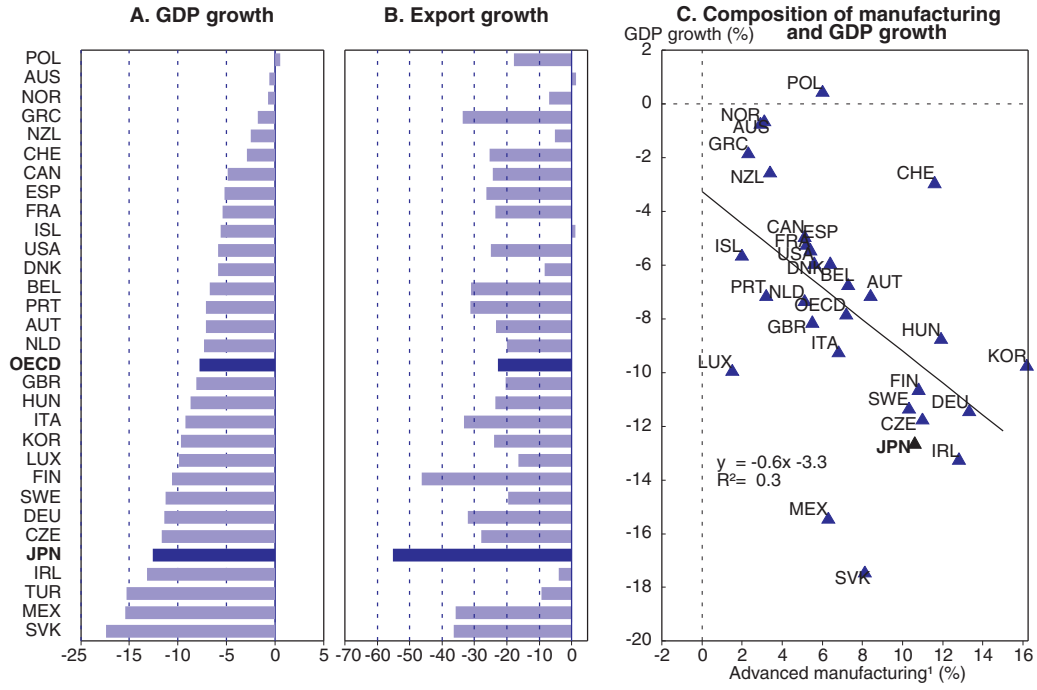
12.6% annual rate between the third quarter of 2008 and the first quarter of 2009, well above the OECD average of a 7.8% decline (Figure 1.4, Panel A). The free fall in output was a result of the sharpest export collapse among OECD countries (Panel B), reflecting Japan's concentration in medium and high-technology products that are more cyclically-sensitive

Figure 1.4. **The impact of the crisis on OECD countries**

Annualised growth between the third quarter of 2008 and the first quarter of 2009 in volume




1. Share of high and medium-high technology manufactures as a per cent of total value added.

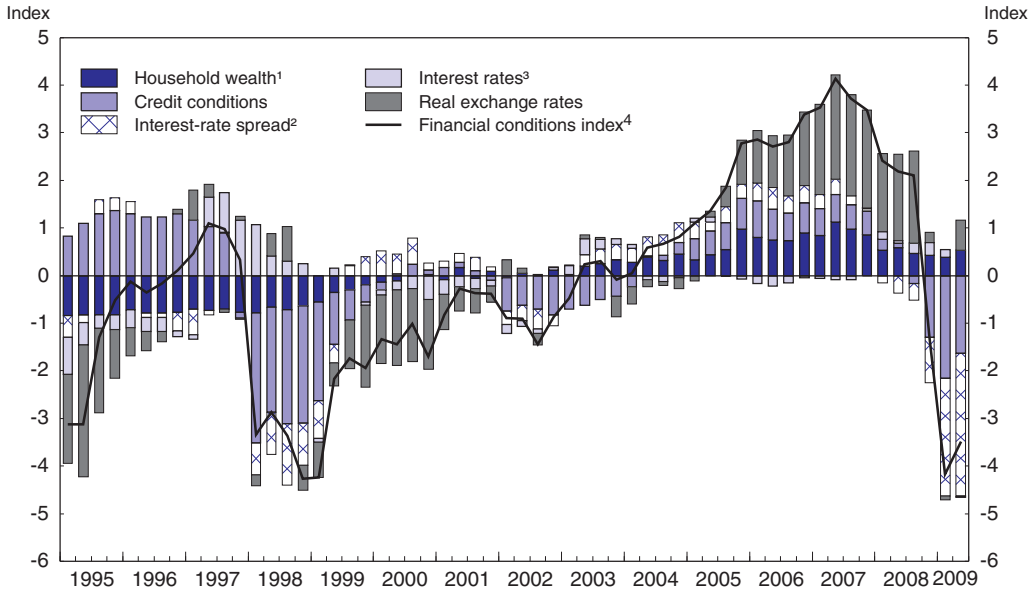
*Source:* OECD (2009), *OECD Economic Outlook*, No. 85, and OECD (2007), *OECD Science, Technology and Industry Scoreboard 2007*, OECD, Paris.

StatLink http://dx.doi.org/10.1787/724683564036

than other items (Panel C). The appreciation of the yen, reflecting the unwinding of yen carry trades and narrowing interest rate differentials against key currencies, also pushed down exports. The collapse in exports and yen appreciation also resulted in a marked deterioration in corporate profitability.

Financial market turmoil in Japan, though less severe than in many OECD countries, also had an adverse impact. The yield on short-term bonds doubled from 1.3% in August 2008 to 2.7% by April 2009,[3] while the capitalisation of the Tokyo Stock Exchange fell by one-half, reducing wealth. Financial conditions deteriorated sharply, primarily due to worsening credit conditions, widening risk premiums on bonds and the appreciation of the yen (Figure 1.5). By that point, the confidence of large manufacturing firms had plummeted to its lowest level since 1975 according to the Tankan survey (Figure 1.1, Panel H), causing a major retrenchment in their investment plans. There was an even sharper drop in the confidence of SMEs, which were particularly affected by falling sales, as well as tightening financial conditions. The number of bankruptcies soared in the first half of 2009.

Figure 1.5. **Financial conditions in Japan**




1. Household net financial assets as a per cent of disposable income.
2. The gap between investment grade (BBB-rated) bonds and government bond yields (ten-year benchmark).
3. The sum of short and long-term interest rates.
4. The historical average is equal to zero. A unit decline in the index implies a tightening in financial conditions sufficient to produce an average reduction in the level of GDP by 1% after four to six quarters. For more information on the index, see Guichard *et al.*, 2009.

*Source:* OECD Secretariat calculations.

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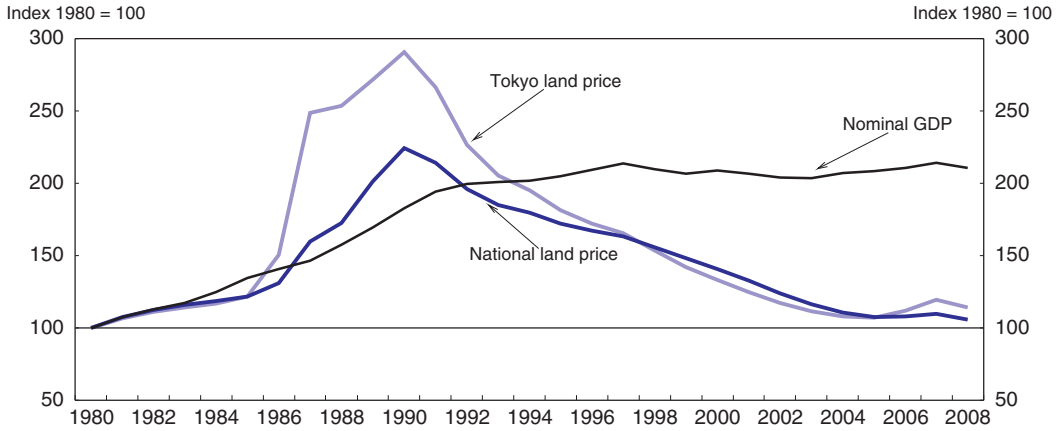
Meanwhile, the decline in nominal wages accelerated to nearly 5% in the second quarter of 2009 (Figure 1.2, Panel A). With employment and working hours also falling, household income has been shrinking, resulting in a contraction of private consumption. The unemployment rate reached 5.7% by July 2009 and the job-offer-to-applicant ratio plunged to 0.4, the lowest since the survey began in 1963 (Figure 1.1, Panel G). By

early 2009, both headline and core consumer price (excluding food and energy) indices were falling once again (Panel E). In addition, land prices, which had stabilised in 2006-07 after a 15-year decline, dropped by 3.5% in 2008 (Figure 1.6). A further decline in 2009 is leading to balance-sheet adjustments that put additional pressure on the corporate and financial sectors.

Figure 1.6. **Land prices in Japan**[1]




1. Land prices on 1 January of each year for all uses (residential, commercial and industrial).

*Source:* Ministry of Land, Infrastructure, Transport and Tourism.

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## The policy response to the crisis

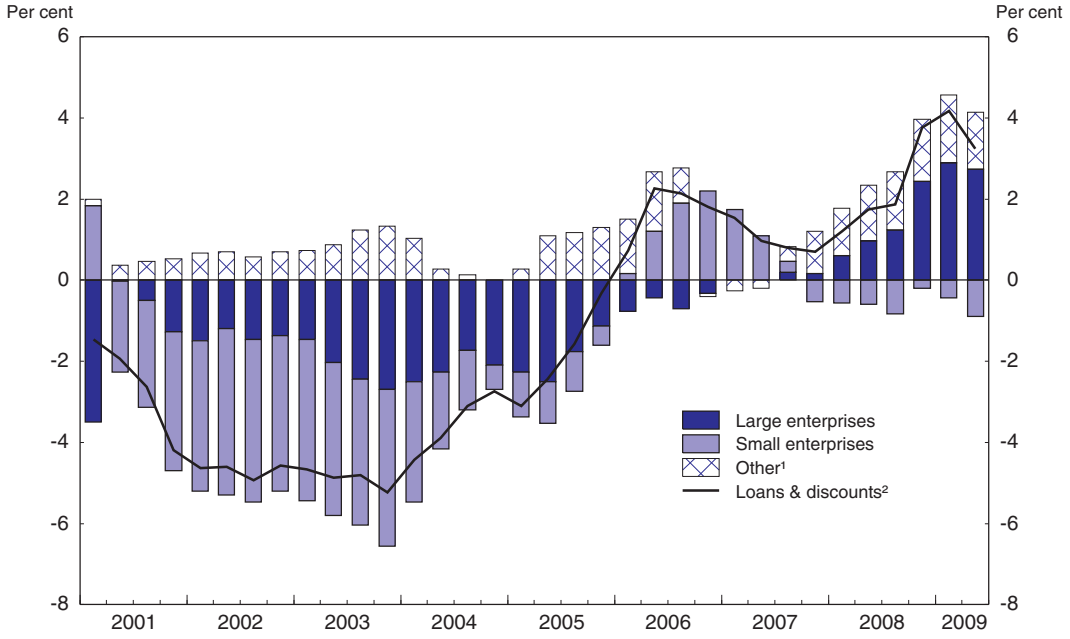
The authorities responded to the downturn with a wide range of actions, including financial-sector measures and fiscal and monetary policies. In the financial sector, policies were aimed at sustaining credit flows and stabilising financial markets (see Chapter 2). In contrast to the 1990s, the response has been prompt and forceful. The government revived the schemes to inject public capital into depository institutions and to purchase equities from banks, while implementing measures to encourage lending to SMEs. Bank lending has, in fact, increased in recent quarters, but this was led by expanded lending to large companies as their access to direct financing dried up, while loans to SMEs have declined (Figure 1.7). In addition, the FSA took a number of steps to stabilise the equity market. In addition, public financial institutions launched a programme to provide emergency loans to firms hurt by the crisis.

Meanwhile, the Bank of Japan has been implementing measures to promote financial market stability and facilitate corporate financing (see Chapter 2): *i)* short-term loans at the policy interest rate to banks amounting to 7.5 trillion yen (1.5% of GDP) by June 2009 to facilitate corporate financing; *ii)* purchases of up to 3 trillion yen of commercial paper and 1 trillion yen of corporate bonds by December 2009; *iii)* increased outright purchases of government bonds; and *iv)* purchases of up to 1 trillion yen in shares of investment-grade firms held by eligible banks by April 2010.[4] Moreover, the central bank lowered its policy interest rate from 0.5% to 0.3% in October 2008 and further to 0.1% in December. These measures have improved credit conditions and flattened the yield curve.

In addition, the government introduced large-scale fiscal stimulus (see Chapter 3). The medium-term plan to limit spending to achieve a primary budget surplus in FY 2011 was

Figure 1.7. **Bank lending by sector**

Year-on-year percentage change in loans and discounts outstanding




1. The category "Other" includes lending to local governments, individuals and overseas yen loans.
2. Total of banking accounts, trust accounts and overseas branches of domestically-licensed banks.

*Source:* Bank of Japan, *Loans and Discounts Outstanding by Sector.*

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frozen while the authorities launched a series of stimulus packages: two supplementary budgets in FY 2008, followed by additional stimulus in the regular FY 2009 budget and the supplementary budget approved in May 2009. In total, fiscal stimulus amounted to 4.7% of 2008 GDP, the second largest among the G7 countries and above the average of 3.9% for OECD countries adopting crisis-driven stimulus programmes. Increased spending, at 4.2% of GDP, accounted for the bulk of the stimulus in Japan. While it will help end the recession, the stimulus and economic contraction are projected to boost the budget deficit to nearly 10% in 2010.

## The short-term economic outlook

The first green shoots of recovery appeared in March 2009 with a month-on-month increase in exports, followed by gains in industrial production in April (Figure 1.1, Panel B). In addition, the financial conditions index shows some improvement (Figure 1.5), reflecting a rebound in the stock market, although it remains in deeply negative territory. Output increased 2.3% (seasonally-adjusted annual rate) in the second quarter of 2009, due in part to a rebound in exports and a large rise in public investment. Growth is projected to remain in positive territory in the second half of 2009 (Table 1.1), thanks primarily to the substantial fiscal stimulus, as well as the progress in unwinding excess inventories in early 2009. However, the pace of recovery is expected to be relatively modest, with growth of 0.9% in 2010.

In contrast to the 2002-07 expansion, export growth is likely to remain subdued, at a 2½ per cent annual rate in volume terms from mid-2009 to the end of 2010. Exports will be constrained by the weakness in Japan's trading partners[5] and the stronger yen, which may

result in a further loss in market share. As the impact of fiscal stimulus fades in 2010, the upturn will depend primarily on private domestic demand, which is projected to rise 1.4% in the course of 2010. A resumption of export growth, albeit at a moderate rate, should reverse the decline in business investment and slow the fall in employment and wages, thus supporting a modest increase in consumption. In addition, there may still be some pent-up demand for residential investment, following the bungled regulatory change in 2007, although it may have partly evaporated in the context of falling income. With growth only reaching potential, the unemployment rate is expected to continue rising, while deflation becomes entrenched. The small uptick in the core CPI, by 0.1% in 2008 after nine consecutive years of decline, was an exceptional outcome related to the impact of higher oil prices.

The current account surplus is projected to shrink below 2% of GDP in 2009-10, a sizeable reduction from the 4.9% recorded in 2007 (Table 1.1). The decline in domestic

Table 1.1. **Short-term economic projections**[1]

| | 2007 | 2008 | 2009 | 2010 | 2008 | | 2009 | | 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1st half | 2nd half | 1st half | 2nd half | 1st half | 2nd half |
| **Demand and output (volumes)** | | | | | | | | | | |
| Consumption | | | | | | | | | | |
| Private | 0.7 | 0.6 | –1.6 | 0.2 | 1.9 | –1.4 | –2.3 | –0.3 | 0.2 | 0.5 |
| Government | 1.9 | 0.8 | 1.7 | 2.8 | 0.3 | 0.3 | 1.2 | 4.2 | 2.4 | 2.1 |
| Gross fixed investment | 0.8 | –5.0 | –12.3 | 0.0 | –1.1 | –10.9 | –18.1 | –0.7 | 0.3 | 0.1 |
| Public[2] | –7.3 | –6.9 | 16.2 | –2.4 | –11.1 | 0.3 | 15.6 | 34.8 | –9.3 | –17.7 |
| Residential | –9.7 | –7.6 | –9.9 | 1.9 | –4.0 | 10.3 | –17.3 | –12.9 | 7.7 | 7.2 |
| Business | 5.7 | –4.0 | –19.8 | 0.3 | 2.0 | –17.1 | –26.1 | –8.1 | 2.3 | 5.1 |
| Final domestic demand | 0.9 | –0.7 | –3.4 | 0.6 | 0.9 | –3.4 | –5.4 | 0.5 | 0.7 | 0.7 |
| Stockbuilding[3] | 0.3 | –0.2 | –0.4 | –0.1 | –0.5 | 0.2 | –0.7 | –0.5 | 0.0 | 0.0 |
| Total domestic demand | 1.2 | –0.9 | –3.9 | 0.5 | 0.4 | –3.2 | –6.1 | 0.0 | 0.7 | 0.7 |
| Exports of goods and services | 8.4 | 1.8 | –28.6 | 4.0 | 10.6 | –18.1 | –45.0 | 5.4 | 3.0 | 4.5 |
| Imports of goods and services | 1.5 | 0.9 | –16.9 | 0.9 | 2.8 | –0.3 | –29.6 | –3.7 | 1.8 | 3.7 |
| Net exports[3] | 1.1 | 0.2 | –2.1 | 0.4 | 1.4 | –3.3 | –3.0 | 1.3 | 0.1 | 0.1 |
| GDP | 2.3 | –0.7 | –6.0 | 0.9 | 1.8 | –6.5 | –9.1 | 1.2 | 0.8 | 0.8 |
| **Inflation and capacity utilisation** | | | | | | | | | | |
| GDP deflator | –0.7 | –0.9 | 0.2 | –1.7 | –0.3 | –0.8 | 2.3 | –2.7 | –1.3 | –1.4 |
| Private consumption deflator | –0.4 | 0.5 | –1.7 | –1.5 | 1.1 | –0.3 | –2.4 | –1.6 | –1.5 | –1.5 |
| CPI[4] | 0.1 | 1.4 | –1.3 | –1.3 | 1.6 | 1.5 | –2.6 | –1.5 | –1.2 | –1.3 |
| Core CPI[4] | –0.2 | 0.1 | –0.6 | –1.3 | 0.2 | 0.3 | –0.7 | –1.3 | –1.3 | –1.3 |
| Unemployment rate | 3.9 | 4.0 | 5.2 | 5.7 | 3.9 | 4.0 | 4.8 | 5.5 | 5.7 | 5.8 |
| Output gap | 3.3 | 1.3 | –6.1 | –6.1 | 3.0 | –0.3 | –6.1 | –6.1 | –6.1 | –6.1 |
| *Memorandum items:* | | | | | | | | | | |
| Net government lending[5] | –3.2 | –4.5 | –9.6 | –9.7 | | | | | | |
| Net primary balance[5] | –2.6 | –3.7 | –8.6 | –8.3 | | | | | | |
| Gross debt[6] | 167.1 | 172.1 | 189.6 | 199.8 | | | | | | |
| Net debt[6] | 80.4 | 84.3 | 97.1 | 106.6 | | | | | | |
| Current account[6] | 4.9 | 3.2 | 1.4 | 1.9 | | | | | | |

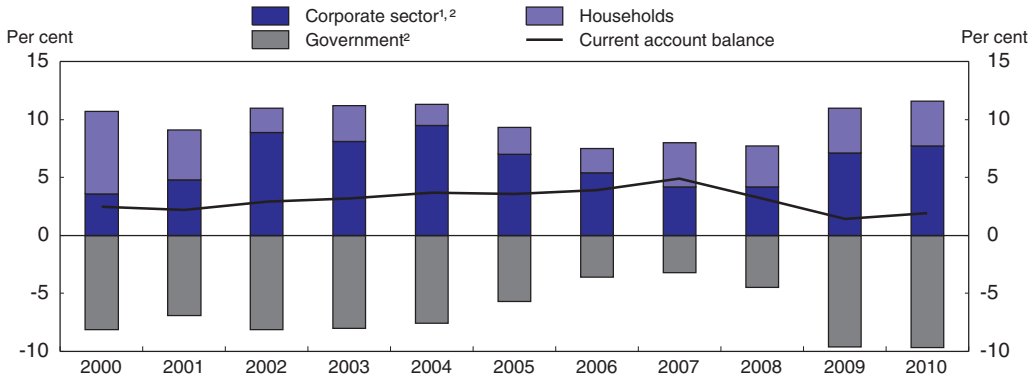
1. This table shows the projections made in *OECD Economic Outlook*, No. 85 after incorporating the results for the second quarter of 2009 that were announced in September. The projections assume an exchange rate of 95.78 yen to the dollar – the level on 3 June 2009 – and a $65 price for Brent oil from the third quarter of 2009. All growth rates are annual rates relative to the preceding period.
2. Including public corporations.
3. Contribution to GDP growth.
4. Compared to the same semester of the previous year. The core CPI is the OECD definition, which excludes both food and energy.
5. Per cent of GDP, excluding one-off factors.
6. Per cent of GDP.

*Source:* OECD (2009), *OECD Economic Outlook*, No. 85 (June), OECD, Paris and OECD Secretariat calculations.

surplus saving, which by definition equals the external surplus, is explained by a run-up in the government budget deficit – by 6.5% of GDP between 2007 and 2010 – that is expected to be only partly offset by a rise in corporate sector surplus saving as firms scale back investment during the recession (Figure 1.8).[6] Depending on the driver of the eventual recovery, the cyclical decline in the government deficit will have a counterpart in a lower private surplus saving or a higher current account surplus.

Figure 1.8. **Saving-investment imbalance by sector and the current account balance**

As a percentage of GDP




1. Includes non-financial and financial corporations and the statistical discrepancy.
2. Transfers from public corporations to the government are included in the balance of the corporate sector.

*Source:* Cabinet Office and OECD Secretariat calculations.

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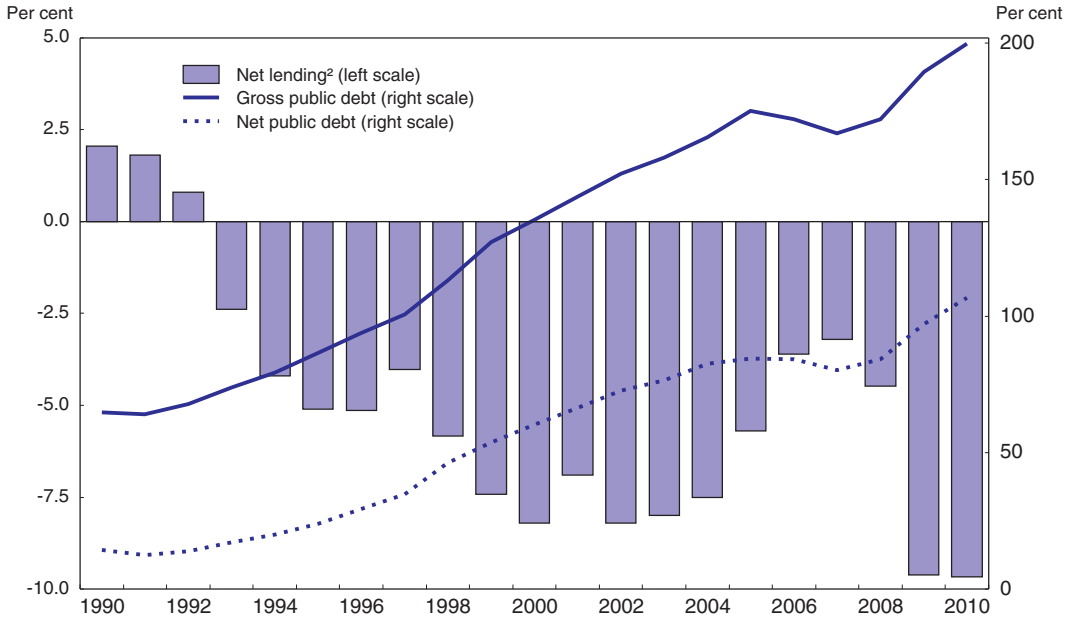
The relatively healthy state of the corporate sector at the start of the recession reduces the risk of an extended period of economic stagnation. The excessively high levels of debt, production capacity and employment, which had depressed business investment during the decade from 1992 to 2002, were largely corrected during the 2002-07 expansion. Moreover, a faster-than-expected rebound in world trade, coupled with some weakening of the yen, would result in stronger-than-projected export and output growth through 2010 in Japan. However, the exceptional uncertainty about the course of the world economy poses a number of downside risks. Although the corporate sector is more resilient to external shocks than in the past and the banking sector is adequately capitalised at present, the sharp fall in output could further disrupt the financial sector, putting additional downward pressure on economic activity. In addition, the high and rising public debt ratio makes Japan vulnerable to a rise in long-term government bond yields from their low level of around 1½ per cent. Indeed, the budget deficit (excluding one-off factors) is projected to rise from 3.2% of GDP in 2007 to nearly 10% by 2010 (Figure 1.9). This would boost net debt to over 100% of GDP and gross debt to nearly 200%, the highest ever recorded in the OECD area.

### *Fiscal and monetary policy over the medium term*

The outlook for fiscal consolidation is clouded by the exceptionally rapid pace of population ageing. Indeed, the share of the elderly in the population is projected to rise from 20.1% in 2005 to 29.2% by 2020 and nearly 40% by mid-century (Table 1.2). By that point, the ratio of the elderly to the population aged 20 to 64 will be the second highest in

Figure 1.9. **The deteriorating fiscal situation in Japan**

For general government, as a percentage of GDP[1]




1. OECD estimates and projections for 2008-10.
2. Excludes one-off factors related to the transfer of pension funds, the privatisation of highway corporations and transfers from the FLF Special Account.

*Source:* OECD (2009), *Economic Outlook*, No. 85 Database, OECD, Paris.

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the OECD area.[7] Population ageing is expected to drive up social spending from its currently relatively low level. According to the final report of the National Commission on Social Security in 2008, ageing will boost health and long-term care spending under current

Table 1.2. **Population indicators and projections for Japan**

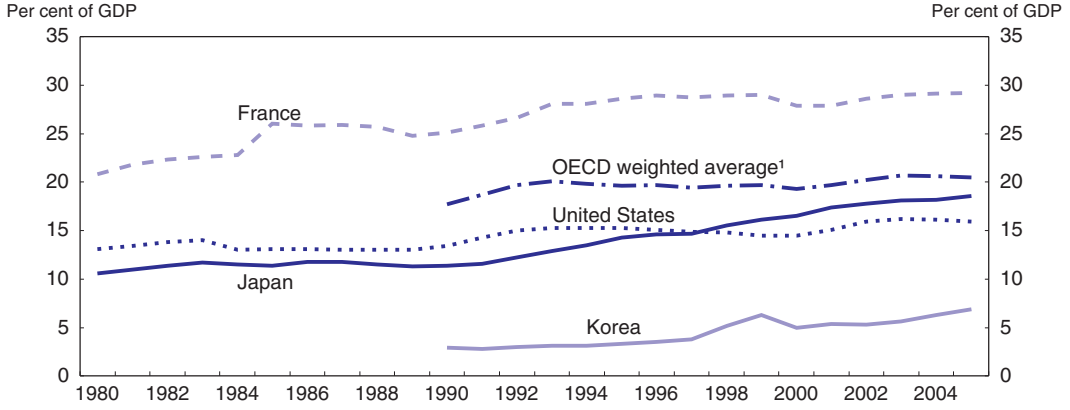
| | Total population | | Working-age population[2] | | Fertility rate | Life expectancy | | Median age | Share of elderly[4] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Male | Female | | |
| | Millions | Growth in %[1] | Millions | Growth in %[1] | TFR[3] | Years | Years | Years | Per cent |
| 1990 | 123.6 | 0.5 | 85.9 | 0.9 | 1.54 | 75.9 | 81.9 | 37.7 | 12.0 |
| 1995 | 125.6 | 0.4 | 87.2 | 0.6 | 1.42 | 76.4 | 82.9 | 39.7 | 14.5 |
| 2000 | 126.9 | 0.3 | 86.2 | 0.0 | 1.36 | 77.7 | 84.6 | 41.5 | 17.3 |
| 2005 | 127.8 | 0.2 | 84.1 | –0.4 | 1.26 | 78.5 | 85.5 | 43.3 | 20.1 |
| 2010 | 127.2 | 0.0 | 81.3 | –0.6 | 1.22 | 79.5 | 86.4 | 45.1 | 23.1 |
| 2020 | 122.7 | –0.4 | 73.6 | –1.0 | 1.23 | 80.9 | 87.7 | 49.0 | 29.2 |
| 2030 | 115.2 | –0.6 | 67.4 | –0.9 | 1.24 | 81.9 | 88.7 | 53.0 | 31.8 |
| 2040 | 105.7 | –0.9 | 57.3 | –1.6 | 1.25 | 82.7 | 89.4 | 55.4 | 36.5 |
| 2050 | 95.2 | –1.0 | 49.3 | –1.5 | 1.26 | 83.4 | 90.1 | 57.0 | 39.6 |

1. The average annual growth rate in per cent for the decade.
2. Population between the ages of 15 and 64.
3. Total fertility rate (TFR) is the average number of children that a woman expects to bear during her lifetime.
4. The number of persons over the age of 65 as a percentage of the total population.

*Source:* Ministry of Internal Affairs and Communications, *Population Census*, and National Institute of Population and Social Security Research, *Population Projection (2006 December version)*.

programmes by 2% of GDP by 2025 (see Chapter 3). Moreover, in December 2008, the Cabinet approved a plan to upgrade the social welfare system to a level in between the United States, where public social spending amounts to 16% of GDP, and some European countries, where it is approaches 30% (Figure 1.10).[8] This suggests a significant increase in Japan's public social spending from its 2005 level of 18.6% of GDP.[9]

Figure 1.10. **Public social spending in Japan remains low relative to other OECD countries**




1. The OECD average does not include Hungary and the Slovak Republic due to insufficient data. The national data are converted to US dollars using 2005 PPP exchange rates.

*Source:* OECD Social Expenditure Database.

StatLink http://dx.doi.org/10.1787/724863534370

The projections assume that the policy interest rate remains at its current level of 0.1%. Any interest hikes would exacerbate deflation. Although there is little risk of a deflationary spiral, deflation has a number of negative effects. *First*, the central bank loses the ability to achieve negative real interest rates, preventing monetary policy from being sufficiently expansionary in certain situations. A calculation of the Taylor rule by the OECD Secretariat suggests a policy interest rate of negative 3% would be appropriate at present. *Second*, the losses of debtors during a period of deflation tend to outweigh the gains of creditors, as collateral loses value and bankruptcies increase, which also weakens the banking sector. *Third*, while high inflation has negative economic impacts, a small positive inflation rate may facilitate relative price and wage adjustments (Brook *et al.*, 2002).

During the past decade, the Bank of Japan has raised the policy interest rate three times – based on its assessment of economic and inflation prospects taking into account various uncertainties – each time when underlying inflation was in negative territory. The latter two hikes occurred following the introduction of a new monetary policy framework in March 2006, which stated that inflation in the 0 to 2% range is the Policy Board's understanding of price stability.[10] The inclusion of zero in the inflation range is rare: of the approximately 25 central banks that target inflation, only one (Thailand) includes zero in its objective. Including zero in the Bank of Japan's inflation zone is problematic as it predisposes the central bank to react swiftly, even when prices are still falling, to perceived inflationary pressures. In addition, the rate of inflation tends to be inaccurately measured in many countries.[11] Consequently, a rate close to zero may actually imply that the correctly-measured price level is declining.

The Bank of Japan justifies its understanding of price stability on the grounds that "Japan experienced a prolonged period of low rates of inflation since the 1990s". Indeed, the average annual growth rate of the CPI since 1991 has been 0.4% in Japan, as against 2.0% in Germany and 2.8% in the United States. As economic decisions have been based on low inflation expectations, the Bank argues that a significantly higher inflation target could have a negative economic impact. However, the inflation experience since 1991 included prolonged deflation,[12] suggesting the need for a revision of the inflation zone, as a commitment to exit definitively from deflation. Moreover, a higher inflation zone that excludes zero would limit the risk of a recurrence of deflation in the event of negative demand shocks. Once deflation has been overcome, the Policy Board should therefore review the understanding of price stability and increase the lower end of the range to provide an adequate buffer against renewed deflation. Such a revision would be consistent with the European Central Bank (ECB), which initially focused on a 0 to 2% inflation range, before adding "close to 2%" to their definition in May 2003, with the explicit objective to underline the ECB's commitment to provide a sufficient safety margin against the risk of deflation (ECB, 2003).

The case for revisiting the mechanism for setting the understanding of price stability can also be made (OECD, 2008). In some OECD countries, the inflation range is set by the government (the United Kingdom and Norway) or by consultation between the government and the central bank (Canada, Australia and New Zealand), rather than independently by the central bank. Such an approach might promote government support for the inflation target and allow the central bank more independence in achieving it.

## The medium-term outlook: the need for structural reform

Japanese growth over FY 2008-10 depends to a large extent on fiscal stimulus, as noted above. However, this strategy cannot continue for long, given the large budget deficit and high debt ratio. Indeed, the January 2009 *Medium to Long-term Fiscal Policy and an Economic and Fiscal Policy Outlook for the Next Ten Years* (the *Outlook,* Government of Japan, 2009) recognised the need for fiscal consolidation beginning in FY 2011, which will have a temporary negative impact on economic activity. As for the external sector, the prospects for an export-led expansion over the medium term are uncertain at best for several reasons:

- Growth in Japanese export markets may be less buoyant. During the 2002-07 expansion, Japan's export market expanded at a 10% annual rate, led by 20% import growth in China (Japan's largest market) and supported by 6% US import growth (the second-largest market). Looking ahead, a more developed Chinese economy may be unable to sustain such rapid import growth, while some adjustment of global imbalances would imply slower growth in US consumption.
- The realignment of exchange rates during the past year is less conducive to export-led growth. In particular, the exchange rate of the Korean won relative to the yen, which averaged less than eight in 2007, was more than 15 in the first quarter of 2009, which may help Korean producers gain market share in products such as cars and semi-conductors.
- An export-led expansion in Japan would reverse the unwinding of global imbalances and thus put upward pressure on the exchange rate, thus constraining export growth.

The next expansion will therefore need to rely more on domestic demand, which depends in part on progress in regulatory reform, as strong growth during the last

expansion was insufficient to ignite domestic demand. In the 2009 *Outlook*, the Cabinet stated:

> "The government will restore the Japanese economy in three policy stages: implementing economic measures in the near term, promoting fiscal consolidation in the medium term, and pursuing economic growth through reform in the medium to long-term".

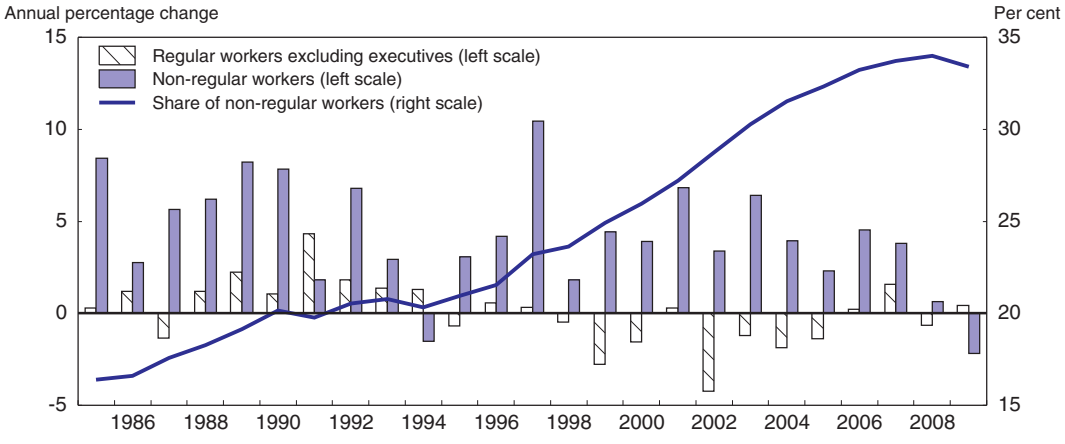
It is important to implement reforms promptly, given that their benefits often take considerable time to materialise. Structural reform typically involves firm-level restructuring and the costly reallocation of resources, which can result in temporary frictional unemployment and unused production capacity. A cross-country study (Mourougane and Vogel, 2008) found that the positive impact of structural reforms reaches its peak five to ten years after the implementation of the reform.

In sum, it is essential to move ahead promptly with regulatory reform, which would help achieve the *Outlook's* objective of making "Asia a growth axis". The recession should not serve to prevent reform. Indeed, OECD country experience shows that major reforms tend to be pursued in severe recessions, defined as an output gap exceeding 4%, which is currently the case in Japan (Hoj, 2006). The two major priorities for reform, analysed in depth in the 2008 *OECD Economic Survey of Japan*, are the labour market and the non-manufacturing sector.

### *Reform of the labour market*

The falling share of wages in national income hindered the rebalancing of growth from foreign to domestic demand. A key factor limiting wages has been the rising share of non-regular workers from 20% in 1990 to 34% in 2008 (Figure 1.11). Part-time workers account for two-thirds of non-regular workers, making their share of employment the third highest in the OECD area. Given that non-regular workers are paid substantially less than regular workers, increased labour market dualism has pushed down the overall average wage (Figure 1.2, Panel B). Indeed, part-time workers earn only 40% as much on an hourly basis as full-time workers. On the positive side, dualism tends to raise employment, reduce labour costs and put downward pressure on consumer prices. However, the sluggish

Figure 1.11. **The share of non-regular workers is rising**[1]




1. Data are for February for each year through 2001 and for the first quarter in 2002 and onward.

*Source:* Ministry of Internal Affairs and Communications, *Labour Force Survey.*

StatLink http://dx.doi.org/10.1787/725066228647

growth of private consumption during the 2002-07 expansion noted above suggests a negative overall impact on economic growth in the short run.

The strategy of reducing labour costs through increasing non-regular employment is effective, as indicated by the strong negative correlation by industry between the rise in part-time employment and wage growth in Japan. Indeed, the four service industries with the largest increases in part-timers – retail, restaurants and hotels, medical and nursing care and other services – also experienced the largest wage declines (2008 *OECD Economic Survey of Japan*). The results in Japan are consistent with international evidence. One study of 15 OECD countries found that for every 5 percentage-point increase in the share of part-time workers, the labour share of income was reduced by 1 percentage point (Sommer, 2009).

In addition to limiting wage growth, the rising share of non-regular workers has negative implications for potential growth. The traditional Japanese employment system, based on long-term job stability, encourages firm-based training of workers, as long tenure makes such investment worthwhile. However, given their short average tenure, non-regular workers receive less firm-based training in Japan,[13] with negative implications both for the individual workers and for overall output growth. Not surprisingly, the proportion of non-regular workers is highest in the service sector – at 44% of employment (excluding finance and real estate) – where productivity growth has decelerated sharply (see below). There is a clear need for increased training for non-regular workers, as recommended in the 2008 *Survey* (Table 1.3). Recent trends are mixed, with the proportion of non-regular workers receiving off-the-job training falling but rising for on-the-job training.

Table 1.3. **Taking stock of structural reforms: the labour market**

| Recommendations in the 2008 *Survey* | Actions taken or proposed by the authorities |
|---|---|
| ***Reverse the trend toward increasing labour market dualism*** | |
| Reduce employment protection for regular workers to reduce the incentive for hiring non-regular workers to enhance employment flexibility. | No action taken. Instead, tighter laws on part-time workers were implemented, which may discourage their hiring. |
| Expand the coverage of non-regular workers by social insurance systems based in workplaces, in part by improving compliance, in order to reduce the cost advantages of non-regular workers. | The revision of the employment insurance system in 2009 eased eligibility conditions. The provision of support was expanded, including to non-regular workers. |
| Increase training to enhance human capital and the employability of non-regular workers, thereby improving Japan's growth potential. | A new safety net for those not covered by unemployment insurance was established to provide benefits during vocational training. |
| ***Raise the labour force participation rate of women, while encouraging higher fertility*** | |
| Reverse the rising proportion of non-regular workers to provide more attractive employment opportunities to women. | The government is providing subsidies and managerial assistance to employers to promote the transfer of workers from non-regular to regular status. |
| Reform aspects of the tax and social security system that reduce work incentives for secondary earners. | No action taken. |
| Encourage greater use of performance assessment in pay and promotion decisions. | Labour bureaus in prefectures provide information and consultation services for employers to improve the wage and employment system, including performance assessment. |
| Expand the availability of childcare, while avoiding generous child-related transfers that may weaken work incentives. | The capacity of public day-care facilities was increased by 130 thousand between FY 2003 and FY 2008, but 20 thousand are still on the waiting list. Generous child-related transfers regardless of household income were provided in FY 2008 and are planned for later in FY 2009, both on a temporary basis. |
| Encourage better work-life balance, in part by better enforcing the Labour Standards Act. | The Act was revised in 2008 (effective in 2010) to raise the wage premium for overtime work from a flat rate of 25% to three rates between 25% and 50%, depending on the number of hours. The Child Care and Family Care Leave Act was revised to facilitate the taking of leave. |

Labour market dualism also raises a number of equity concerns. *First*, the gap in wages appears to be too large to be explained by productivity differences, suggesting an element of discrimination in the segmented labour market. In 2000, female part-time workers earned 55% as much as female regular workers. One study (Onoue, 2003) found that age and tenure accounted for only 5 to 10 percentage points of the difference. In other words, after adjusting for age and tenure, a part-time female employee earned only 60% to 65% as much as a regular female employee. *Second*, non-regular workers are poorly covered by the social safety net. *Third*, given that firms hire non-regular workers to enhance employment flexibility, these workers bear the brunt of the adjustment in employment during downturns. Indeed, the *Labour Force Survey* in the first quarter of 2009 reported a 0.4% fall in total employment due to a 2.2% drop in non-regular workers. In contrast, the number of regular workers increased by 0.4%. The negative consequences of a dualistic labour market are reinforced by the limited mobility between the segments of the labour market (2008 *OECD Economic Survey of Japan*). In sum, the dualistic labour market traps a large proportion of the labour force, especially youth, in low-paying jobs with little employment security, limited coverage by the social safety net and limited access to training.

The 2007 revision of the Part-time Workers Law aims at achieving balanced treatment of part-time workers by prohibiting discrimination, although no penalties are imposed on offending firms, and by requesting employers to shift part-time workers to regular status. While some positive impact has been observed, there is a risk that stricter regulations on part-time workers will discourage their hiring and depress overall employment. A more effective approach would be to address the factors that have encouraged firms to raise the share of non-regular workers. According to a 2006 government survey of firms (MHLW, 2007), reducing labour costs was cited by 71% of firms as a reason to hire part-time workers (58% in the case of other non-regular workers). In addition to lower wages, payments for bonuses and retirement allowances are lower for some non-regular workers.[14] Moreover, firms save an additional 13% in non-wage costs as part-timers working below certain thresholds are exempt from social insurance charges.[15] The 2008 *Survey* thus recommended expanding the coverage of non-regular workers by social insurance systems. Some progress was made in employment insurance by shortening the minimum insured period to be eligible for benefits from 12 to six months.

The 2006 government survey of firms also reported that employment flexibility is the second-most important objective for employing non-regular employees; about one-fifth of firms hired them to cope with temporary increases in demand and to adjust their workforce to business fluctuations. Relying on non-regular workers to enhance flexibility indicates that employment protection for regular workers is problematic. The 2003 revision of the Labour Standard Law stated that any dismissal of workers that is not objectively justifiable and that is not considered to be acceptable by society's standards shall be deemed an abuse of power and is therefore invalid. Judicial precedents have set four conditions in this regard: *i)* the necessity of the firm reducing its workforce; *ii)* whether efforts were made to avoid dismissals, such as taking alternative measures that could achieve the necessary reduction; *iii)* whether the selection of employees for dismissal was reasonable and objective; and *iv)* whether the overall dismissal procedure was judged to be acceptable. Given these conditions, enterprises cannot fully anticipate beforehand if measures to rationalise their workforce will be accepted by the courts. Although the 2008 *Survey* recommended easing employment protection for regular workers, there has been no progress in this direction.

In 2006, the government launched a package of 21 initiatives to increase the female labour force by a quarter million by 2015. In particular, these policies are aimed at facilitating the re-employment of mothers, reflecting the fact that around 60% of women withdraw from the labour force when their first child is born. The initiatives include the provision of job counselling and specialised job placement centres for women with children. In addition to these efforts, a number of the policy recommendations to boost female labour force participation contained in past *OECD Economic Surveys of Japan* remain important:

- Reducing dualism in the labour market would help expand regular employment, thus enhancing the attractiveness of employment. Women account for about two-thirds of non-regular workers.
- The tax and social security systems should be reformed to reduce disincentives to work by secondary earners (see the 2008 *OECD Economic Survey of Japan*).
- Increasing the importance of performance assessment in pay and promotion decisions would reduce the importance of seniority and tenure, thus narrowing wage gaps between genders.
- Although profit-making companies were allowed to provide day-care beginning in 2000, subject to strict licensing conditions, capacity in certified day-care centres in major urban areas is insufficient. The availability of childcare facilities should be further increased by easing the licensing regulations and encouraging more private-sector firms to enter this sector.

Workplace practices that are difficult for those with family responsibilities probably pose the biggest obstacle to greater integration of women in the labour market. This problem has been acknowledged by the growing government emphasis on "work-life balance". A 2005 law obliges firms with more than 300 workers to make an action plan to promote work-life balance. By June 2006, nearly all companies had submitted plans. Companies that introduce policies to help their employees achieve work-life balance in employment, childcare and long-term care can receive awards from the government. In addition, it is important to strictly enforce the Labour Standard Law, which sets working time at 40 hours per week, and the guideline limiting overtime work to 15 hours per week, 45 hours per month, 120 hours per quarter and 360 hours per year.

### *Reform of the non-manufacturing sector*

A second factor constraining domestic demand has been weak labour productivity gains in the service sector. In contrast to the acceleration in manufacturing, from 1.9% between 1989 and 2002 to 7.5% over the subsequent three years, labour productivity in the service sector has remained stagnant (Table 1.4). In particular, labour productivity in non-market services declined in absolute terms. The 29% gap in productivity per hour worked relative to the United States in 2007 suggests considerable scope for boosting productivity in Japan. Achieving faster productivity growth depends primarily on the service sector, given that it accounts for more than 70% of employment and output. Higher productivity gains would lead to higher wages, thus boosting private consumption and eventually business investment.

The manufacturing sector achieved high productivity growth as international competition drove increases in efficiency. The service sector, in contrast, has been relatively sheltered from both international and domestic competition. *First*, the import

Table 1.4. **Labour productivity growth by sector**
Average annual growth per year

| Industry | ISIC code | 1976-89 | 1989-2002 | 2002-05 | Change from 1989-2002 to 2002-05 |
|---|---|---|---|---|---|
| Manufacturing | | 6.0 | 1.9 | 7.5 | 5.7 |
| Total services | 40 to 99 | 2.1 | 1.7 | 1.8 | 0.1 |
| Market services | 40 to 74 | 2.2 | 1.8 | 2.3 | 0.5 |
| Non-market services | 75 to 99 | 1.6 | 1.2 | –0.6 | –1.8 |
| Total economy | 1 to 99 | 3.6 | 1.9 | 2.3 | 0.4 |

*Source:* 2009 EU KLEMS Database.

penetration rate for services was the lowest in the OECD area in 2003. *Second*, the share of foreign affiliates in total service turnover was the lowest in the OECD area, as was the share of service turnover in the total turnover of foreign affiliates. Foreign competition is key in boosting productivity, in part as foreign affiliates have higher productivity than domestic firms. *Third*, there are a number of domestic regulations that limit entry. According to one study, starting a business in Japan is relatively complicated, costly and time-consuming: Japan ranked 21st overall in the OECD (World Bank, 2009). Indeed, Japan's weakness in entrepreneurship and new business creation has been a critical disadvantage in boosting productivity in services, according to some studies (Ono, 2000). Reducing barriers to entry would create new investment and job opportunities, thereby lifting domestic demand. The 2008 *Survey* stressed a number of policies to boost productivity in services (Table 1.5):

- *Upgrade competition policy*. Although the 2005 revision of the Anti-Monopoly Act (AMA) strengthened the Japan Fair Trade Commission, more should be done. *First*, administrative fines, which are relatively low compared with other countries and compared with the potential gains from violating the AMA, need to be increased to strengthen the deterrent effect. Although the level of fines was raised 50% in 2009 on leading firms in cartels, they still remain low overall. *Second*, explicit exemptions from the AMA in a wide range of business areas and special treatment of SMEs, which play a dominant role in the service sector, need to be scaled back. *Third*, the large number of trade associations should not be allowed to limit competition.
- *Accelerate regulatory reform*. The 2007 Regulatory Reform Programme appears to be a low priority with little progress in lifting key regulations on entry and operations. However, the government has made efforts to improve administrative tools, such as the "No-Action Letter" scheme. Five regulatory exemptions in the Special Zones for Structural Reform initiative introduced in 2003 were extended nationwide in FY 2008, bringing the total to 128.
- *Promote international competition*. The stock of inward FDI in Japan has increased in recent years, although it remains one of the lowest in the OECD area. Openness to trade in services is advancing with the negotiation of free trade agreements (FTAs). However, Japan remains relatively isolated in this regards, with only 11 FTAs, covering 16% of its trade. It is important to reduce barriers, preferably through multilateral agreements or by unilateral measures.

In addition to the overall deceleration in productivity growth in services, there is concern about the weak performance of key service industries. In particular, the retail sector appears to be relatively inefficient and prices are high by international comparison for transport industries, notably air transport and harbours, and for network industries,

such as electricity. An independent sectoral regulator should be established for both the electricity and gas sectors and more consumers should be allowed to choose their supplier. The rapidly-growing area of business services appears hampered by pervasive regulations aimed at ensuring adequate quality. However, progress in regulatory reform appears relatively limited (Table 1.5).

Table 1.5. **Taking stock of structural reforms: enhancing productivity growth in the service sector**

| Recommendations in the 2008 *Survey* | Actions taken or proposed by the authorities |
|---|---|
| ***Upgrade competition policy*** | |
| Pursue a more pro-active competition policy by the Japan Fair Trade Commission (JFTC) in services. | Although the number of legal actions in FY 2008 fell to 17 (from 24), the amount of surcharges rose by 139% and the number of cautions related to predatory pricing almost doubled. |
| Use competition laws more actively to prevent anti-competitive activities by trade associations. | No legal action was taken although eleven cautions were issued in FY 2008. |
| Further strengthen penalties, such as surcharges and fines for violations of the Anti-Monopoly Act (AMA), to a level that would provide sufficient deterrent effects. | The AMA was revised in June 2009 to expand the types of conduct subject to surcharges and to raise surcharges on the leading firm in cartel cases by 50%. The maximum jail term for cartels, bid-rigging, etc, was extended from three years to five years. |
| Reduce the number of explicit exemptions from the AMA, while ending preferential treatment for SMEs. | The JFTC request to the airline regulator to reconsider the exemption of international airlines is under consideration. |
| Ensure the neutrality and independence of the JFTC's hearing procedure and continue upgrading the capability of the JFTC in terms of human resources and budgets. | Hearing procedures will be reviewed in FY 2009 to take necessary measures for improvement. |
| ***Accelerate regulatory reform*** | |
| Step up the pace of regulatory reform in the service sector, particularly in ICT-using areas. | The three-year regulatory reform programme includes a number of small changes related to services. |
| Focus government plans for the service sector on policies to strengthen competition, while avoiding preferential measures, particularly toward SMEs. | No action taken. |
| Better co-ordinate government plans to develop the service sector so as to use resources efficiently. | No action taken. |
| Remove obstacles discouraging investment in ICT and intangible assets, particularly in services. | The Broadcast Act was revised to enable the creation of holding companies with plural broadcasting entities. |
| Improve the special zone scheme by focusing on nationwide regulatory reform, removing barriers to effective reform measures in the zones and accelerating nationwide adoption of the reforms. | In FY 2008, five more regulatory exemptions in the zones were extended nationwide, bringing the total to 128. |
| Increase the transparency and predictability of public administration by enhancing the effectiveness of "Public Comment Procedures". | In FY 2007, 93% of the Public Comment periods required under the Administrative Procedure Act and 77% of the voluntary ones were set at more than 30 days. |
| Increase the transparency and predictability of public administration by enhancing the effectiveness of "No-Action Letters". | MIC notified relevant ministries and agencies to appropriately apply the No-Action Letters system following the results of a November 2008 survey. |
| Increase the transparency and predictability of public administration, notably by enhancing the effectiveness of "Regulatory Impact Analysis" (RIAs). | MIC improved the quality of RIAs by training public officials and evaluating the effectiveness of RIAs by administrative agencies, most recently in March 2009. |
| ***Promote international competition*** | |
| Strengthen international competition by promoting inward foreign direct investment (FDI) through the elimination of restrictions on FDI and product market regulations that discourage inflows of investment. | The stock of inward FDI rose from 2.9% of GDP in 2007 to 3.6% in 2008. Regulatory reforms are being implemented under the programme to facilitate inward FDI and action programmes focusing on specific areas. |
| Facilitate trade in services by reducing trade barriers. | The bilateral Economic Partnership Agreement with Switzerland in 2009 liberalised service trade through the negative-list method. |
| ***Remove restrictions in key service industries*** | |
| ***The retail sector*** | |
| Pursue further deregulation, in part by enhancing the transparency and predictability of the Large-scale Retail Store Location Law. | No action taken. |
| Ensure that other laws, such as the City Planning Law, are not used as entry barriers for large stores. | No action taken. |

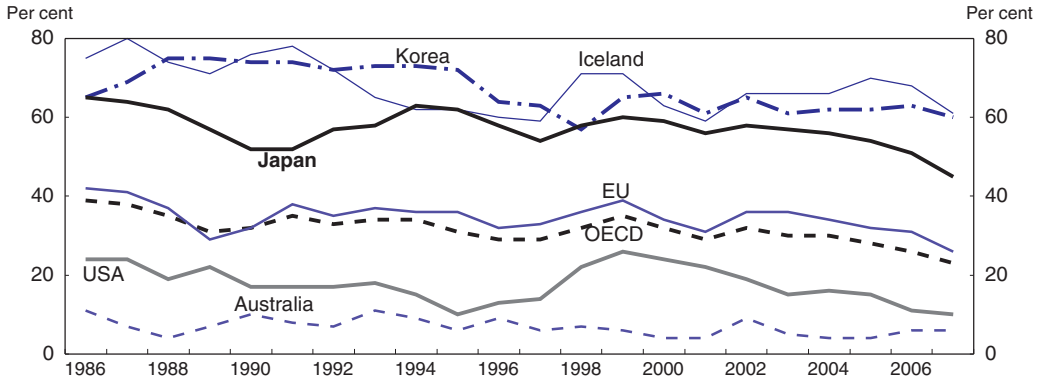
Table 1.5. **Taking stock of structural reforms: enhancing productivity growth in the service sector** *(cont.)*

| Recommendations in the 2008 *Survey* | Actions taken or proposed by the authorities |
|---|---|
| ***The energy sector*** | |
| Establish single independent regulators to promote competition in both electricity and gas. | No action taken. |
| Further expand the share of consumers allowed to freely choose their suppliers of electricity and gas. | No action taken. |
| In electricity, strengthen competition by expanding the interconnection capacity, facilitating the power exchange and removing obstacles to new entrants' operations. | METI and JFTC released a revised guideline for appropriate electricity trading, disclosure rules and so on. |
| Pursue unbundling of vertically-integrated incumbents by formal separation and ensure the neutrality and independence of the Electric Power System Council of Japan. | No action taken. |
| In the gas sector, strengthen competitive pressures by expanding the network capacity and removing remaining obstacles to the operations of new entrants. | No action taken. |
| ***Transport*** | |
| In the harbour industry, strengthen competition by improving the "Prior Consultation" process and relaxing entry barriers, such as the requirement on employment. | No action taken with regard to the recommendations, while efforts to reduce transaction costs and time were implemented in part through electronic declarations and the Super Hub-Port Initiative. |
| In air transport, expand the capacity of airports and increase their efficiency through privatisation. | The capacity of Haneda and Narita will be expanded gradually from 2010. Narita International Airport Corporation is in the process of privatisation. |
| Introduce market mechanisms in the allocation of landing slots to fully utilise capacity and reduce entry barriers. | No action taken. |
| Allow airlines to sell tickets at competitive prices directly to consumers. | Lower limit on airfares (30% of IATA discounted price) was eliminated in 2008. |
| ***Business services*** | |
| Further deregulate professional services while preventing negative effects on competition from self-regulatory bodies. | Disclosure of information related to certified professional services, such as lawyers and accountants, was strengthened. Measures to improve the quality of law schools have been proposed. |
| Encourage international competition through increased inflows of FDI and trade, while expanding the scope of mutual recognition of certificates acquired overseas. | The bilateral EPA with Switzerland in 2009 liberalised service trade through the negative-list method. |
| ***Public services*** | |
| Actively use the special zone scheme to promote reforms in areas such as education and health care. | Yokohama utilised the scheme to improve the quality of the emergency services by shortening arrival time. |
| Expand the use of market testing and ensure that it leads to the outsourcing of activities where appropriate. | The 2009 report found that only four of 15 ministries had satisfactory performance. |

Agriculture is another low-productivity sector in Japan. The high level of agricultural protection imposes heavy burdens on consumers while limiting the scope for trade agreements that would be pro-growth. Although agricultural support, as measured by the percentage producer support estimate, has fallen from 64% of the value of agricultural production in 1986-88 to 50% in 2005-07, it remains twice the OECD average (Figure 1.12). Such protection nearly doubled farm receipts by making consumers pay almost twice the world price for agricultural products. Market price supports, which distort trade and production decisions, accounted for 87% of the support provided in Japan in 2005-07. It is essential to replace them with direct support for farmers, thus limiting such distortions.

Figure 1.12. **An international comparison of agricultural support**

Trends in the percentage producer support estimate[1]




1. The PSE is an indicator of the value of monetary transfers to agriculture resulting from agricultural policies. It is presented as a share of the total value of production at domestic producer prices.

*Source:* OECD (2008), *OECD Agricultural Policies 2008: At A Glance*, OECD, Paris.

StatLink http://dx.doi.org/10.1787/725081474875

## Policies to promote growth and sustainability

The main priority at present is to bring a quick end to the economic recession and launch a sustainable expansion. The fiscal stimulus from the four packages should be carried out promptly and efficiently to support economic activity, while allowing automatic stabilisers to operate. With deflation entrenched, the Bank of Japan should leave the policy interest rate close to zero. As fiscal stimulus fades, economic reform, particularly in the labour and product markets, is a top priority to sustain the growth of domestic demand.

The sharp deterioration in financial-market conditions since 2007 poses a threat to an economic recovery, even though the impact of the global economic crisis on Japan's banking sector was initially relatively limited. Effective policies to promote stability in financial markets and facilitate credit flows, analysed in Chapter 2, are essential, while limiting their distortionary impacts. It is also important to consider how the regulatory architecture could be improved in order to reduce the vulnerability of Japan's financial sector to shocks. At the same time, Japan needs to address the chronically low profitability of the banking sector, particularly in regional institutions. Measures to enhance the efficiency of the financial sector in the context of rapid ageing and structural change would be positive for growth.

The large jump in the budget deficit since 2007 raises concern about the fiscal situation, which is discussed in Chapter 3. In particular, the rising public debt ratio makes Japan vulnerable to an increase in interest rates, which have remained low and relatively stable in recent years. It is essential to maintain investor confidence in the government's ability to achieve its long-term fiscal objectives, announced earlier in 2009. Given the limited scope for public spending cuts, in part due to rapid population ageing, Japan faces the challenge of raising additional revenue while limiting any negative effects on its growth potential. Finally, ensuring the sustainability of the public pension system has to be considered as part of fiscal plans.

Reform of the health-care system, the topic of Chapter 4, is a key issue in the context of fiscal consolidation, given upward pressure on spending due to population ageing. The health-care system has contributed to outstanding health outcomes in Japan while

keeping outlays at a relatively low level. Looking forward, though, Japan faces difficult choices in trying to limit the growth of outlays while meeting rising concerns about the quality of care, shortages and imbalances in the system and the share of people not paying premiums. The strategy of cutting medical fees and prices may prove increasingly less effective in addressing the major issues. A key issue is how to shift long-term care from hospitals to less expensive institutions and home-based care.

A long-term concern for all countries is climate change, which is discussed in Chapter 5. Japan has experienced a relatively rapid increase in its greenhouse gas emissions that has boosted them well above the reduction that was agreed to as part of the Kyoto Protocol, suggesting that the current policy framework is inadequate. Moreover, Japan has set ambitious targets for emission cuts by 2020 and 2050. The challenge is to achieve these objectives in the most cost-effective manner. The fact that Japan is already relatively energy efficient suggests that it may prove to be costly, with possible negative repercussions for economic growth, indicating a need for international co-operation and linkages.

### *Notes*

1. The correlation between exports and business investment on a quarterly basis was 0.97 during the 2002-07 expansion.
2. The falling labour income share was accompanied by a rising share for the corporate sector that was not fully utilised for higher investment.
3. Bonds with a maturity of less than three years. Data are from the Nikkei bond index, reported by Datastream.
4. These measures, which are aimed at enhancing the soundness of the banking sector, were accompanied by a scheme to provide subordinated loans to banks to strengthen their capital base. The first such loan was made in June 2009.
5. The output losses associated with banking crises are typically two to three times greater than in other downturns, and the recovery back to capacity is at least twice as long (Haugh *et al.*, 2009).
6. The significant rise in the corporate sector's surplus saving is analysed in OECD (2007).
7. For more detail on the demographic outlook, see Box 1.2 in the 2008 *OECD Economic Survey of Japan*.
8. This plan, called the *Medium-term Programme for Establishing a Sustainable Social Security System and Securing Its Stable Revenue Sources*, aimed at creating a "medium-level welfare society matched by a medium-level burden" (Government of Japan, 2008).
9. These gross numbers do not include the impact of the tax system on social expenditure. Including the tax system raises public social spending in Japan to 20.6% of GDP compared to 28% in France and Germany. There is a need for caution in comparing the numbers across countries.
10. This range subsumes the definitions of price stability proposed by each member of the Board. The Bank of Japan stresses that the understanding is not an inflation target or objective because it is not binding. Although the 0 to 2% range is the "members' understanding of medium to long-term price stability", it is re-considered on an annual basis. Such an approach increases uncertainty among market participants about the future policy direction.
11. The ECB recognised the risk of measurement bias in the CPI in its May 2003 decision (ECB, 2003).
12. Japan's average inflation rate during the 1980s was 2.1%.
13. A 2008 survey of 7 879 firms and 19 869 employees by the Ministry of Health, Labour and Welfare (2009) found that 76.6% provide "off-the-job" training for regular workers but only 35.0% provide it for non-regular workers. According to the survey of employees, 54.2% of regular workers said that they had received off-the-job training, compared with only 28.7% of non-regular workers.
14. A 2006 government survey (Ministry of Health, Labour and Welfare, 2007) asked firms why non-regular workers cost less. For part-timers, firms cited wages (70.3%), bonuses (63.5%), retirement allowances (47.9%) and social security payments (35.1%). For other non-regular workers, the

numbers were bonuses (70.6%), wages (64.2%), retirement allowance (54.8%) and social security payments (18.9%).

15. Employees who work less than three-quarters of the hours worked by regular employees in a firm (on a daily, weekly or monthly basis) are exempt from employees' pension and health insurance contributions. Employees working less than a year or less than 20 hours a week are exempt from employment insurance.

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## ANNEX 1.A1

# *Policy agreement upon the establishment of a coalition government*

*9 September 2009*

Following the election of 30 August 2009, the Democratic Party of Japan, the Social Democratic Party and the People's New Party decided to establish a coalition government. Furthermore, they agreed to abide by the terms of a policy agreement, covering ten points. The first eight, which are related to economic policy issues, are shown below.

### 1. Implementing prompt influenza measures, disaster measures and emergency employment measures

- Influenza is likely to be a matter of concern for the foreseeable future. We will push forward strongly with measures for countering the disease, while disclosing information to the public regarding prevention of infection, prevention of the spread of infection, and medical care.
- We will respond promptly to deal with the effects of torrential rains, earthquakes and unseasonable weather conditions nationwide.
- Considering the worsening employment situation, we will consider the speedy implementation of emergency employment measures.

### 2. Leaving the consumption tax rate unchanged

- We will leave the consumption tax unchanged at the current rate of 5%, and during the term of office invested in us at this general election [note: the full term is four years], we will do our utmost to undertake a spending review and will not increase the tax rate.

### 3. Comprehensive review of postal services

- We will carry out a comprehensive review of the postal services with the aim of preserving people's livelihoods and revitalising local communities.
- We will speedily enact legislation to freeze the sale of government shares in Japan Post, Japan Post Bank and Japan Post Insurance.
- We will scrutinise the services and administration of each of the companies in the Japan Post group, review the division of postal services into four companies and rebuild a structure that will ensure that universal postal services are available nationwide and enable people to use such services in a fair and convenient customer-centred way.

- We will ensure that general services such as postal services, savings and insurance can be received at post offices.
- We will review the position of the companies in the Japan Post group including share holdings and increase convenience for the public.
- Based on the above, we will discuss concrete measures for a comprehensive review of postal services, speedily draft a postal services reform basic law, and work to enact it.

### 4. Support for childrearing and making work compatible with family life

- We will create an environment that enables people to give birth to and bring up children free of anxiety, as well as making work compatible with family life.
- We will reduce the economic burden of giving birth and establish a child allowance.
- We will endeavour to increase the number of childcare facilities, ensure high quality childcare, and work to eliminate waiting lists for public childcare facilities. We will also work to enhance the provision of after-school childcare.
- We will endeavour to eradicate poverty among children and restore the additional living support allowance paid to single mothers that was abolished from FY 2009.
- We will pay a dependent child allowance to households headed by single fathers in the same way as to those headed by single mothers.
- We will make high school education free in real [effective] terms.

### 5. Enhancing the social security system, including pensions, medical and nursing care

- We will abolish the "Basic Plan for Economic and Fiscal Administration", which states that "natural increases in social security payments should be limited to 220 billion yen per year".
- We will focus our energies on resolving the issues of "vanishing pensions" and "eradicated pensions", and establish an integrated and fair pension system that can be trusted by the public. By combining an "income-proportionate pension" with a "basic guaranteed pension", we will prevent people from ending up with small pensions or no pension at all, and create a system that is responsive to career changes.
- We will abolish the Health Insurance Scheme for People Aged 75 and over, increase public trust in the medical care system, and protect the universal insurance system.
- We will aim to ensure that the amount of government money spent on health care (in terms of GDP) is equivalent to levels in other OECD nations.
- We will improve conditions for care workers and thereby secure personnel for that sector and establish a reliable nursing care system.

### 6. Strengthening employment measures: a comprehensive revision of the legislation covering the dispatch of temporary workers

- We will not simply ban the dispatch of day labourers and spot dispatch, but will place a comprehensive ban on all "registered dispatch" work. We will also ban, in principle, the dispatch of temporary workers to manufacturing jobs.

- We will transform the "temporary workers industry law" into a "law protecting temporary workers" by, for example, establishing a "deemed direct employment system" and implementing disclosure of margin ratios.
- We will establish a "job seekers support system" to pay an allowance to job seekers undergoing job skills training.
- We will extend employment insurance coverage to all workers and proceed with raising the minimum wage.
- We will work to realise equal treatment for men and women and regular and non-regular employees.

## 7. Revitalising the regions

- We will establish a legal framework for discussions between the central government and local governments and, while listening to opinions from the regions and on-the-ground, consider the roles of central government and the regions, and transfer the great majority of powers to the regions.
- We will increase the amount of money that can be freely used by the regions and enable local authorities to respond appropriately to the needs of their respective regions.
- We will implement provision of an individual household income support system to commercial farming households based on the difference between production costs and market price, and regenerate the agricultural industry.
- We will strengthen assistance to SMEs, revise legal provisions to prohibit unfair trading, such as the harassment of subcontractors by large corporations, and improve the loan and credit guarantee systems used by government-related financial institutions.
- We will enact a "Law for Preventing Credit Crunch and Credit Withdrawal", and make it possible to extend the allotted period for the repayment of loans and the conditions under which loans take place. We will make it possible to extend the loan period and change the loan conditions for home loans also.

## 8. Promoting measures to prevent global warming

- We will call for the participation of major emitter nations in the international framework for limiting greenhouse gas emissions, review the government's medium-term targets for emissions, and fulfill Japan's role in the international community.
- We will include the construction of a low-carbon society in our national strategy, and work for the speedy enactment of a basic law on global warming countermeasures.
- We will promote domestic global warming countermeasures, proceed with the research and development as well as the practical application of environmental technologies, create a framework that will enable such technologies, including existing technologies, to spread into popular use, and work to nourish new industries that will create employment.
- We will actively engage in the development and spread of new energy sources and the promotion of energy conservation, obtaining support from the general public.

*Source: www.dpj.or.jp.*

*Chapter 2*

# Financial stability: overcoming the crisis and improving the efficiency of the banking sector

*Japanese banks largely avoided the direct impact from the global financial crisis thanks to their limited exposure to foreign toxic assets, the regulatory framework in Japan and the small role of securitisation. However, the sharp contraction in output and plunge in equity prices did have adverse impacts on the banking sector. The authorities responded with measures to stabilise the financial market, inject capital in depository institutions and sustain lending to small companies. These emergency measures should be phased out to limit distortions once the recovery is in place. It is essential to upgrade the regulatory framework by improving the transparency of securitised products, credit rating agencies and capital adequacy regulations. It is also important to address chronic problems, including low profitability, particularly in regional banks, and increase the efficiency of the financial sector. This requires a number of steps, including privatising public financial institutions, enhancing the efficiency of banking services and expanding the range and quality of financial products.*

The crisis that originated in mid-2007 in the United States and deepened in September 2008 is the largest peace-time disruption of financial markets since the Great Depression. It was triggered by a number of factors, namely the large amount of lending to subprime borrowers, the expansion of securitisation resulting in a disconnect between loan originators and final investors, the questionable assessments of credit rating agencies and the unparalleled resort to off-balance sheet vehicles. These developments took place during a traditional credit boom and reinforced the skyrocketing of asset prices, erosion of lending standards and under-pricing of risk. The crisis had serious repercussions worldwide, particularly in Europe, given the global nature of financial markets.

This chapter begins by considering why the Japanese banking system was initially relatively resilient to the deterioration in the global financial system, although there were some secondary effects that are discussed in the following section. The third section outlines the emergency response of the Japanese authorities to the financial crisis, including quantitative measures by the central bank and other institutions and regulatory changes by the Financial Services Agency (FSA). At the same time, the authorities have taken steps to improve the regulatory framework. The fourth section goes beyond the crisis to consider policies to boost chronically low profitability in the banking sector. Measures to promote efficiency in the financial sector by upgrading capital markets and improving the range and quality of financial products are discussed in the following section. The chapter concludes with recommendations, shown in Box 2.2.

## Why did the global financial crisis have relatively little direct impact on Japan's banking sector?

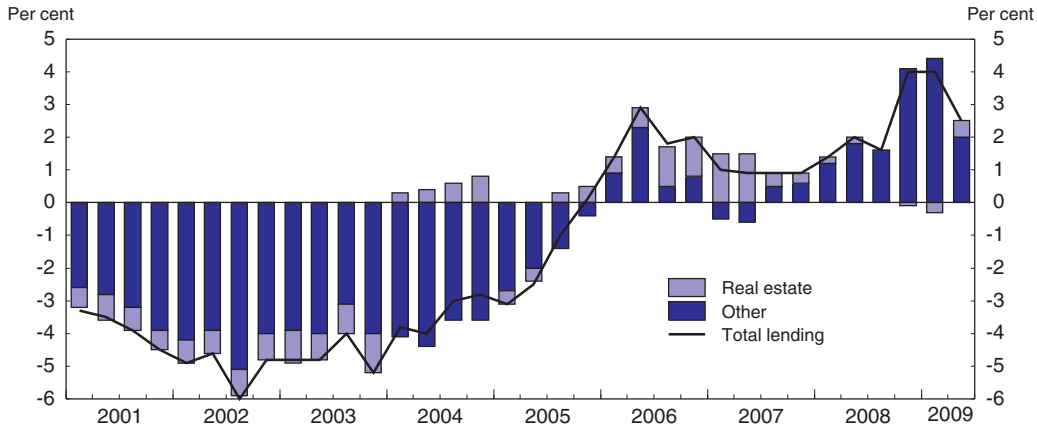
While this financial crisis is unique in certain aspects, such as the important role of securitisation, it resembles other bubble episodes, including Japan's experience in the 1990s, in many respects. The direct impact on Japanese banks from this crisis has been small compared with banks in other countries. According to an IMF estimate in April 2009, Japanese banks and other financial institutions will lose $149 billion in total due to the crisis (2% of their outstanding loans and securities), compared with $1.2 trillion (5%) in Europe and $2.7 trillion (10%) in the United States (IMF, 2009). One major reason was that Japanese banks in the first half of the current decade were preoccupied with recovering from the last crisis by increasing their capital and reducing non-performing loans (NPLs). Indeed, NPLs were cut by more than half between FY 2001 and FY 2004, while normal loans outstanding fell by 16% (Figure 2.1). A number of other inter-related factors enabled Japanese banks to avoid the worst of the crisis.

### *Banks had limited exposure to subprime-related financial products*

First, Japanese financial institutions directly or indirectly held a small amount of subprime-related products and were less involved in originate-to-distribute type activities. Indeed, the book value of banks' subprime-related products was 1 trillion yen at the end of March 2008 and declined by half by the end of March 2009, when it accounted for only 1% of their Tier 1 capital (Table 2.1), although the loss ratio was high at 72.8%. Holdings of

## Figure 2.1. **Loan growth and the contribution of the real estate sector**

Year-on-year percentage change




*Source:* Bank of Japan.

StatLink http://dx.doi.org/10.1787/725107240681

## Table 2.1. **Securitised financial products held by deposit-taking institutions in Japan**

| | End-March 2008 | End-March 2009 | Change |
|---|---|---|---|
| **A Amount in billion yen** | | | |
| Tier 1 capital | 50 081 | 47 926 | –2 155 |
| Operating profit from core businesses | 6 093 | 3 896 | –2 197 |
| Valuation profits/losses for equity holdings | 5 781 | –390 | –6 171 |
| Book value of financial products related to subprime loans | 1 019 | 449 | –570 |
| Unrealised gains and losses | –125 | –93 | 32 |
| Realised gains and losses[1] | –725 | –1 001 | –276 |
| Book value of financial products other than subprime loans[2] | 22 793 | 18 483 | –4 310 |
| Unrealised gains and losses | –983 | –767 | 216 |
| Realised gains and losses[3] | –1 453 | –2 535 | –1 082 |
| | | | |
| **B Share of Tier 1 capital in per cent** | | | |
| Operating profit from core businesses | 12.2 | 8.1 | –4.0 |
| Valuation profits/losses for equity holdings | 11.5 | –0.8 | –12.4 |
| Book value of financial products related to subprime loans | 2.0 | 0.9 | –1.1 |
| Unrealised gains and losses | –0.2 | –0.2 | 0.1 |
| Realised gains and losses[1] | –1.4 | –2.1 | –0.6 |
| Loss ratio[3] | –48.3 | –72.8 | –24.4 |
| Book value of financial products other than subprime loans[2] | 45.5 | 38.6 | –6.9 |
| Unrealised gains and losses | –2.0 | –1.6 | 0.4 |
| Realised gains and losses[1] | –2.9 | –5.3 | –2.4 |
| Loss ratio[3] | –9.8 | –14.5 | –4.7 |
| Reference | | | |
| Tier 1 capital to GDP (in per cent) | 9.7 | 10.0 | 0.2 |
| Tier 1 capital in billion US dollar | 425.3 | 511.4 | 86.0 |

1. Realised losses are cumulative amount in each financial year.
2. This includes various securitised products, *e.g.* CLOs, CDOs, RMBS, and leveraged loans, excluding subprime-related products.
3. The loss ratio is defined as the sum of valuation profits/losses (as of end-March), additional provisions and impairment (from 1 April 2007 to 31 March 2009) as a percentage of the book value at the beginning of the period.

*Source:* Financial Services Agency.

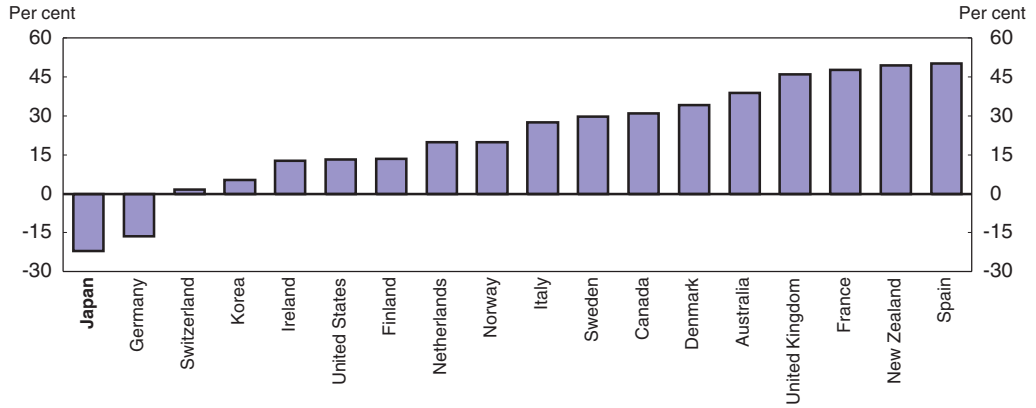
securitised financial products other than subprime loans were much larger, at more than 18 trillion yen, but had a lower loss ratio of 14.5%.

### *Japan avoided a housing bubble*

Second, Japan did not experience the run-up in real estate prices that occurred in many OECD countries. Between 2000 and 2008, the ratio of house prices to income in Japan dropped by 22 percentage points, in contrast to gains of 20 points or more in a number of OECD countries (Figure 2.2). The sharp decline resulted from the continued fall in land prices. After 15 consecutive years of decline, nationwide land prices stabilised in 2006-07, reflecting increases in Tokyo (Figure 1.6). However, the recovery was short-lived as nationwide land prices started to fall again in 2008.

Figure 2.2. **Changes in the ratio of housing prices to income**

Between 2000 and 2008[1]




1. For Finland, 2001-08.

*Source:* OECD, *OECD Economic Outlook*, No. 85, OECD, Paris.

StatLink http://dx.doi.org/10.1787/725117012687

Banks did expand their mortgage credits to households following the 2001 decision to gradually reduce new loans by the Government Housing Loan Corporation (GHLC), in preparation for its privatisation in 2007. Between FY 2001 and FY 2008, 20% of outstanding housing loans shifted from the GHLC to banks.[1] Overall loan growth turned positive in 2006, thanks in part to increased lending to the real estate sector.[2] However, banks' prudent lending behaviour, in line with the FSA's guidelines, notably on the loan-to-value ratio, helped Japan to avoid a debt-driven housing price bubble. Moreover administrative guidelines issued in 2006 by the FSA helped to cool down the expansion in bank lending driven by the real estate sector. With non-recourse loans to real-estate funds, including private funds and real estate investment trusts (REITs), rising 30% (year-on-year) by late 2006,[3] the FSA instructed banks to: *i)* ensure proper risk control, taking into account the sectoral concentration of loans outstanding; *ii)* carefully watch the corporate governance of management companies of REITs; *iii)* monitor the activities of securities companies, including their underwriting of REITs, offerings of private real estate funds and their screening processes in originating commercial mortgage-backed securities (CMBS). This administrative guidance was a factor in the stabilisation in bank lending to the real estate sector in 2007.

### *The regulatory impact of shifting from Basel I to Basel II*

Third, the implementation of Basel II, announced in 2004, reduced banks' appetite for risk, in contrast with other countries, notably the United Kingdom, where it encouraged banks to engage in mortgage loans and securitisation.[4] The capital weight given to mortgages fell from 50% to 35% under the simplified Basel II to as low as 15% to 20% for banks under the more sophisticated internal ratings-based (IRB) version (Blundell-Wignall *et al*., 2008). Greater concentration in low capital-weighted mortgages allows more lending against a given capital base, thereby improving a bank's overall return. In Japan, in contrast, moving to Basel II raised the minimum required capital of group I banks[5] due to their large equity holdings (FSA and BOJ, 2006). Indeed, under the IRB version of Basel II, the weight of equities purchased after 2004 was increased. The higher minimum required capital more than offset the reduced risk weight on mortgage loans and other changes in the calculation of capital requirements.

### *An immature market for securitised products*

Fourth, the relatively undeveloped securitised product market and the limited use of the originate-to-distribute business model helped to shield Japanese banks from the global crisis. The development of securitisation was boosted in the late 1990s by the creation of a legal framework with preferred tax treatment for securitisation to address the NPL issue. Still, the ensuing expansion over FY 2004-06 was from a low base, boosting the securitised product market from 1.1% to 1.7% of GDP (Table 2.2).[6] Residential mortgage-backed securities (RMBS) accounted for about half of the market, with the Japan Housing Finance Agency (JHF) playing a leading role (Panel B). The securitised product market contracted to only 0.8% of GDP in FY 2008, due primarily to the global crisis, with the administrative guidance discussed above and the introduction of Basel II also playing a role.

### *Less incentive for managers to earn short-term profits*

Fifth, the remuneration system and corporate governance in general in Japan do not promote risk-taking behaviour as they do in many countries, reflecting the weak link between total compensation and corporate performance.[7] Indeed, 44% of total compensation of CEOs in Japan is linked either to corporate performance or stock options, compared with 71% and 87%, respectively in the euro area and the United States (JACD, 2007). In financial institutions in a number of countries, the remuneration system has not been closely related to the strategy of the company and its long-term interests (Kirkpatrick, 2009). Remuneration schemes can misalign incentives between banks' management and their shareholders, leading to excessive risk-taking. In particular, bonus plans that reward the short-term performance of managers encourage them to increase short-term returns, at the risk of greater losses in the future. The Financial Stability Forum (FSF) has encouraged financial supervisors to mitigate risks arising from inappropriate incentives (FSF, 2008), focusing on compensation systems that affect the behaviour of bank managers (FSF, 2009a). In Japan, the average salary of bank managers is less than in many other major countries, owing in part to the legacy of the previous crisis. The pattern of internal promotions in Japanese financial institutions also encourages a cautious approach. While the pay and incentive structure has limited excessive risk-taking, it is also blamed for low profitability, less innovation and long delays in addressing the NPL problems in the 1990s.

Table 2.2. **Securitised product markets in Japan**

**A. Issuance of securitised products by type of assets** (in billion yen)

| FY | RMBS[1] | CMBS[2] | CDO[3] | Leasing contracts | Consumer loans | Other | Total | Per cent of GDP |
|---|---|---|---|---|---|---|---|---|
| 2004 | 2 451.7 | 550.4 | 479.0 | 751.9 | 380.0 | 641.0 | 5 254.1 | 1.1 |
| 2005 | 4 924.6 | 1 130.7 | 426.5 | 765.3 | 291.3 | 483.5 | 8 021.9 | 1.6 |
| 2006 | 5 121.5 | 1 509.7 | 311.5 | 714.9 | 286.3 | 510.0 | 5 453.8 | 1.7 |
| 2007 | 3 262.8 | 1 909.3 | 350.8 | 649.3 | 208.3 | 534.8 | 6 915.3 | 1.3 |
| 2008 | 1 968.1 | 373.9 | 109.6 | 258.9 | 536.9 | 591.7 | 3 839.0 | 0.8 |

**B. Issuance of RMBS by originator** (in billion yen)

| FY | JHF | City and trust banks | Regional banks | Finance companies | Other | Total | Share of securitised products | Per cent of GDP |
|---|---|---|---|---|---|---|---|---|
| 2004 | 360.0 | 1 744.3 | 202.8 | 85.1 | 59.5 | 2 451.7 | 46.7 | 0.5 |
| 2005 | 2 037.8 | 1 590.4 | 250.4 | 127.4 | 918.6 | 4 924.6 | 61.4 | 1.0 |
| 2006 | 2 179.0 | 2 051.8 | 201.0 | 358.0 | 331.6 | 5 121.5 | 60.6 | 1.0 |
| 2007 | 2 257.0 | 516.7 | 33.5 | 178.4 | 277.3 | 3 262.8 | 47.2 | 0.6 |
| 2008 | 1 464.2 | 211.7 | 22.7 | 180.8 | 88.7 | 1 968.1 | 51.3 | 0.4 |

**C. Issuance of CMBS by originator** (in billion yen)

| FY | Securities companies | Foreign banks | Finance companies | Domestic banks | Other | Total | Share of securitised products | Per cent of GDP |
|---|---|---|---|---|---|---|---|---|
| 2004 | 66.6 | 46.6 | 131.5 | 130.6 | 175.2 | 550.4 | 10.5 | 0.1 |
| 2005 | 87.0 | 46.7 | 123.1 | 127.2 | 746.7 | 1 130.7 | 14.1 | 0.2 |
| 2006 | 866.7 | 86.2 | 218.8 | 38.4 | 299.6 | 1 509.7 | 17.9 | 0.3 |
| 2007 | 782.7 | 102.3 | 698.1 | 254.2 | 72.0 | 1 909.3 | 27.6 | 0.4 |
| 2008 | 21.7 | 135.3 | 36.4 | 76.6 | 103.9 | 373.9 | 9.7 | 0.1 |

1. Residential mortgage-backed securities.
2. Commercial mortgage-backed securities.
3. Collateralised debt obligations.

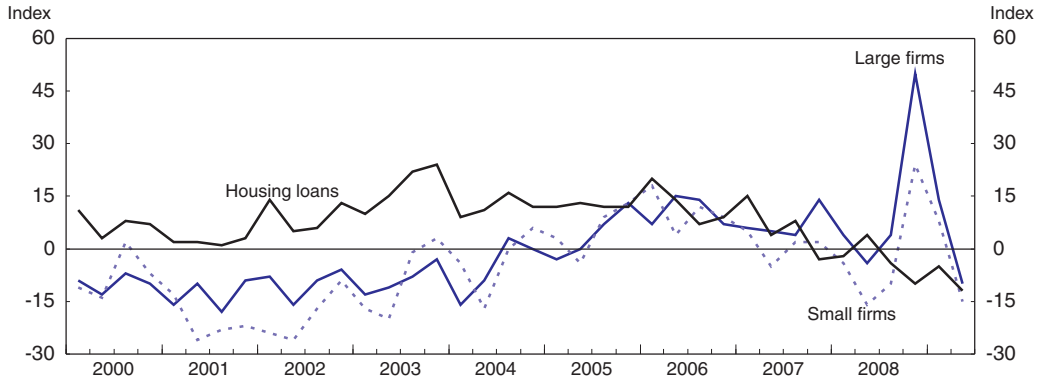
*Source:* Japanese Bankers Association and Securities Dealers Association.

## Strong secondary shocks hit the financial sector

Although the direct impact of the global financial crisis on the banks has been relatively small, they have been adversely affected by turmoil in Japanese capital markets, the significant drop in equity prices and the sharp contraction in real economic activity, which increased credit risk. Decline in the risk appetite of investors and liquidity problems in capital markets made it difficult for large firms to issue commercial paper (CP) and corporate bonds without paying a large premium. Indeed, the issuance of new corporate bonds in October and November 2008 fell by 86% and 95% (year-on-year), respectively. The malfunctioning of capital markets forced firms to increase borrowing from banks, resulting in a surge in loan demand by large firms in the fourth quarter of 2008 (Figure 2.3). Consequently, loan growth in the fourth quarter of 2008 doubled to 4%, while loans to small enterprises fell, reflecting rising credit risk (Figure 1.7).

The sharp decline in equity prices led to a significant erosion in bank capital, which was still somewhat fragile even before the crisis. Although banks had reduced equity holdings from over 8% of total assets in 1999 to less than 2% at the time of the crisis (Figure 2.4), well below the legal limit,[8] equity prices still matter for the soundness of banks. Unrealised capital gains on bonds and equities, which reached 11 trillion yen

Figure 2.3. **Senior Loan Officer Opinion Survey**
Demand for loans from borrowers, classified by type[1]




1. Diffusion index for demand for loans = (percentage responding "substantially stronger" + percentage responding "moderately stronger"× 0.5) – (percentage responding "substantially weaker" + percentage responding "moderately weaker" × 0.5).

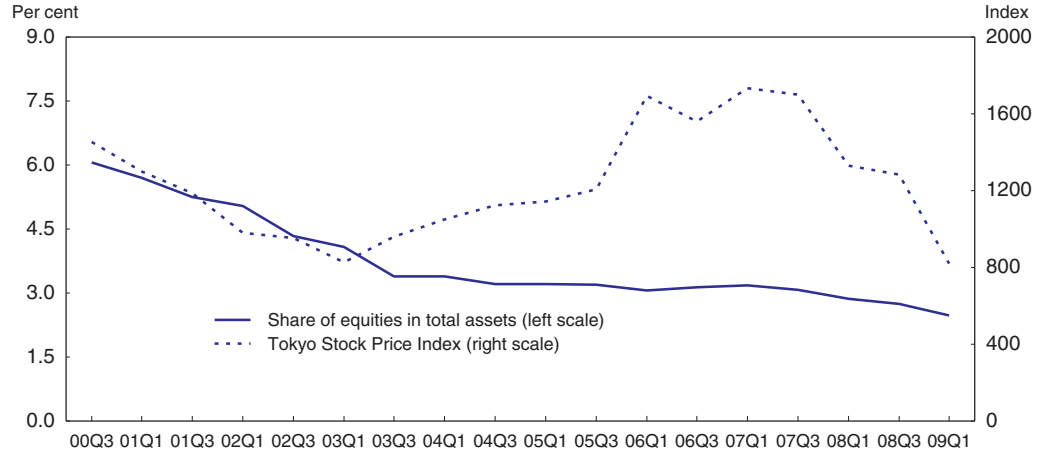
*Source:* Bank of Japan.

StatLink http://dx.doi.org/10.1787/725145507008

in 2007, had turned to losses estimated at around 2 trillion yen for both major banks and for regional financial institutions by the first quarter of 2009 (Figure 2.5).[9] With 45% of unrealised gains counted as capital, and unrealised losses deducted from capital, the equity price decline reduced banks' capitalisation.

The ordinary profit of all banks fell into negative territory in FY 2008 for the first time in six years, as did the return on equity. The loss primarily reflects the impact of declining equity prices, while net business profits remained in surplus. Although the NPL ratio stayed constant, the disposal of NPLs rose from 1.1 trillion yen in FY 2007 to 3.1 trillion yen (0.7% of loans outstanding) in FY 2008, as a result of the increasing number of bankruptcies and worsening business condition of borrowers. The banking sector is likely to record additional losses in FY 2009 in the context of falling output and weakness in the corporate sector.

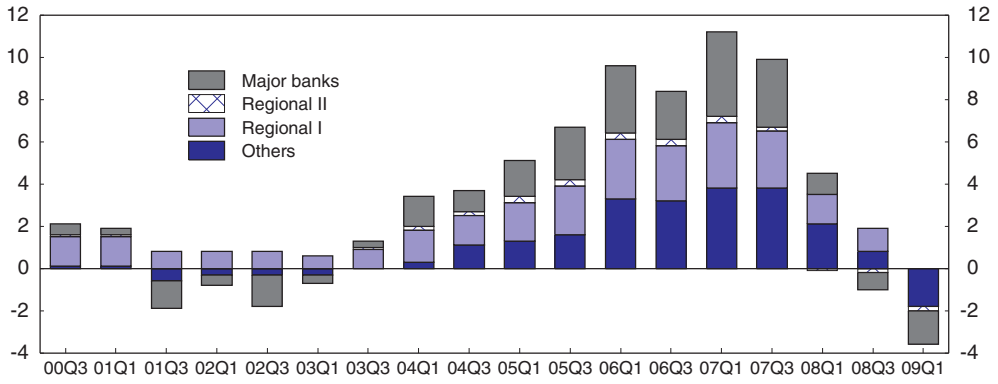
Figure 2.4. **Equity prices and the share of equities in banks' total assets**




*Source:* Bank of Japan and Datastream.

StatLink http://dx.doi.org/10.1787/725150845261

Figure 2.5. **Banks' unrealised gains and losses on their securities holdings**
In trillion yen[1]




1. A moving sum of the preceding six months.

*Source:* Bank of Japan.

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## Japan's policies to mitigate the impact of the crisis on the financial sector

As the financial crisis hit Japan through trade and capital flows, the authorities responded with a number of policies to mitigate those shocks on the banks by focusing on sustaining credit flows rather than on banks' soundness. In contrast to the 1990s, the response has been prompt and forceful (Box 2.1). This section focuses on the measures by the Bank of Japan (Table 2.3),[10] the FSA (Table 2.5) and other institutions (Table 2.6).

### *Measures by the Bank of Japan*

The Bank has implemented a number of measures to stabilise financial markets and facilitate corporate financing (Table 2.3). The pace of outright purchases of government bonds (JGBs) was increased from a 14.4 trillion yen annual rate prior to December 2008 to 21.6 trillion yen (4% of GDP) in March 2009. In addition, the Bank facilitated bank lending to the corporate sector through its own purchases of CP and corporate bonds. By mid-2009, its outstanding outright purchases of CP and corporate bonds each amounted to around 0.2 trillion yen, a small fraction of the authorised amount. A more effective measure to support corporate financing was the introduction of "special funds-supplying operations" in January 2009. This scheme provides unlimited funds to banks at the policy interest rate (currently 0.1%), based on an expanded range of corporate financing instruments that are eligible as collateral. In practice, this puts downward pressure on the short-term lending rate. The outstanding amount rose to 7.5 trillion yen by mid-year.

In addition to measures to reduce market stress and risk premiums, the Bank launched policies to secure the stability of the financial system. The Bank resumed purchases of equities held by financial institutions in February 2009 and by the end of July 2009 had purchased 38.1 billion yen. In addition, it launched a new plan to provide subordinated loans to banks engaged in international operations to strengthen their capital base. The first such loan took place in June 2009.

Table 2.3. **Measures by the Bank of Japan**

| Measures | Date announced (expiration date shown in parentheses) | Amount outstanding[1] (ceiling shown in parentheses) |
|---|---|---|
| **A. Financial market stabilisation policies** | | |
| 1. Expansion of the securities lending facility | 16 Sep 2008 (30 Oct 2009) | |
| 2. Introduction and expansion of US dollar funds-supplying operations | 18 Sep 2008 (1 Feb 2010) | $18 billion (unlimited) |
| 3. Expansion of the purchases of JGBs with repurchase agreements | 14 Oct 2008 (indefinite) | 6.3 trillion yen |
| 4. Introduction of the complementary deposit facility | 31 Oct 2008 (15 Jan 2010) | |
| 5. Expansion of outright purchases of JGBs | | |
| a. Increase in outright purchases of JGBs to 16.8 trillion yen per year | 19 Dec 2008 | 45.2 trillion yen |
| b. Increase in outright purchases of JGBs to 21.6 trillion yen per year | 18 Mar 2009 | |
| c. Expansion in the range of JGBs accepted in outright purchases | 19 Dec 2008 (indefinite) | |
| d. Introduction of outright purchases of JGBs from specific brackets classified by bond type and residual maturity | 19 Dec 2008 (indefinite) | |
| 6. Inclusion of the Development Bank of Japan as a counterparty in operations such as CP repo operations | 19 Dec 2008 (31 Mar 2010) | |
| 7. Expansion in the range of eligible collateral | | |
| a. Acceptance of debt instruments issued by real estate investment corporations as eligible collateral | 22 Jan 2009 (indefinite) | |
| b. Inclusion of government-guaranteed dematerialised CP in eligible collateral | 19 Feb 2009 (indefinite) | |
| c. Expansion in the range of eligible collateral for loans on deeds to the public sector | 7 Apr 2009 (indefinite) | |
| d. Acceptance of US, UK, German and French government bonds as eligible collateral | 22 May 2009 (temporary) | |
| 8. Provision of sufficient funds over the year-end (calendar and fiscal) | | |
| **B. Measures to facilitate corporate financing** | | |
| 1. Increase in the frequency and size of CP repo operations | 14 Oct 2008 (indefinite) | 2.8 trillion yen |
| 2. Expansion in the range of asset-backed CP as eligible collateral | 14 Oct 2008 (31 Mar 2010) | |
| 3. Introduction and expansion of special funds-supplying operations to facilitate corporate financing (unlimited) | 2 Dec 2008 (31 Dec 2009) | 7.5 trillion yen |
| 4. Expansion in the range of corporate debt as eligible collateral | 2 Dec 2008 (31 Mar 2010) | 10.9 trillion yen |
| 5. Introduction of outright purchases of CP (3 trillion yen) | 19 Dec 2008 (31 Dec 2009) | 0.2 trillion yen |
| 6. Introduction of outright purchases of corporate bonds (1 trillion yen) | 22 Jan 2009 (31 Dec. 2009) | 174.4 billion yen |
| **C. Measures to secure the stability of the financial system** | | |
| 1. Suspension of sales of stocks held by the Bank of Japan | 14 Oct 2008 (indefinite) | |
| 2. Resumption of the Bank of Japan's purchases of stocks held by financial institutions (1 trillion yen) | 3 Feb 2009 (30 Apr 2010) | 25.7 billion yen |
| 3. Provision of subordinated loans to banks | 17 Mar 2009 (31 Mar 2010) | (1 trillion yen) |

1. As of 30 June 2009. Upper limit is shown in parentheses.
*Source:* Bank of Japan.

### *Measures by the Financial Services Agency*

#### *Stabilising the stock market*

Japan's capital markets were severely hit by the global crisis, as the equity price index fell by half in a couple of months, forcing investors to deleverage their balance sheets. The FSA took six measures aimed at stabilising stock markets (Table 2.5), including easing regulations to allow firms to purchase their own equities and to curb perceived destabilising speculation by strengthening disclosure of positions and regulations on short selling, consistent with the IOSCO (2008) recommendations. To cushion the capital position of the banking sector, the FSA decided to have the government's Banks' Shareholdings Purchase Corporation (BSPC)[11] resume purchases of equities held by banks. The upper limit was raised to 20 trillion yen (4% of GDP) as part of the December 2008 economic package. As of the end of July 2009, however, purchases amounted to only 140 billion yen.

### Box 2.1. **Lessons from Japan's experience in resolving its financial crisis in the 1990s**

Following the burst of the asset bubble in the early 1990s, Japan struggled for over a decade to normalise its banking sector. The reasons for the bubble in land and equity prices and its subsequent collapse are well-known, beginning with monetary policy. Low interest rates fuelled the run-up in asset prices and the collapse of the bubble was triggered by interest rate hikes that in hindsight appear to have been too large and followed by cuts that were too small and/or slow. The pro-cyclical effect of Basel capital adequacy rules also played a role, reflecting banks' large holdings of equities. The surge in equity prices created capital gains, 45% of which counted toward bank capital, that were subsequently erased by the plunge in the stock market, leaving banks under-capitalised. The accompanying collapse in land prices reduced the value of collateral underlying many bank loans to below principal, leading to a rise in NPLs.

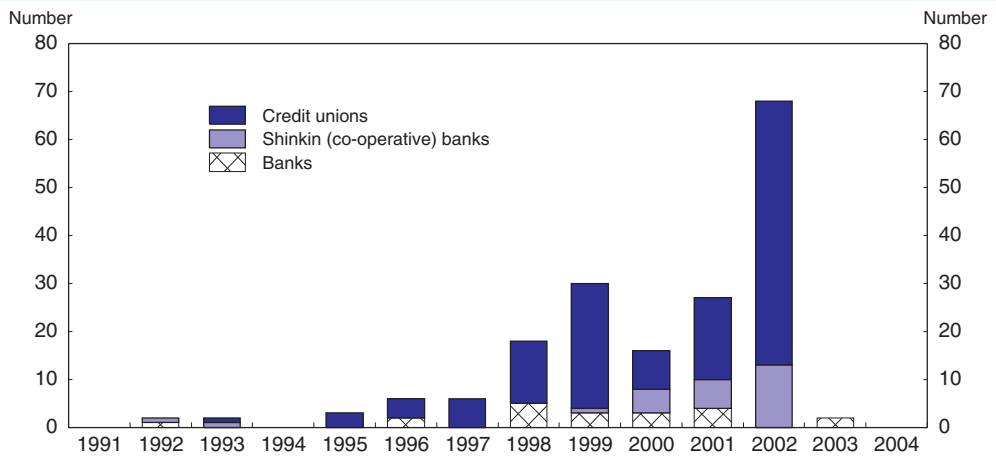
**Why did Japan take so long to solve the problem?**

A number of intertwined factors explain the slow response of the Japanese authorities to the 1990's financial crisis (Nakaso, 2001). *First*, it took a long time to overcome the legacy of Japan's traditional "convoy system", a wide set of regulations that restrict competition within the financial sector to keep the laggards from falling behind and required healthy institutions to assist weaker ones. *Second*, officials and financial institutions expected that the fall in land prices would be only temporary, making it better to wait for an economic rebound to resolve the NPL problem. *Third*, public opposition to using public funds to recapitalise banks and buy impaired assets prevented decisive actions. *Fourth*, high officials in the Banking Bureau of the Ministry of Finance rotate every few years, encouraging them to postpone the resolution of politically difficult problems (Fukao, 2007). *Fifth*, public disclosure of the NPL problem was limited as managers of banks with large NPLs were allowed to cover up the extent of the problem to keep their banks open. The general weakness in corporate governance also delayed public disclosure (Hanazaki and Horiuchi, 2003). *Sixth*, the lack of transparency extended to banks' capital ratios, thus delaying needed capital injections. The latter two factors reflect weak supervision of financial institutions.

The inertia that encouraged the strategy of forbearance was gradually overcome as Japan faced the high cost of dealing with the failure of deposit-taking institutions beginning in the mid-1990s (Figure 2.6). In 1998, two of the largest banks collapsed and, in 1999, 26 institutions failed. The key step forward was the creation in 1998 of the FSA, which was gradually equipped with the necessary legal and administrative tools to deal with the crisis. In 2002, the FSA launched the Financial Revival Programme to resolve the NPL problem. The programme called for: *i)* more rigorous evaluation of bank assets; *ii)* increasing bank capital; *iii)* strengthening the governance of recapitalised banks; and *iv)* a numerical target for cutting the NPL ratio, thus allowing the FSA to strengthen their inspections of major banks. A second landmark event was the injection of public money in the Resona Group in May 2003, which changed market sentiment and led to a surge in the share prices of major banks, although the rescue was criticised for creating moral hazard by bailing out existing equity holders. By March 2009, the government had spent 47.2 trillion yen (9.8% of GDP) to support the financial sector through grants for losses, injections of capital and purchases of assets. About half of these outlays have been recovered (Table 2.4). The amount of bad debt written off reached 21% of GDP.

## Box 2.1. **Lessons from Japan's experience in resolving its financial crisis in the 1990s** *(cont.)*

### Figure 2.6. **Number of failed deposit-taking institutions**




*Source:* Deposit Insurance Corporation.

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**What are the lessons from Japan's experience?**

Japan's experience highlights a number of lessons that are relevant to the current financial crisis (Sato, 2008).

- Prompt and accurate recognition of losses is essential. In the early 1990s, Japan did not have an effective framework for disclosure and provisioning of NPLs, giving financial institutions incentives to postpone addressing the NPL problem. Japan subsequently improved disclosure requirements, clarified the rules on write-downs and provisioning, put in place a prompt corrective action scheme, and established an early warning system enabling supervisors to better monitor banks before they become undercapitalised. In order for supervisors to act promptly, the regulatory framework should allow them to make judgments in an objective manner and the framework should keep up with changes in financial transactions and technology.

### Table 2.4. **Government support to the financial sector**

From 1992 through the end of March 2009

| | Spent (trillion yen) | Per cent of GDP | Recovered (trillion yen) | Recovery rate (in per cent) |
|---|---|---|---|---|
| Grants for loss coverage | 18.9 | 3.9 | – | – |
| Capital injection | 12.5 | 2.6 | 10.8 | 86.2 |
| Purchase of assets | 9.8 | 2.0 | 9.7 | 99.4 |
| Others | 6.0 | 1.2 | 4.9 | 80.9 |
| Total | 47.2 | 9.8 | 25.4 | 53.8 |
| Total excluding grants | 28.3 | 5.9 | 25.4 | 89.6 |

*Source:* Deposit Insurance Corporation.

Box 2.1. **Lessons from Japan's experience in resolving its financial crisis in the 1990s** *(cont.)*

- Toxic assets must be taken off the balance sheet to break the negative spiral. It is difficult to restore market confidence if NPLs are left on the balance sheet, given the risk of additional losses on those assets. In Japan, the FSA strongly encouraged major banks to take NPLs off their balance sheets and the Resolution and Collection Corporation (RCC) purchased the NPLs. Taking impaired assets off the balance sheet is also a priority during the current crisis.
- Undercapitalisation of financial institutions needs to be corrected, injecting public funds if necessary. Prompt and sufficient recapitalisation is needed for institutions that become undercapitalised, in part as a comfortable capital position may strengthen banks' resolve to cut credit to non-viable firms. If a sufficient amount of capital cannot be raised on a market basis, an injection of public funds is necessary. While capital injections put taxpayer money at risk, there are upside gains if the bank is successful. Recapitalisation is another priority during the current crisis.
- Exceptional measures, such as blanket guarantees of bank deposits and temporary nationalisation of banks, may be necessary in serious crises. Japan introduced full protection of bank deposits in 1996 as a temporary measure through the end of FY 2001. However, the full protection of regular savings and current accounts continued until the end of FY 2004.
- Short-term measures and medium-term reform of the regulatory framework to prevent a recurrence of a similar crisis need to be implemented in a balanced manner. If policies lean too much toward crisis management, it could cause moral hazard or distort the system in the long run. On the other hand, hasty implementation of medium-term measures could make crisis management even more difficult. Striking an appropriate balance is therefore a challenge for all countries affected by the crisis.

### *Reactivating the scheme to inject public capital in depository institutions*

The 2004 Act on Special Measures for Strengthening Financial Functions, which provided a framework for the injection of public capital in depository institutions, expired in March 2008. It was reactivated in December of that year and revised to encourage banks to apply for capital injections by relaxing the conditions. Indeed, only two banks had applied for injections under the old version, for a total of 41 billion yen, because bank managers were afraid of being penalised if they failed to achieve the numerical targets that accompanied the injections. The total budget for injections was raised from 2 trillion yen to 12 trillion yen. As of July 2009, three banks had received injections under the revised law, amounting to 121 billion yen. Another change in the new act is that it allows the injection of public funds in the Central Financial Organisations (CFOs) of financial co-operatives.[12]

### *Encouraging bank lending to small and medium-sized enterprises*

Bank lending to small enterprises has been falling, in contrast to loans to large firms (Figure 1.7). While the FSA is principally charged with ensuring the soundness of the banking sector, it also wants to avoid declines in bank lending that would choke off economic activity. In this regard, the FSA has taken steps to limit the perceived risk of pro-cyclicality in bank regulations. In particular, it altered the conditions under which adjustments of loans to SMEs lead to classification as NPLs. Changes to financial covenants

Table 2.5. **Measures taken by the Financial Services Agency and self-regulatory bodies**

| A. Measures by the FSA | | Status |
|---|---|---|
| ***I. Stabilising the equity market*** | | |
| 1 | Temporarily relaxed market restrictions on listed corporations' purchases of their own stocks. | Implemented (in effect until end-October 2009) |
| 2 | Facilitated stock purchases by Japanese-style employee stock-ownership plans by:<br>*a)* promoting the active use of the plans.<br>*b)* clarifying that purchases can take place on two or more dates per month. | The JSDA Implemented this request by the FSA |
| 3 | Enhanced daily disclosure of the following information concerning short selling:<br>*a)* aggregate price of short selling for all securities.<br>*b)* aggregate price of short selling by sector (33 in total). | Implemented |
| 4 | Strengthened restrictions on short selling in addition to the "uptick rule requirement" that prohibits short selling at prices no higher than the latest market price:<br>*a)* Ban on naked short selling (in which stocks are not borrowed at time of sale).<br>*b)* Requirement of reporting and disclosing short-selling positions taken at or above a certain threshold (in principle, 0.25% or more of outstanding stocks). | Both measures are temporarily implemented until end-October 2009 |
| 5 | Allowed bank shareholding to exceed their Tier 1 capital with FSA approval. | Implemented |
| 6 | Resumed the activities of the Banks' Shareholdings Purchase Corporation (up to 20 trillion yen) and permitted more flexibility in their operations. | Implemented until end-March 2011 |
| ***II. Reactivating the scheme to inject public capital in depository institutions*** | | |
| 7 | Ensured smooth financing in local economies, including SMEs, by boosting the capital base of financial institutions through capital injection by the government | Implemented until end-March 2012 |
| 8 | Expanded public funds for capital injection from 2 trillion yen to 12 trillion yen under the revised Act. | Implemented (for FY 2009) |
| 9 | Injected 121 billion yen of capital in three regional banks under the revised Act. | March 2009 |
| ***III. Enhancing bank lending to small and medium-sized enterprises*** | | |
| 10 | Narrowed the conditions under which loans to SMEs with adjusted terms must be classified as NPLs, considering that room for drastic restructuring is limited. | Implemented |
| 11 | Clarified that changes or forbearance of financial covenants does not automatically result in rescheduled loans, which are classified as NPLs, if they do not involve a reduction/exemption of interest and/or forbearance of principal repayment. | Implemented |
| 12 | *a)* Carry on dialogues with financial institutions on their efforts to promote lending.<br>*b)* Conduct on-site inspections of their financial intermediary functions. | *a)* Being conducted<br>*b)* April to June 2009 |
| ***IV. Relaxing capital adequacy requirements for banks*** | | |
| 13 | For internationally-operating banks, valuation profits/losses from bonds without credit risks are not required to be included in calculating capital adequacy. | Implemented |
| 14 | For domestically-operating banks, valuation losses of securities in general are not counted in calculating capital adequacy ratio. | Implemented |
| ***V. Improving transparency and reliability of credit rating*** | | |
| 15 | Introduced new registration requirements for credit rating agencies. | Implemented |
| **B. Measures by the Accounting Standards Board of Japan (ASBJ)** | | |
| ***Applying appropriate accounting standards*** | | |
| 1 | Clarified that the use of valuation techniques, such as model-based techniques, is appropriate to calculate fair value where there are few market transactions or the bid-ask spread is large. | Implemented in October 2008 |
| 2 | Allowed the reclassification of debt securities from the trading and/or available-for-sale category to the held-to-maturity category. | Implemented in December 2008 (in effect until March 2010) |

*Source:* Financial Services Agency.

that do not reduce interest payments or forbearance of principal repayment would not automatically be identified as rescheduled loans and thus as NPLs. In addition, the FSA is using consultations, including on-site inspections, with banks to encourage them to sustain their lending activities.

### *Temporary relaxation of capital adequacy requirements for banks*

The calculation of bank capital has been relaxed until March 2012 so as to prevent excessive fluctuations in the capital adequacy ratio from hampering bank intermediation.

In particular, the treatment of valuation profits and losses of bonds with zero risk weights for internationally-operating banks no longer have to be included. For domestically-operating banks, unrealised losses from equities and corporate bonds are not counted in capital.

### *Other actions*

In addition to the FSA and the BOJ, certain public financial institutions – Japan Finance Corporation (JFC), Development Bank of Japan (DBJ) and Shoko Chukin Bank – have been providing emergency loans and guarantees to borrowers since the crisis began (Table 2.6).[13] These institutions, now in the process of privatisation and consolidation, are expanding their lending and purchases of corporate bonds and paper. The total new lending amounts to around 4 trillion yen (0.8% of GDP). In addition, the stimulus packages expanded their credit guarantees for lending to SMEs and eased the conditions.

Table 2.6. **Measures taken by other agencies**

| | Amount outstanding (end-June 2009)[1] | Number of cases | Budget allocation[1] |
|---|---|---|---|
| A. Two-step loans[2, 3] | 2 368.1 | | |
| Sub-total of loans[3] | 2 017.1 | | 124 000 |
| Development Bank of Japan | 1 827.1 | 448 | |
| Shoko Chukin | 190.0 | – | |
| Purchase of CP[3] (Development Bank of Japan) | 351.0 | 66 | 2 000 |
| B. Insured loans[3, 4] | 883.6 | 11 907 | |
| Development Bank of Japan | 163.1 | 10 | |
| Shoko Chukin | 720.5 | 11 897 | |
| C. Safety net loans[5] | 2 625.9 | 158 716 | 12 000 |
| D. Emergency guarantees by Credit Guarantee Associations[6] | 10 017.3 | 487 226 | 30 000 |
| E. Emergency assistance for foreign operations through JBIC[7] | 812.1 | 70 | 3 000 |
| For developing regions | 135.8 | 38 | |
| For developed regions | 676.3 | 32 | |

1. In billion yen.
2. "Two-step loans" are a scheme to provide loans to borrowers from JFC via designated financial institutions.
3. Figures are total of designated financial institutions.
4. JFC insures 80% for small firms and 70% for medium-sized firms.
5. Loans originated by JFC directly. Figures are as of 16 June 2009.
6. JFC underwrites insurance for credit guarantees by CGA. The emergency guarantee scheme targets 781 types of business, covering more than 80% of SMEs.
7. Supplies credit and investment assistance.

*Source:* Ministry of Finance, Cabinet Office, Japan Finance Corporation, Development Bank of Japan and Shoko Chukin Bank.

The government also revised the 1999 Law on Special Measures for Industrial Revitalisation to help large troubled non-financial institutions through equity investment by the DBJ together with insurance provided by the JFC. Firms meeting certain conditions are eligible to submit a revival plan to the relevant ministries and to request equity investment from the DBJ. The conditions are: *i)* a rapid deterioration of their business condition due to the crisis; *ii)* a need for new equity investment in addition to loans; *iii)* the risk of a serious macroeconomic shock to Japan in the absence of additional investment; and *iv)* additional loans and equity investment would be received if the designated financial institutions provide investment. As of the end of June 2009, one semi-conductor company had been accepted for investment under this scheme for a total amount of

160 billion yen. By the end of August 2009, the DBJ had purchased preferred stocks valued at 30 billion yen, with the JFC insuring 80% of any equity loss.

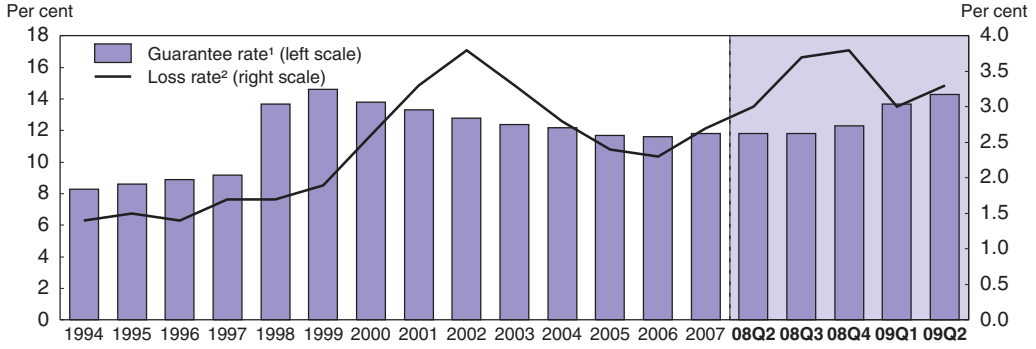
There have also been a number of accounting changes to ease the impact of financial turbulence on the calculation of capital, which would constrain the capacity of banks to lend. The Accounting Standards Board of Japan (ASBJ), an independent, self-regulatory body, has taken the lead in this regard in conjunction with the FSA. In particular, the ASBJ stated that the use of fair value calculated using model-based valuation techniques, rather than market prices, would be appropriate where, *inter alia*, there are few transactions in the market or the bid-ask spread is extremely large (ASBJ, 2008a). Also, the ASBJ allowed the reclassification of debt securities from trading and/or available-for-sale to hold-to-maturity under certain conditions (ASBJ, 2008b).[14] This latter change will reduce valuation losses from holding securities by 630 billion yen (about 8% of the changes in total profits and losses of securities in FY 2008, according to a study by the Bank of Japan (2009). Moreover, the changes in accounting rules, the conditions under which adjustments of loans to SMEs lead to classification as NPLs and the loss recognition in calculating capital adequacy ratios discussed above would boost the pre-tax net profit of banks by 390 billion yen (about 22% of the net profits of 1.8 trillion yen in FY 2008). In addition, it would increase the capital adequacy ratio by 0.3 percentage point for major banks and by 0.5 point for regional banks.

### *Potential costs stemming from emergency measures*

Although the large scale and diversity of emergency measures by the Bank of Japan, the FSA and other institutions have helped stabilise the financial and corporate sectors, maintaining them too long would distort resource allocation and delay restructuring. Such measures, including lending by public financial institutions, thus need to be scaled back as the recovery takes hold. In addition, measures to tamper with share prices should be avoided as they distort investment and financing decisions. In addition, such policies may reduce the sense of urgency for banks to reduce their equity holdings and fuel demands for measures to limit future declines in stock prices. The pressure on banks to sustain lending and the regulatory forbearance on loans to SMEs should be avoided as they may lead to NPL problems in the future. Changes in accounting standards also raise concerns as artificially boosting reported capital could result in solvency problems. As for the Bank of Japan, its interventions have been relatively modest compared to other major central banks, reflecting less severe strains. Indeed, liquidity provision and other support by the central bank in Japan amounts to less than 3% of GDP compared with 8% in the United States and 14% in the United Kingdom (Horton *et al.*, 2009). However, the Bank of Japan should limit the provision of subordinated loans to banks, as this appears more appropriate as a fiscal measure and increases the risk on the Bank's balance sheet.

Public guarantees on lending are a concern. The stock of credit guarantees for SME loans soared during the previous banking crisis, from 8% of outstanding loans in FY 1994 to 15% in FY 1999 (Figure 2.7). Guarantees unwound only partially during the following decade. Economic stimulus packages have already pushed the ratio back up to 14% by March 2009. While there is some evidence that credit guarantees improve the profitability of supported firms,[15] it is important to take account of the potential cost for the government. Guarantees now amount to 7% of GDP. It is important to reduce the share of loans that are guaranteed from the current level of 80% and to raise the price of guarantees to reflect expected credit losses. A higher price would also encourage

Figure 2.7. **Credit guarantees for small and medium-sized enterprises**




1. The guarantee rate is defined as the ratio of the outstanding amount of credit guarantees to the outstanding amount of loans to SMEs by banks. The definition of SMEs and the coverage of financial institutions in the BOJ statistics and the range of credit guarantees provided by the credit guarantee associations are not perfectly identical.
2. The loss rate is the ratio of subrogation payments (by the insurer) to outstanding loans. Quarterly figures are annualised.

*Source:* National Federation of Credit Guarantee Corporations and Bank of Japan.

StatLink http://dx.doi.org/10.1787/725217347725

beneficiaries to stop requesting government guarantees as financing conditions improve, thereby facilitating the withdrawal of guarantees.

## Beyond the crisis response: reforms to improve the regulatory architecture

As the economy recovers, emergency measures to support financial markets should be phased out. Japan should focus on improving the regulatory framework in banking and other financial services to contain systemic risk in the future and limit the financial sector's vulnerability to crisis. Striking the right balance between short-term stabilisation and longer-run reform to address weaknesses in the financial sector is necessary to strengthen confidence. While Japanese banks are less affected by the current crisis, revisions in the international regulatory framework would also impact them as well. Given the fact that the current global financial crisis was caused by a nexus of poor regulation and the failure to adequately apply regulations in place, reform should focus on the issues discussed below.

### *Securitised products*

The Basel Committee on Banking Supervision proposed to strengthen the Basel II framework, in part by raising the risk weights on securitised products, given their prominent role in the crisis (BCBS, 2009a).[16] Although the amount of securitised products in Japan is not large, this change would affect some securitisation schemes currently available. In addition, the proposal would require banks to have a comprehensive understanding, on an ongoing basis, of the risk characteristics of their individual exposures to securitised products, both on and off-balance sheet. More specifically for re-securitisation, banks should have information not only on the underlying securitisation tranches, such as the issuer name and credit quality, but also on the performance of the underlying pools.

The new initiative by the Japan Securities Dealers Associations (JSDA), which took effect in June 2009, enhances the transparency of securitised products. The JSDA created

new rules for originating and distributing securitised products that aim at increasing the traceability of those products, thereby reducing uncertainty (JSDA, 2009). The self-regulatory rules require JSDA members to properly communicate information to investors concerning risks, including those not reflected in the credit rating of the underlying assets of the securitised products they distribute. Although the complexity of securitised products has not resulted in problems in Japan that are as serious as those in the US market, the JSDA considered it important to take pre-emptive steps to enhance transparency and help revive transactions in securitised products.

### *Credit rating agencies*

Credit rating agencies (CRAs), especially in the United States and Europe, played a role in the crisis by giving unwarrantedly optimistic ratings to complex and risky products. The "issuer pays" model of rating has led to the under-pricing of risk, suggesting a market failure in the form of a captive market (OECD, 2009a). The 2009 revision of the Financial Instruments and Exchange Act created a registration system for agencies and reformed the regulation of them based on the four points listed in the IOSCO code of conduct: *i)* duty of good faith; *ii)* establishment of control systems to prevent conflicts of interest; *iii)* prohibition of ratings in cases where analysts/CRAs hold shares in the rated entities; and *iv)* disclosure of information on the rating policy (FSC, 2008). The FSA will be allowed to inspect registered CRAs and to order their reform if necessary. Furthermore, the FSA has addressed the issue of over-reliance by banks, investors and financial regulators on credit ratings by making clear that CRAs are private service providers that investors can use if they wish. Rather than rely excessively on external ratings, banks should assess the risks themselves when appropriate and feasible. Credit ratings should be progressively removed from financial regulation.

### *Capital adequacy regulation and pro-cyclicality*

One of the most controversial issues in bank regulation is the pro-cyclicality of capital ratios. During economic upswings, the ratios are high, encouraging lending and amplifying the build-up of bubbles. During downturns, they are significantly lower, forcing deleveraging and leading to credit squeezes and asset dumping. There have been a number of proposals to limit the pro-cyclicality of capital requirements and thus reduce volatility. In the United Kingdom, for example, the Turner Review proposed strengthening the qualitative and quantitative requirements of Basel II (UKFSA, 2009). It suggested raising the Tier I capital ratio from 4% to 8%, introducing a buffer of around 2% to 3% of risk assets during upturns and improving the quality of capital by raising the core Tier I capital ratio from 2% to 4%. The Financial Stability Forum (FSF) also suggested a revision of capital requirements to increase the quality of the capital base and the buffers above the regulatory minimum during periods of strong earnings growth so that banks are better able to absorb losses in stressful environments (FSF, 2009b). In addition, the FSF proposed a reform of loan-loss provisioning, including thorough analysis of fair value, expected loss and dynamic provisioning approaches. Finally, the BCBS suggested a revision of the risk appraisal method related to trading accounts and wider usage of leverage indicators in supervision (BCBS, 2009a and 2009b).

### *Equity holding by banks*

Equity holding is an important issue in Japan as banks held equities valued at 25.6 trillion yen (5% of GDP) at the end of FY 2007 (Table 2.7). Given the large fall in equity prices during FY 2008, banks' unrealised total gains fell by 7 trillion yen, equivalent to 70% of their adjusted own capital at the end of FY 2008. This implies that banks need to strengthen their capital base.[17] Although the grandfather clause in Basel II that allows banks to apply a 100% risk weight to previously acquired equities does not expire until 2014, the FSA should take measures to promote an earlier effort by banks to strengthen their capital.

Table 2.7. **Adjusted own-capital of all banks**

| FY | Equity market value | Equity book value | Own capital | Deferred tax assets | Additional allowance[1] | Public funds | Adjusted own capital[2] | Nikkei average |
|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | |
| 1996 | 54.1 | 42.9 | 28.5 | 0.0 | 15.0 | 0.0 | 20.2 | 18 003 |
| 1997 | 50.8 | 45.7 | 24.3 | 0.0 | 4.9 | 0.3 | 22.2 | 16 527 |
| 1998 | 47.1 | 42.7 | 33.7 | 8.4 | 4.0 | 6.4 | 17.5 | 15 837 |
| 1999 | 54.5 | 44.4 | 35.6 | 8.2 | 5.8 | 7.0 | 20.7 | 20 337 |
| 2000 | 44.5 | 44.3 | 37.6 | 7.1 | 7.5 | 7.2 | 15.9 | 13 000 |
| 2001 | 34.4 | 34.4 | 30.2 | 10.6 | 6.8 | 7.4 | 5.4 | 11 025 |
| 2002 | 23.2 | 23.2 | 24.8 | 10.6 | 5.4 | 7.4 | 1.4 | 7 973 |
| 2003 | 28.5 | 28.5 | 29.0 | 7.2 | 5.7 | 9.3 | 6.8 | 11 715 |
| 2004 | 27.7 | 27.7 | 31.4 | 5.7 | 6.9 | 8.5 | 10.3 | 11 688 |
| 2005 | 33.2 | 33.2 | 37.3 | 2.3 | 8.3 | 6.5 | 20.2 | 17 059 |
| 2006 | 33.9 | 33.9 | 40.0 | 1.3 | 9.4 | 3.5 | 25.8 | 17 287 |
| 2007 | 25.6 | 25.6 | 34.8 | 3.6 | 10.2 | 3.4 | 17.6 | 12 525 |
| 2008[3] | 18.7 | 18.7 | 29.0 | 5.6 | 10.4 | 3.1 | 9.9 | 8 109 |

1. The additional allowance is the estimated necessary allowance minus the actual allowance. The estimated necessary allowance is derived by the following formula focusing on the credit classification and corresponding default risk: necessary allowance = Type I * 1% + Type II * 20% + Type III * 70% + Type IV * 100%.
2. Adjusted own-capital equals C + (A – B) * 0.6 – D – E – F.
3. Figures are based on the preliminary financial statements of all banks and thus may be revised.

*Source:* Fukao (2008a), Deposit Insurance Corporation and OECD Secretariat calculations.

## Addressing weak profitability in the banking system

While the banks have overcome the 1990 bubble collapse and have thus far weathered the 2008 global financial crisis, thanks in part to the government's prompt response, they are challenged by consistently low profitability. Following some improvement between FY 2002 and FY 2005,[18] the return on equity declined by one-half by FY 2007 to a level well below that in the United States and Europe (Table 2.8), as has typically been the case over the past few decades. The problem is most pronounced in regional banks, which have recorded an NPL ratio at least twice as high as major banks in recent years (Table 2.9). While core ROE for the major banks has improved somewhat, that for regional banks has remained consistently low, with no notable improvement (Hattori *et al.*, 2007). Most regional banks are subject to lower capital adequacy requirements compared with banks engaged in international business. Indeed, the FSA applies a two-tier supervisory approach that distinguishes regional banks from major banks, based on the premise that their business models differ. Regional banks are said to pursue "relationship banking", focusing on long-term relationships with borrowers rather than on a market-oriented approach

Table 2.8. **Comparison of Japanese banks with those in other countries**

| **Japan**[1] | **FY 2002** | **FY 2003** | **FY 2004** | **FY 2005** | **FY 2006** | **FY 2007** | **FY 2008** |
|---|---|---|---|---|---|---|---|
| NPLs[2]/total loans | 7.4 | 5.8 | 4.0 | 2.9 | 2.5 | 2.4 | 2.4 |
| Stockholders' equity/assets | 3.3 | 3.9 | 4.2 | 4.9 | 5.3 | 4.5 | 4.2 |
| Return on equity (ROE)[3, 4] | –19.5 | –2.7 | 4.1 | 11.3 | 8.5 | 6.1 | –12.2 |
| **United States**[5] | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** |
| NPLs/total loans | 1.5 | 1.2 | 0.9 | 0.8 | 0.8 | 1.3 | 2.9 |
| Equity capital/total assets | 9.2 | 9.2 | 10.1 | 10.3 | 10.2 | 10.2 | 9.4 |
| Return on average equity (ROE) | 14.5 | 15.3 | 13.7 | 12.9 | 13.0 | 9.1 | 1.6 |
| **Europe**[6] | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** |
| NPLs/total loans | 2.5 | 2.3 | 2.4 | 2.1 | 2.4 | 2.2 | |
| Equity capital/total assets | 3.1 | 2.9 | 3.8 | 3.9 | 3.9 | 3.9 | |
| Return on equity (ROE, after tax) | 9.0 | 11.3 | 13.5 | 12.5 | 14.8 | 11.4 | |

1. Data for FY 2008 refer to end-March 2009 for non-performing loans and to end-September 2008 for others.
2. NPLs are based on figures reported under the Financial Reconstruction Law.
3. Net income as a percentage of stockholders' equity (no adjustment for preferred stocks, etc.).
4. For FY 2008, the figure is estimated by doubling the net income in the first half of FY 2008 (from April to September 2008).
5. FDIC-insured commercial banks.
6. Fifty largest European banks. Data availability may restrict coverage to less than 50 banks for specific indicators.

*Source:* IMF (2009), *Global Financial Stability Report*, FDIC and Financial Services Agency.

Table 2.9. **Comparison of major and regional banks in Japan**

| | **FY 2001** | **FY 2002** | **FY 2003** | **FY 2004** | **FY 2005** | **FY 2006** | **FY 2007** | **FY 2008** |
|---|---|---|---|---|---|---|---|---|
| **All banks**[1] | | | | | | | | |
| NPLs[2]/total loans | 8.4 | 7.4 | 5.8 | 4.0 | 2.9 | 2.5 | 2.4 | 2.4 |
| Stockholders' equity/assets | 3.9 | 3.3 | 3.9 | 4.2 | 4.9 | 5.3 | 4.5 | 4.2 |
| Return on equity (ROE)[3] | –14.3 | –19.5 | –2.7 | 4.1 | 11.3 | 8.5 | 6.1 | –12.2 |
| Number of banks | 133 | 134 | 131 | 129 | 126 | 125 | 124 | 123 |
| **Major banks**[4] | | | | | | | | |
| NPLs[2]/total loans | 8.4 | 7.2 | 5.2 | 2.9 | 1.8 | 1.5 | 1.4 | 1.6 |
| Stockholders' equity/assets | 3.5 | 2.7 | 3.5 | 3.9 | 4.7 | 5.1 | 4.1 | 3.8 |
| Return on equity (ROE)[3] | –20.3 | –34.9 | –1.3 | 2.6 | 14.3 | 10.7 | 7.3 | –17.5 |
| Number of banks | 14 | 13 | 13 | 13 | 11 | 11 | 11 | 11 |
| Capital adequacy ratio[5] | 10.8 | 10.1 | 11.1 | 11.6 | 12.2 | 13.3 | 12.3 | 12.4 |
| **Regional banks**[6] | | | | | | | | |
| NPLs[2]/total loans | 8.0 | 7.8 | 6.9 | 5.5 | 4.5 | 4.0 | 3.7 | 3.4 |
| Stockholders' equity/assets | 4.6 | 4.3 | 4.4 | 4.7 | 5.2 | 5.5 | 5.0 | 4.5 |
| Return on equity (ROE)[3] | –6.1 | –3.3 | –4.7 | 6.0 | 6.8 | 5.0 | 4.4 | –3.1 |
| Number of banks | 118 | 118 | 115 | 113 | 112 | 111 | 110 | 109 |
| Capital adequacy ratio[5] | 9.3 | 9.1 | 9.0 | 9.4 | 9.8 | 10.4 | 10.3 | 10.5 |

1. All banks cover major banks, regional banks and other banks except new banks, e.g. Seven Bank and Orix trust banks.
2. NPLs are based on figures reported under the Financial Reconstruction Law.
3. Net income as a percentage of stockholders' equity (no adjustment for preferred stocks, etc.). For FY 2008, the figure is estimated by the preliminary financial statements by the Japanese Bankers Association.
4. The major banks are city banks (excluding Saitama Resona), trust banks (excluding Nomura Trust, Chuo-Mitsui Asset, and Resona Trust) and other banks (Shinsei and Aozora).
5. Weighted average of non-consolidated base.
6. Saitama Resona is included from FY 2002 onward.

*Source:* Financial Services Agency, Japanese Bankers Association and OECD Secretariat calculations.

with short-term horizons. The important role of regional banks in supporting regional economic activity is a key rationale for their preferential treatment.

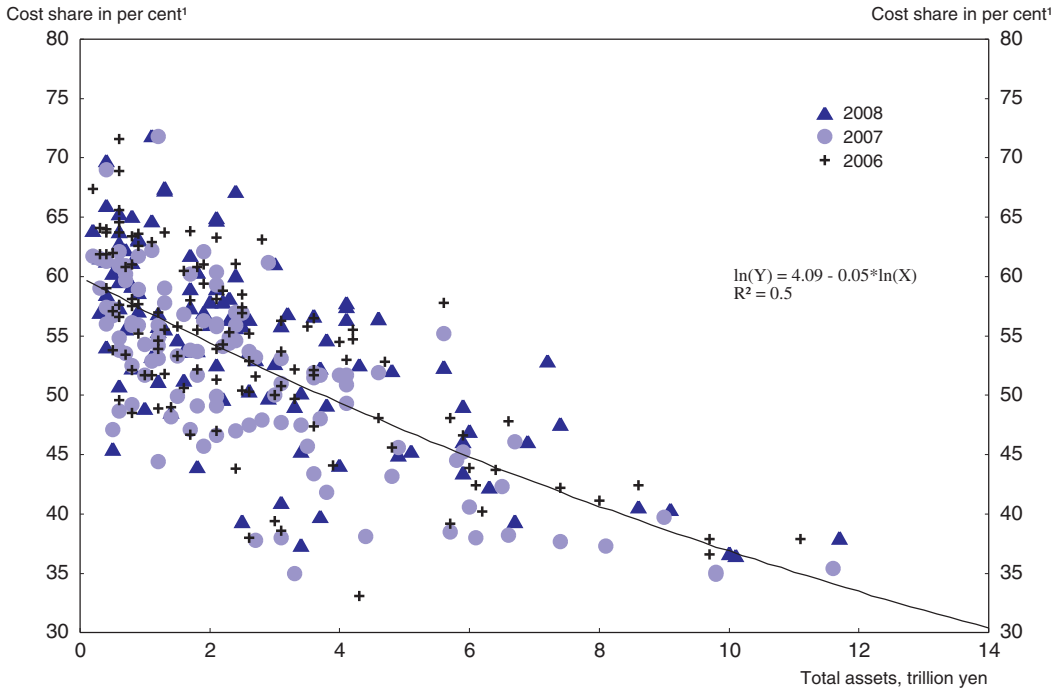
Increasing profitability depends, in part, on achieving adequate interest margins on lending to absorb risks. However, banks have found it difficult to raise lending rates in the context of weak demand and deflation and the loss of strong firms to capital markets. Low lending rates also reflect a mismatch between the size of deposits and loans (Hoshi and Kashyap, 1999). In making loans from their abundant deposits, banks lose negotiating power to borrowers, leading to small margins. Households continue to concentrate their savings in deposits, an advantageous strategy during deflation as the real rate of return rises as prices decline. In sum, boosting bank profitability depends in part on realising a stable environment with moderate inflation in which households allocate a larger share of assets to financial products and less to deposits. In addition, policies to address problems in the banking sector are also important.

*First*, consistently low margins suggest that Japan has an overbanking problem. One factor is the important role of public financial institutions, which increased their share of outstanding loans from 25% in FY 1990 to a peak of 41% in FY 2000. Competition from public financial institutions pushes down lending rates for banks, thus hurting profitability. Moreover, the efficiency of public financial institutions tends to be undermined by other policy objectives that they are expected to fulfil, thus increasing the burden on taxpayers and distorting the allocation of capital. Recognising the challenges of such competition for private lenders, the share of public financial institutions fell to 31% in FY 2008 as a number of them were privatised and consolidated. However, with the onset of the global financial crisis, as noted above, these institutions have played an emergency role in providing credits to non-financial institutions. Subsequently, the privatisation of DBJ and Shoko Chukin Bank were postponed and will be reconsidered at the end of FY 2011. The government should proceed with privatisation, thereby scaling back the size of public lending.

*Second*, there is a need for consolidation, notably among regional banks. Although regional banks are said to be engaged in "relationship banking", they invest more heavily in securities, including equities, than major banks. Indeed, regional banks' investment in securities increased from 20% of deposits in FY 1998 to 32% in FY 2005, before dropping to 28% in FY 2007. Moreover, regional economies tend to have a skewed industrial structure making it difficult to diversify lending risks. Expanding their business territory through M&As and/or business coalitions is one option to diversify risk and cut costs. Indeed, the costs as a share of income for regional banks are negatively correlated with the size of their total assets (Figure 2.8), indicating that M&As would improve profitability. The FSA should promote consolidation of the banking sector by easing the segmentation among different types of banks, *e.g.* city, regional, and various types of co-operative banks. Reducing the preferential treatment accorded to regional banks would also help to reduce segmentation and promote rationalisation, while reducing the risk of creating moral hazard problems and increasing NPLs.

*Third*, banks are largely absent as lenders in some sectors, such as agriculture. Agricultural co-operatives provide financial services jointly with other services to their members. Moreover, there are several credit subsidies to cover interest payments that favour the role of co-operatives and public lending programmes, including zero interest rate loans, which limit the potential role of banks, in addition to reducing allocative

Figure 2.8. **Operating cost and asset size in regional banks**




1. Defined as general and administrative expenses divided by ordinary income excluding other income.

*Source:* Japanese Bankers Association and OECD Secretariat calculations.

StatLink http://dx.doi.org/10.1787/725226221880

efficiency. Reforms, including changes in land regulations and the decision to allow the creation of agricultural corporations, are creating an opening for banks in this sector. However, deregulation of financing is needed to allow banks a larger role in agriculture. The government should abolish credit subsidies and liberalise the lending market. Reforming the financing role of agricultural co-operatives, which were originally created to help farmers compete with large firms in obtaining credit, would enhance efficiency and soundness, while strengthening competition.

## Policies to increase efficiency in the financial sector

Efficiency in the financial sector would be enhanced by policies to expand and improve capital markets. A second priority is to expand the range and quality of financial products. Reverse mortgages, which are important in the context of rapid ageing, and defined contribution pension schemes, which would help increase labour mobility, are discussed below.

### *Upgrading capital markets*

The turmoil since September 2008 noted above has revealed the vulnerability of Japan's capital markets to external shocks. Although banks filled the gap through their intermediary role, thanks in part to government measures, it is important to upgrade capital markets by addressing fundamental structural problems. One of the reasons for vulnerability is the small number of market participants, which weakens the pricing

mechanism. Increasing the number of participants requires improving the taxation of financial income and promoting financial education.

Simple and fair taxation is one key to boosting the number of market participants. A uniform tax rate of 20% was introduced in FY 2003 for interest, capital gains on listed stocks and dividends from listed stocks and investment trusts. However, the temporary reduction in the rate on dividends and capital gains on listed stocks to 10% was extended again until the end of 2011 in the context of the financial crisis. The lower rate should be phased out to ensure neutrality in the taxation of capital income. As for loss offsets, the tax code allowed capital losses on listed equities and trusts to offset capital gains on those assets. Beginning in 2009, losses are allowed to offset dividend income, which should encourage investment in equity. The use of offsets should be further extended to interest income.

Another measure to encourage investment in securities is to promote financial and economic literacy.[19] Surveys show that a significant share of respondents know little about basic financial issues such as risks related to investment, measures of consumer protection or interest rates. In 2008, 72% of the respondents to the Consumer Survey on Finance said that they had almost no knowledge about risks related to investment in equities and bonds. The FSA and the Ministry of Education, Culture, Sports, Science and Technology have strengthened the teaching of finance and economics in schools. However, the lack of practical financial knowledge among older generations needs to be addressed, in part through the involvement of non-profit organisations and business associations. Better understanding of finance and economics could benefit consumers by improving their investment and savings decisions.

### *Improving the range and quality of financial products*

Encouraging the use of reverse mortgages would ease liquidity constraints facing the elderly in the context of rapid ageing and the reform of the pension system. The home ownership rate among households living primarily on annuities and pensions exceeds 90%. Moreover, tangible assets account for more than half of total assets of the elderly, suggesting they have substantial wealth in housing.[20] However, there were only 626 such loans in all of Japan as of March 2008, reflecting several factors. *First*, banks tend to demand a large amount of real estate as collateral to avoid risk, especially in the context of the steady decline in land prices between 1990 and 2005. *Second*, the elderly tend to leave real estate to their heirs due to preferential inheritance taxation. *Third*, the market for existing homes is not sufficiently developed to dispose of collateral assets. The authorities could encourage the provision of reverse mortgages by banks by reducing preferred inheritance tax treatment of real estate relative to financial assets, promoting the development of a market for existing homes and reducing the risks embedded in reverse mortgages (*i.e.* changes in longevity, interest rates and collateral value) through a public insurance system.[21]

Defined-contribution (DC) pension plans have expanded significantly since their introduction in 2001.[22] The DC approach is more suitable for a flexible labour market than a defined-benefit (DB) scheme. While the financial crisis raised questions about their design, DC plans allow policy holders to allocate assets among various products, thus helping to avoid losses in net wealth.[23] Appropriate taxation and expansion of coverage is a key to promoting DC plans. The government raised the ceiling on the tax-deductible amount to stimulate the economy and encourage voluntary saving for retirement.[24] Further expansion of DC plans should be part of a rebalancing of alternative pension schemes, including DB schemes, the retirement allowance system and private saving

schemes, including insurance. At present, public employees, employees whose employers provide corporate pension schemes other than DC plans and spouses of employees are excluded from DC plans. The law should be changed to allow spouses to join, provided that their preferred status in the basic pension system is abolished. For public employees, a DC plan should be introduced while reforming the current DB scheme.

## Conclusion

A well-functioning financial market is essential to sustaining economic growth, both to support activity in the short run and to allocate resources efficiently over the longer run. Japan's banking system has largely withstood the global financial crisis, thanks in part to the emergency measures implemented by the government and the Bank of Japan. As the economy stabilises, these measures should be phased out to avoid distortions, while shifting attention to improving the regulatory framework to enhance the resilience of banks. In addition, chronic problems in the Japanese financial system should be addressed to improve long-run efficiency. Recommendations to accomplish these challenges are summarised in Box 2.2.

### Box 2.2. **Recommendations to overcome the crisis and improve the efficiency of the financial sector**

**Emergency measures taken in response to the crisis should be phased out as the economy normalises**

- Reduce credit guarantees on SME loans, while curtailing their coverage and raising their premiums.
- Scale back loans by public financial institutions.
- Reduce purchases of equities using public money that are aimed at supporting the stock market.

**Improve the regulatory framework to increase the resiliency of the banking system against shocks**

- Upgrade the corporate governance of financial institutions through improved supervisory guidelines.
- Enhance the transparency of securitised products to promote the stability of these markets.
- Improve quality and fairness in the rating process by credit rating agencies, in part by rules that prevent conflicts of interest.
- Reform rules on capital adequacy to reduce their pro-cyclicality without unnecessarily harming banks' growth potential.
- Strengthen the stability of the financial system by reducing equity holdings of banks.

**Increase the efficiency of the financial sector**

- Improve the taxation of financial income and upgrade financial education to promote the development of capital markets.
- Accelerate the privatisation of public financial institutions to reduce distortions and over-banking.
- Encourage economies of scale in regional financial institutions to reduce costs and improve profitability.

Box 2.2. **Recommendations to overcome the crisis and improve the efficiency of the financial sector** *(cont.)*

**Increase the efficiency of the financial sector**

- Abolish entry barriers to financial institutions in agriculture to boost efficiency in finance and agriculture.
- Ensure that preferential regulatory treatment of regional financial institutions does not result in moral hazard.
- Remove obstacles to the use of reverse mortgages to reduce liquidity constraints facing the elderly.
- Promote defined contribution pension schemes, which would remove obstacles to labour mobility and enhance financial autonomy.

## *Notes*

1. Non-banks (finance companies) also expanded outstanding housing loans at a 30% annual rate from March 2004 to June 2007, boosting their share from 2.3% to 5.3%.
2. The privatisation of the GHLC, renamed the Japan Housing Finance Agency (JHF), ended its direct lending. The JHF specialised in securitising housing loans by private lenders. The impact of this reform was similar to the additional regulation imposed on Fannie Mae and Freddie Mac in the United States, which opened the way for banks to move in on their market (Blundell-Wignall *et al.*, 2008). The new securitisation business of the JHF is similar to the role of Fannie Mae and Freddie Mac.
3. The FSA described the surge in bank lending to real estate trust funds in 2006 as symptomatic of a bubble (see *www.fsa.go.jp/news/18/20061226-7.html*). It noted that commercial land prices in the three large cities were rising after fifteen years of continuous drops, driven by a sharp increase in a district in the centre of Tokyo, suggesting that it was triggered by expectations of rising future rents. Furthermore, the book value of real estate outstanding in real estate funds more than doubled in 18 months.
4. Basel II shifted from a simple focus on capital adequacy toward risk-based banking supervision. Although the minimum capital requirement remained at 8%, the notion of risk-weighted asset was expanded to reflect not only credit risks, but also market and operational risks. In practice, Basel II allows financial institutions to apply an internal ratings-based approach for their mortgage loans and securitised products.
5. Large, diversified and internationally active banks with Tier 1 capital exceeding 3 billion euro.
6. The firewall regulation between banks and security companies, Article 65 of the Securities and Exchange Law, was similar to the US Glass-Steagall Act of 1933. Mutual entry through subsidiaries of parent banks or securities companies was allowed in 1993, followed by the liberalisation of regulations on establishing financial holding companies in 1998. The firewall regulation in the Financial Instruments and Exchange Act was replaced with an article requiring a management system that avoids conflicts of interest.
7. A study on the sensitivity of CEO compensation with respect to firm performance in Japan showed that the sensitivity decreased after the 1990s (Kubo and Saito, 2008).
8. By law, banks' equity holdings are not to exceed their core capital, which amounted to 5.4% of total assets for major banks in FY 2007 and 4.5% for regional banks.
9. Based on the FSA's preliminary summary of banks' financial statements in FY 2008. For major banks, aggregate figures are available at *www.fsa.go.jp/news/20/ginkou/20090529-4.html* and for regional banks at *www.fsa.go.jp/news/20/ginkou/20090529-2.html*.
10. Monetary policy actions by the Bank of Japan are discussed in Chapter 1.
11. The 2001 Shareholdings Restriction Law required banks to reduce their equity holdings. There was concern that the release of a large amount of shares into the market at one time would affect the share values, with possible negative effects for the stock market and the stability of the financial

system. In order to prevent such an outcome, the BSPC was established in 2002 to purchase shares held by banks. The BSPC purchases shares from banks and sells them at market values.

12. The Shinkin Central Bank, the Shinkumi Federation Bank, the Rokinren Bank and the Norinchukin Bank.

13. The JFC was established in October 2008 by the merger of four large public financial institutions (National Life Finance Corporation, Agriculture, Forestry and Fisheries Finance Corporation, Japan Finance Corporation for Small and Medium Enterprise and Japan Bank for International Cooperation) and is owned by the government. The JFC law requires it to respond to a crisis by providing credits to designated institutions. Such a crisis could be a disruption to the financial system or a major disaster.

14. This follows the "Reclassification of Financial Assets (amendments to IAS 39 Financial Instruments: Recognition and Measurement and IFRS 7 Financial Instruments: Disclosure)" by the International Accounting Standards Board issued on 13 October 2008. The classification determines the amount of loss or gain at settlement, as debt securities held in the trading account are evaluated at mark-to-market price while those in the hold-to-maturity classification are evaluated at the acquisition price.

15. A study of the effect of credit guarantees between 1998 and 2001 (Uesugi *et al*., 2006) confirmed that programme participants significantly increase their leverage, especially of long-term loans, and become more efficient (with the exception of high-risk firms).

16. The January 2009 reform package covered a number of other issues: *i)* trading book exposures, including complex and illiquid credit products; *ii)* certain complex securitisations in the banking book (*e.g*. CDOs of ABS); and *iii)* exposures to off-balance sheet vehicles (*i.e*. asset-backed commercial paper conduits).

17. Fukao (2008b) examined the soundness of banks' capital base by excluding some fragile components used in BIS ratios. It showed that after improving for four straight years, Japanese capital adequacy ratios fell by 2.6 percentage points in FY 2007, with the erosion in unrealised gains on securities caused by falling share prices a major factor. Through FY 2007, 49 of 124 banks nationwide had ratios under 2%, the level regarded as sound in this definition, including three that were insolvent by this definition.

18. The October 2002 "Programme for Financial Revival: Revival of the Japanese Economy through Resolving Non-Performing Loan Problems of Major Banks" achieved its goal of halving the NPL ratio of major banks from its March 2002 level of 8.4% (see *www.fsa.go.jp/en/policy/pfr.html*).

19. In Japan, the Central Council for Financial Services Information (with the Bank of Japan serving as its secretariat since 1952) is responsible for such education. The OECD established the International Gateway for Financial Education (IGFE) to provide: *i)* sound and comprehensive information on financial education issues and programmes worldwide; *ii)* a reliable source of dissemination and comparison of this information; and *iii)* a tool to exchange information on best practices between governmental representatives and key stakeholders.

20. An analysis of the situation of the elderly (Ishikawa and Haji, 2009) found that: *i)* at current spending levels, outstanding assets would sustain the average household beyond the age of 100; *ii)* income disparity among the elderly is large, with about 10% of households receiving only small pensions and holding insufficient assets; and *iii)* the pension system fails to address the diversified lifestyle of the elderly.

21. The Home Equity Conversion Mortgage in the United States is a reverse mortgage programme enabling those aged 62 or older to withdraw equity in their home and pay insurance premiums to the FHA through financial institutions.

22. At the end of 2008, the number of employees in DC schemes (corporate type) was 2.7 million, a 24% increase from a year earlier, while the number of employees in DC schemes (personal type) was 93 000, a 16% increase.

23. In FY 2007, 36% of total assets were allocated to securities, 42% were in deposits or savings accounts, and 21% were insurance products. Two-thirds of assets were thus not directly exposed to financial market risks.

24. The tax deductible ceiling varies between the four types of DC plans covering: *i)* employees whose firms do not provide other pension schemes; *ii)* employees whose employers do provide them; *iii)* employees in personal type pension schemes; and *iv)* the self-employed. For the first group, for example, the ceiling was raised from 46 000 yen per month to 51 000.

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*Chapter 3*

# The fiscal policy response to the crisis and achieving fiscal sustainability

*The top priority at present is to achieve a sustained economic recovery. However, a credible fiscal consolidation plan is important to maintain public confidence in Japan's fiscal sustainability as the budget deficit is set to approach 10% of GDP in 2010 and gross public debt nears 200%. Although the goal of a primary budget surplus by FY 2011 is no longer feasible, the government should move promptly once a recovery is in place to implement tax increases and spending reductions, notably in public investment and government wages. While the plan of the previous government to allocate all consumption tax revenue to social security may make it politically easier to raise the consumption tax rate, it could also limit flexibility in spending. A broad-based tax reform, including improvements in direct taxes, is essential to boost revenue and support growth, which is also important to reduce the public debt ratio.*

Japan's progress in fiscal consolidation between 2002 and 2007 was reversed by the crisis. With additional spending in fiscal stimulus packages and the cyclical impact of the steep recession, the budget deficit as a share of GDP is projected to approach double-digits in 2010. Consequently, the gross public debt ratio, which is already the highest ever recorded among OECD countries, is set to increase further. Fiscal consolidation as the economic recovery takes hold is thus an important priority for Japan. This chapter outlines Japan's fiscal response to the crisis and its impact on the fiscal situation. The second section reviews government programmes aimed at improving the fiscal situation, followed by a discussion of the policy options. Recommendations are presented in Box 3.2.

## The fiscal response to the crisis

The budget deficit fell from 8.2% of GDP in 2002 to 3.2% in 2007, excluding one-off factors, with the decline almost equally divided between increased revenue and expenditure cuts (Table 3.1). Cyclical factors explained about half of the rise in revenue, which was concentrated in corporate income tax receipts. In addition, hikes in the pension

Table 3.1. **Evolution of the fiscal situation since 2002**[1]

| | Per cent of GDP | | | Change in percentage points | |
|---|---|---|---|---|---|
| | 2002 | 2007 | 2010[2] | 2002-07 | 2007-10[2] |
| Total revenue | 30.6 | 32.8 | 32.4 | 2.2 | –0.4 |
| Direct taxes on households | 5.2 | 5.3 | 5.3 | 0.1 | 0.0 |
| Direst taxes on business | 2.9 | 4.2 | 2.7 | 1.3 | –1.6 |
| Social security contributions | 10.5 | 10.9 | 11.6 | 0.4 | 0.7 |
| Indirect taxes | 8.4 | 8.4 | 8.7 | 0.0 | 0.3 |
| Interest receipts | 1.6 | 1.8 | 1.8 | 0.2 | –0.1 |
| Others | 2.0 | 2.1 | 2.4 | 0.1 | 0.2 |
| Total expenditure | 38.8 | 36.0 | 42.1 | –2.8 | 6.1 |
| Government consumption on wages | 6.7 | 6.1 | 6.6 | –0.6 | 0.5 |
| Government consumption on social benefits[3] | 3.7 | 4.2 | 5.2 | 0.5 | 0.9 |
| Other government consumption | 7.5 | 7.6 | 8.9 | 0.0 | 1.3 |
| Social security benefits paid | 11.1 | 11.6 | 13.5 | 0.5 | 1.9 |
| Government fixed capital formation | 4.8 | 3.1 | 3.5 | –1.7 | 0.3 |
| Interest payments | 3.0 | 2.5 | 3.1 | –0.5 | 0.7 |
| Other expenditures[4] | 2.0 | 0.9 | 1.3 | –1.0 | 0.4 |
| **Budget balance** | **–8.2** | **–3.2** | **–9.7** | **5.0** | **–6.5** |
| Primary budget balance[5] | –6.8 | –2.6 | –8.3 | 4.2 | –5.8 |
| Cyclically-adjusted budget balance | –7.2 | –4.2 | –7.3 | 3.0 | –3.2 |
| Cyclically-adjusted primary budget balance[5] | –5.9 | –3.5 | –6.1 | 2.3 | –2.6 |

1. Excluding one-off factors, which ranged from –1% to +2% of GDP between 2002 and 2010.
2. OECD estimate for 2010, excluding the impact of one-off factors.
3. Mainly health and long-term nursing care.
4. Includes subsidies, other current payments, capital transfer payments and consumption of fixed capital.
5. Excluding net interest payments.

*Source:* Cabinet Office, *Annual Report on National Accounts*, OECD (2009b), *OECD Economic Outlook*, No. 85 and OECD Secretariat calculations.

contribution rate boosted social security receipts. The cut in spending between 2002 and 2007 (by 2.8% of GDP) was achieved despite a 1% of GDP rise in social benefits due to population ageing. In sum, Japan appeared on track to achieve its target of a primary budget surplus for central and local governments by FY 2011. However, the downward trend in the deficit was reversed with the end of the economic expansion in late 2007 and the onset of the global crisis, as both the automatic stabilisers and discretionary stimulus measures widened the deficit.

### *The fiscal stimulus packages*

The government froze the medium-term plan to limit spending[1] and launched a series of stimulus packages: two supplementary budgets in FY 2008, followed by additional stimulus in the regular FY 2009 budget and the supplementary budget in May 2009. Taken together, this discretionary stimulus amounted to 4.7% of GDP in 2008, the largest among the G7 countries after the United States and above the average of 3.9% for explicitly crisis-related stimulus programmes in OECD countries (Table 3.2). Increased spending (4.2% of GDP) accounted for the bulk of the stimulus in Japan, whereas stimulus was almost evenly divided between higher spending and tax reductions in the OECD as a whole. One reason for the large fiscal stimulus is the small size of automatic stabilisers in Japan, reflecting its low tax ratio and low level of social spending.[2]

Table 3.2. **Composition of fiscal packages in the major countries**[1]

| | Net effect | Tax measures | | | | | Spending measures | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Individuals | Firms | Consumption | Social contributions | Total | Final consumption | Investment | Transfers to households | Transfers to firms | Transfers to sub-national government |
| Canada | –4.1 | –2.4 | –0.8 | –0.3 | –1.1 | –0.1 | 1.7 | 0.1 | 1.3 | 0.3 | 0.1 | .. |
| France | –0.7 | –0.2 | –0.1 | –0.1 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 | 0.3 | 0.0 | 0.0 |
| Germany | –3.2 | –1.6 | –0.6 | –0.3 | 0.0 | –0.7 | 1.6 | 0.0 | 0.8 | 0.3 | 0.3 | 0.0 |
| Italy | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 0.3 | 0.0 | 0.2 | 0.1 | 0.0 |
| **Japan** | **–4.7** | **–0.5** | **–0.1** | **–0.1** | **–0.1** | **–0.2** | **4.2** | **0.2** | **1.2** | **0.6** | **1.5** | **0.6** |
| United Kingdom | –1.9 | –1.5 | –0.5 | –0.2 | –0.6 | 0.0 | 0.4 | 0.0 | 0.4 | 0.2 | 0.0 | 0.0 |
| United States | –5.6 | –3.2 | –2.4 | –0.8 | 0.0 | 0.0 | 2.4 | 0.7 | 0.3 | 0.5 | 0.0 | 0.9 |
| OECD average[2] | –3.9 | –1.9 | .. | .. | .. | .. | –2.1 | .. | .. | .. | .. | .. |

1. The amounts shown in the total columns do not always match the sum of the columns shown because some components either have not been clearly specified or are not classified in this breakdown.
2. Weighted average of countries that adopted positive stimulus programmes.

*Source:* OECD (2009b), *OECD Economic Outlook*, No. 85, OECD, Paris.

The impact of fiscal stimulus on economic activity depends on its composition, duration and timing. Recent studies suggest that fiscal multipliers in OECD countries may be around unity for government spending and about half that for tax measures, although with lower multipliers for more open economies. However, in the current downturn, the propensity of households and firms to save for precautionary reasons may have increased and dysfunctional credit markets may be limiting activity, thus reducing multipliers, particularly for tax cuts (OECD, 2009c). At the same time, however, very accommodating monetary conditions, ample economic slack and an increase in the proportion of credit-constrained households may have raised the multiplier. The total fiscal stimulus in Japan amounts to around 4% of GDP, excluding transfers (0.7% of GDP) to recapitalise public financial institutions.[3] According to the government, the first three stimulus packages

would add 1% to GDP in FY 2009 and the fourth stimulus package another 1.9% in FY 2009, giving a total impact of 2.9%. In addition, the multi-year time horizon of the fourth package is projected to add another 1% to GDP in FY 2010 and beyond. Hence, the government's projection suggests that it expects the multiplier on spending to be around one.

Transfers to firms and households account for about half of the increased spending in Japan's stimulus packages (Table 3.2). For households, the key component was a supplementary fixed-sum income payment of 12 000 yen ($125) for each person between 19 and 64 years of age and 20 000 for everyone else. Transfers – 2 trillion yen (0.4% of GDP) in all – were given to all households to achieve rapid implementation of the stimulus package. Although the impact may have been larger if the transfers had been concentrated on low-income households, this approach has some advantages. As it was a fixed amount, the relative benefit was larger for poorer households, who are more credit constrained and therefore more likely to spend the money. In addition, the timing of the payments – beginning in March 2009 – sustained private consumption when output was still falling sharply. Transfers to firms, which amount to around one-fifth of additional outlays, include a payment to highway companies to compensate them for a temporary reduction in tolls that was intended to stimulate domestic demand. The cut in tolls has had positive impacts on households and the business sector through reductions in travel and logistics costs. However, it caused several side-effects such as shifting travellers from other means of transport, thereby boosting $CO_2$ emissions and traffic jams. The change in relative prices created deadweight losses that blunted the impact of fiscal stimulus. While transfers to business may be useful in increasing aggregate demand in the short term, they undermine the long-term production capacity of the economy by postponing necessary restructuring (OECD, 2009a).

Supply-side effects are also important. Some fiscal measures can be effective both in responding to economic downturns and in increasing long-term growth potential (OECD, 2009a), notably:

- *Increased spending on infrastructure and education*. Investment in social infrastructure accounts for a quarter of additional spending in the recent packages (Table 3.3), although this is well below past experience (Box 3.1). Outlays on education, science and technology are significant, accounting for 7.2% of the additional outlays.
- *Expanded spending on active labour market policies, including training*. Labour market measures, including employment subsidies, job-search assistance, job creation and training, amounted to 8.3% of the expenditure in the packages.
- *Reduction of personal income taxes, notably on low-income earners*. As noted, tax measures are small at only 0.5% of GDP, with cuts in social contributions accounting for the largest share. Changes include reductions in health-care insurance contributions by low-income elderly and a cut in the employment insurance contribution rate in FY 2009.[4] Direct support through expanded unemployment benefits may have had a larger effect.

### *The outlook for the fiscal situation*

The budget deficit is projected to increase from 3.2% of GDP in 2007 to 9.7% in 2010, excluding one-off factors (Table 3.1), which would be the fourth largest among OECD countries. On a cyclically-adjusted basis, expenditures are projected to rise by 2% of potential GDP over 2007-10. The stimulus packages account for about three-quarters of that, with the rest primarily due to pensions and health care (Chapter 4), which is driven

Table 3.3. **Fiscal stimulus packages in Japan since 1992**[1]

| Category | 1992-95 | 1998-2000 | 2001-02 | Average for 1992-2002 | 2008-09[2] |
|---|---|---|---|---|---|
| A. Composition of net additional spending (%) | | | | | |
| Social security and welfare | 3.9 | 20.4 | 26.9 | 15.6 | 13.2 |
| Social insurance | 1.5 | 6.6 | 15.2 | 6.2 | 2.5 |
| Public assistance | 2.4 | 13.7 | 11.7 | 9.4 | 10.7 |
| Employment | 0.4 | 1.7 | 16.7 | 3.7 | 8.3 |
| Education and science technology | 9.3 | 6.9 | 1.5 | 6.9 | 7.2 |
| Social infrastructure investment[3] | 105.0 | 63.7 | 65.8 | 78.7 | 26.7 |
| Grants to local governments[4] | –21.7 | –5.5 | –9.3 | –11.9 | 22.5 |
| SME-related expenses | 4.9 | 11.1 | 9.9 | 8.7 | 14.0 |
| Other | –1.8 | 1.7 | –11.5 | –1.7 | 8.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total in trillion yen | 14.9 | 20.1 | 7.0 | 42.0 | 18.1 |
| Annual average in trillion yen | 3.7 | 6.7 | 3.5 | 4.6 | 9.1 |
| B. Composition of packages (% of GDP)[5] | | | | | |
| Net additional spending | 0.8 | 1.3 | 0.7 | 0.9 | 1.9 |
| Capitalisation of public institutions | 0.0 | 0.1 | 0.1 | 0.0 | 0.4 |
| Debt-servicing costs | –0.1 | 0.1 | –0.2 | –0.1 | 0.0 |
| Tax cuts | 0.3 | 0.8 | 0.0 | 0.4 | 0.2 |
| Financial measures | 2.2 | 2.7 | 1.9 | 2.5 | 11.0 |
| Credit guarantees | 0.3 | 1.3 | 1.6 | 0.9 | 3.0 |
| Measures by other accounts[6] | 1.9 | 0.6 | 0.3 | 1.5 | 0.8 |
| Financial measures to support banks | 0.0 | 0.0 | 0.0 | 0.0 | 7.3 |
| Total in trillion yen | 62.1 | 62.7 | 24.7 | 49.8 | 132.2 |
| Total as per cent of GDP | 3.2 | 4.2 | 2.5 | 3.3 | 13.4 |

1. The table covers economic packages that include additional spending measures. There were six packages during 1992-95, four during 1998-2000 and three during 2001-02.
2. Includes: *i*) the Comprehensive Immediate Policy Package, August 2008, 11.5 trillion yen (Cabinet Office, 2008a); *ii*) Measures To Support People's Daily Lives, October 2008, 26.9 trillion yen (Cabinet Office, 2008b); *iii*) Immediate Policy Package to Safeguard People's Daily Lives, December 2008, 37 trillion yen (Cabinet Office, 2008c); and *iv*) Policy Package to Address Economic Crisis, April 2009, 56.8 trillion yen (Cabinet Office, 2009c).
3. The composition of social infrastructure investment is shown in Figure 3.1.
4. Contingency local grants, which were counted as "social infrastructure investment" (1.4 trillion yen) and "other" (1.6 trillion yen) in the original budget data, are included in "grants to local governments".
5. Average annual spending as a per cent of average annual GDP over the period of the packages. OECD estimate for 2009 GDP.
6. Includes spending by special accounts, such as labour, investment by public corporations and acquisition of land.

*Source:* Ministry of Finance, Cabinet Office and OECD Secretariat calculations.

### Box 3.1. **Comparison of 2008-09 fiscal stimulus to previous packages**

Since the end of the bubble in the early 1990s, Japan has implemented 17 economic stimulus packages containing additional fiscal spending during four episodes: 1992-95, 1998-2000, 2001-02 and 2008-09 (Table 3.3).[1] The focus has varied depending on the economic and political situation. The fiscal stimulus in 2008-09 stands out from past episodes in terms of the total size of the packages, its emphasis on increased spending and the composition of outlays:

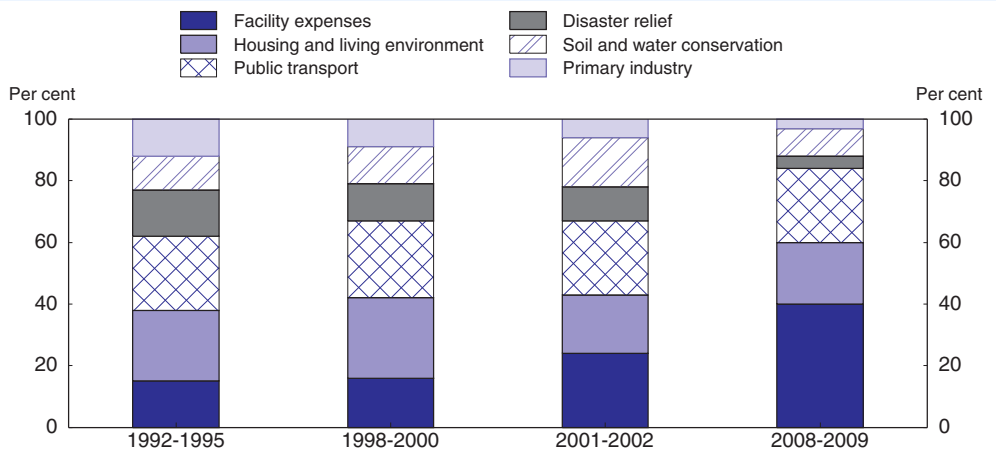
- The total size, including net additional spending, tax cuts and financial measures, is four times larger (in per cent of annual GDP) than in the previous three episodes. This is primarily due to the large size of financial measures, such as recapitalisation of financial institutions, loans to enterprises and guarantees on loans to SMEs, to cope with the financial-sector origins of this recession. However, the amounts shown in Table 3.3 indicate the maximum funding levels, which may not be reached.

Box 3.1. **Comparison of 2008-09 fiscal stimulus to previous packages** *(cont.)*

- Reductions in taxes and social contributions are only half that in the previous three episodes.
- Net additional spending per year is more than double that in the previous three episodes.
- The share of spending on social insurance is relatively small compared to earlier episodes, when stimulus packages were used to reduce anticipated deficits in social insurance programmes. In contrast, social assistance is large, reflecting the range of measures to help low-income households.
- Employment-related spending is more than double the average of past episodes, reflecting measures to expand employment insurance coverage and employment subsidies.
- Central government transfers to local governments account for almost a quarter of additional net spending to avoid pro-cyclical tightening.
- SME-related spending is relatively large at 14% of total spending, reflecting more generous credit guarantee treatment by public financial institutions. In addition, the 3.7 trillion yen to capitalise public financial institutions is larger than the previous episodes combined and will facilitate public lending to SMEs.

The share of public investment is substantially less than the average of the previous three episodes, when it accounted for almost four-fifths, reflecting an explicit effort to avoid repeating past mistakes of investing in unnecessary infrastructure. Moreover, the composition of public investment has changed (Figure 3.1). An effort to improve the quality and energy efficiency of public buildings, including schools, doubled the share of facility expenses from an average of 17% of total public investment in the previous three episodes to 40% in 2008-09. Such investment is likely to have a more immediate impact on economic activity than traditional infrastructure projects. The increased investment in public buildings was balanced by declines in investment in primary industries and disaster relief. In sum, the fiscal stimulus packages in 2008-09 are better designed than those in past episodes.

Figure 3.1. **Allocation of public investment**




*Source:* Ministry of Finance, Cabinet Office, and OECD Secretariat calculations.

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1. Five economic packages did not include supplementary budgets as they were designed to promote specific regulatory changes.

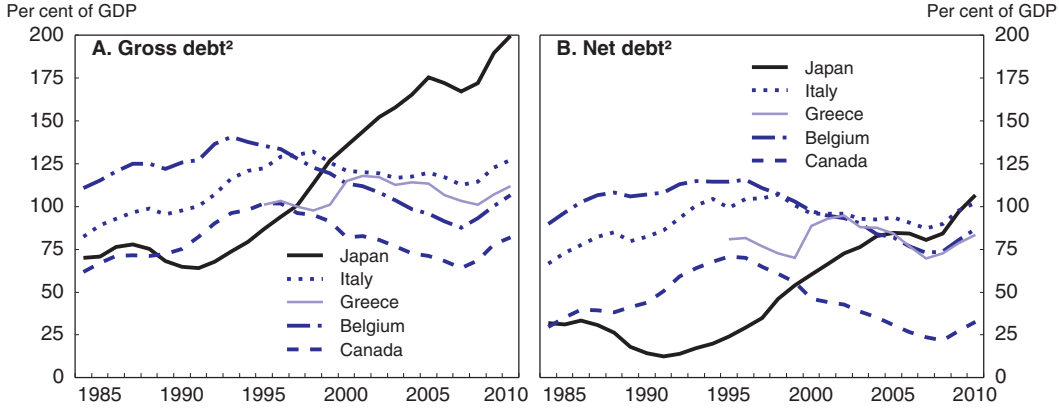
by population ageing. Although social spending was relatively stable between 2003 and 2007, reflecting measures to raise the pension eligibility age and to limit health spending by cutting medical fees and prices and boosting co-payment rates, a significant expansion is expected in coming years in the absence of further reform measures.

The large budget deficit and the decline in output are projected to put renewed upward pressure on the public debt ratio. Gross debt rose from 64% of GDP in 1991 to 175% in 2005, by far the highest in the OECD area, before declining in the following two years (Figure 3.2).[5] On a net basis, debt has also risen substantially, largely due to the primary budget deficits recorded every year since 1991 (Figure 3.3). Another factor has been the slow growth of nominal GDP, which increased at an annual rate of less than 0.5% since 1991 in the context of deflation. Weak output growth makes it difficult to stabilise the government debt ratio, which requires that nominal GDP grow as fast as the stock of government debt. On the other hand, the decline in interest payments has helped limit both the budget deficit and public debt. Indeed, interest payments fell from 3.3% of GDP in 2000 to 2.6% in 2008 despite the increase in public debt, thanks to a decline in borrowing rates (Figure 3.4).The effective interest rate paid on government gross debt dropped from 2.7% in 2000 to 1.5% in 2008. It averaged 1.7% over the period 2001-08 compared to 4.6% during the 1990s.[6]

The fall in long-term interest rates and their stabilisation at a low level reflects a number of factors:

- Japan has abundant domestic savings and significant home bias that keeps those funds in Japan.[7] Although the household saving rate has declined significantly since 2000, it was offset during the first half of the decade by rising corporate surplus saving as firms deleveraged (Figure 1.8). Corporate surplus saving then declined in 2006-07 in the context of strong output growth. This also boosted tax revenue, thereby reducing government net borrowing and helping to maintain domestic saving and low interest rates.

Figure 3.2. **Gross and net debt in selected OECD countries**[1]




1. The five countries with the highest gross debt ratios in the OECD area in 2000.
2. OECD estimates for 2008 and projections for 2009-10.

*Source:* OECD (2009b), *OECD Economic Outlook*, No. 85, OECD, Paris.

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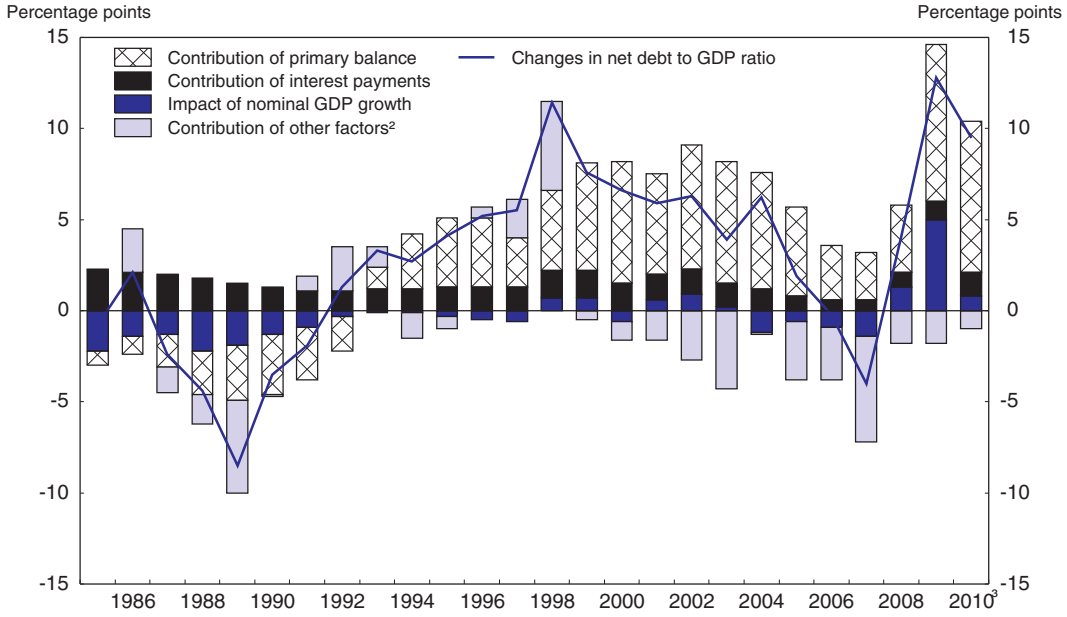
Figure 3.3. **Factors explaining changes in the net public debt ratio**[1]




1. The formula is as follows: $(B_0/Y_0) - (B_{-1}/Y_{-1}) = (B_{-1}/Y_0) * (i\text{-}g) + PB_0/Y_0 + e$, where B, Y, I, g, PB and e represent net debt, nominal GDP, the effective interest rate, the GDP growth rate, primary balance and other factors, respectively.
2. Other factors, which are calculated as a residual, include changes in asset prices, net income from asset sales, transfers to or from public financial institutions, and acquisitions of asset and liabilities from non-government institutions that are not recorded in the flow data.
3. OECD estimates for 2008 and projections for 2009-10.

*Source:* OECD (2009b), *OECD Economic Outlook*, No. 85 Database, OECD, Paris.

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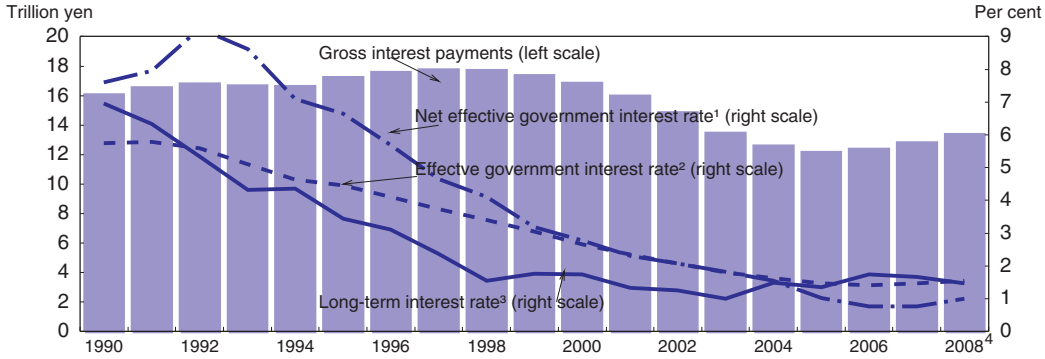
- About half of government bonds are held by the public sector (Figure 3.5), meaning that net debt is significantly lower than gross debt in Japan (Figure 3.2). Holdings of the remaining government bonds are relatively concentrated in financial institutions

Figure 3.4. **Interest payments by the government**




1. Defined as interest payments minus interest receipts divided by net government debt.
2. Defined as interest payments divided by gross government debt.
3. Ten-year government bonds.
4. OECD estimate for interest payments and receipts in 2008.

*Source:* Cabinet Office and OECD Secretariat calculations.

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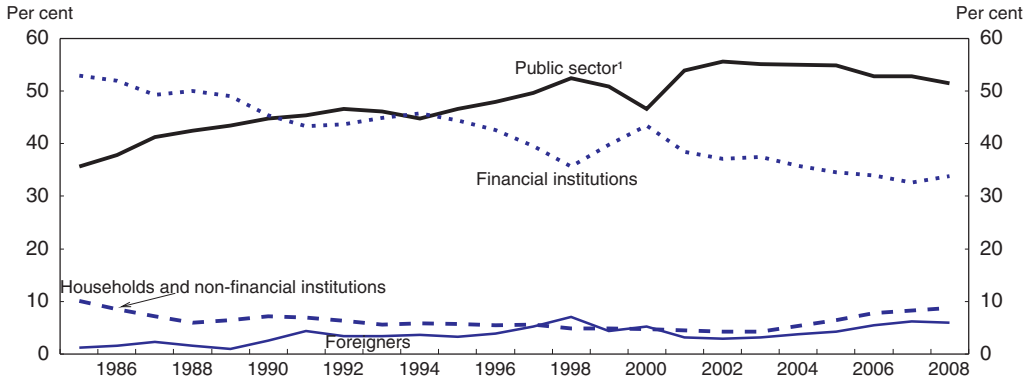
Figure 3.5. **Ownership of government bonds in Japan**

In per cent at the end of each fiscal year




1. The public sector includes the general government, central bank, public financial and non-financial corporations and Japan Post Bank and Japan Post Insurance, which became separate companies due to the privatisation in 2007 and aim to be listed on the stock market in the early 2010s.

*Source:* Bank of Japan, Flow *of Funds*.

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including banks and insurance companies. Consequently, households, non-financial firms and foreigners each hold less than 10% of outstanding government bonds. The risk-free weight of government bonds in BIS regulations and their safety during deflationary periods encourages banks to hold them. In addition, investment rules and asset allocation models encourage long-term investors, such as pension funds and insurance companies, to hold government bonds.

- The financial crisis resulted in a flight of capital to safer assets, pushing down the interest rate on government bonds in Japan and other countries.

Looking ahead, the normalisation of financial conditions and a recovery in loan demand are likely to involve a general increase in long-term interest rates. Assuming a rise in Japan's long-term interest rate to 2.2% by the end of 2010, the OECD projects that gross public debt will reach 200% of GDP (100% for net debt, which would also be the highest in the OECD area). The rising level of debt increases the risk of a more significant increase in interest rates in coming years. Indeed, a common finding in the economic literature is that fiscal imbalances boost long-term interest rates.[8] In Japan, the outlook also depends in part on whether the factors that have reduced rates and kept them at a relatively low level in recent years will remain in place. A weakening in home bias and a decline in financial institutions' purchases of government bonds could contribute to a rise in interest rates. The risk of increasing interest rates going forward lends urgency to Japan's efforts to overcome its budget deficit problem.

## Past measures to improve the fiscal situation

### *Basic Policies for Economic and Fiscal Management and Structural Reform 2009*

In June 2009, the government released *Basic Policies 2009*, which outlines key directions for the coming years. The target set in 2006 to achieve a primary budget surplus for central and local governments in FY 2011 is no longer feasible given the global financial crisis and the stimulus packages. Indeed, the combined central and local government primary budget deficit is projected to worsen from 1.3% of GDP in FY 2007 to 8.1% in FY 2009. In addition, the objective of creating "a medium-level welfare state" (see below) has changed spending

plans, leading to a decision not to cut social spending in FY 2010. Overcoming the recession is now the priority.[9] The former government set a medium-term target to stabilise the public debt-to-GDP ratio in the mid-2010s, and reduce it steadily from the early 2020s. This is to be realised by cutting the primary budget deficit by half by FY 2013 and achieving a surplus by FY 2019.

In order to limit the run-up in debt and the risk of higher interest rates, it is important to achieve at least the pace of fiscal consolidation targeted by the government's *Basic Policies 2009*. Additional fiscal stimulus would not be appropriate, because there is a risk that its positive impact would be offset by higher interest rates in light of the current fiscal situation. Given that the government's basic target was the public debt ratio, it would be better to focus on the overall budget balance, which determines the evolution of debt, rather than the primary balance.

### *Medium-term Programme for Establishing a Sustainable Social Security System*

*Basic Policies 2009* incorporated the December 2008 plan approved by the Cabinet, the *Medium-term Programme for Establishing a Sustainable Social Security System and Securing Its Stable Revenue Sources* (hereafter, the *Programme*), for tax and social policy reform that pursues the establishment of a "medium-level welfare society" matched with a "medium-level burden" to finance it. It is based on the premise that Japan, with public social spending of 18.6% of GDP in 2007, should aim at a "medium-level welfare society" somewhere between the United States, at 16%, and some European countries, where public social spending approaches 30% (Figure 1.10).[10] The vision of an upgraded social welfare system, as spelled out in the final report of the National Commission on Social Security (2008) includes: *i)* strengthening the basic pension to provide minimum income security; *ii)* promoting the co-ordination of health and long-term care (see Chapter 4); and *iii)* developing child-care services. The *Programme* is a reversal of the 2006 Integrated Reform of Expenditures and Revenues, which aimed at reducing the growth of social spending from its baseline level. This planned spending restraint provoked public dissatisfaction, even though its targeted growth rate of 4% was double the 1.9% average recorded between 2000 and 2007.

In the *Programme's* vision of a welfare state, the objective of tax reform is to fund expanded social spending and to make up for the existing revenue shortage for such programmes, thereby striking a balance between ensuring a sense of security among present generations and taking responsibility for future generations. However, the implementation of tax reform is contingent on an economic recovery. Consequently, additional tax revenue was not available to finance the hike in the government's contribution to the basic pension from a third to a half in FY 2009.

### *Reform of the pension system*

The 2004 reform of the public pension system is intended to limit outlays to around 9% of GDP through FY 2015 and ensure the sustainability of the system for 100 years. *First*, the pension contribution rate is being gradually increased from 13.6% in FY 2004 to 18.3% by FY 2017. *Second*, the government contribution to the basic pension was increased from one-third to one-half in FY 2009. *Third*, pension spending will be limited through "macroeconomic indexation", which adjusts the growth rate of benefits based on changes in the number of contributors and life expectancy. Indexation will be introduced once the consumer price index rises 1.7% above its 2005 level,[11] a condition that has not yet

been met.[12] The 2004 reform also requires that the average replacement rate for a couple with a dependent spouse, which was 62.3% in FY 2009, remain above 50%. The rates for some individuals, notably relatively high-income persons and single persons, are already below that lower bound. Indeed, the gross replacement rate of a single person is only 34%, the second lowest among OECD countries (OECD, 2009d). With these reforms, the public pension system is expected to remain sustainable, defined as a Fund at least large enough to cover annual expenditure in the preceding year, through 2105 (Table 3.4).[13]

The projections are sensitive to the economic and demographic assumptions and additional reforms may become necessary in the future if the assumptions are not met. The 2009 projection assumes a higher rate of return at 4.1% (compared to 3.2% in the 2004 projection) and wage growth of 2.5% (compared to 2.1%), thus widening the gap between the return on investment and wages from 1.1% to 1.6%. It is questionable, though, whether the current portfolio can generate returns consistent with this projection.[14] If further reforms become necessary, one option would be to allow the average replacement rate to fall below 50%. However, the scope for decline is limited as it may discourage contributions to the public pension scheme in favour of relying on social assistance, although the latter is subject to an asset test. Already in 2009, 39% of those covered by the National Pension System (the self-employed, non-regular workers and others not included in the Employees' Pension System) did not pay their contributions. A second option, a further hike in the contribution rate, should be avoided as it would have an adverse impact on the labour market. The best option would be to further raise the pension eligibility age in line with the increase in life expectancy.[15] This should be accompanied by reforms in the labour market and working environment to encourage the participation of older workers.

Table 3.4. **Long-run projections for the public pension system**[1]

| | 2004 projection | | | | | 2009 projection | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Revenue | Expenditure | Balance | Fund | Ratio to outlays[2] | Revenue | Expen-diture | Balance | Fund | Ratio to outlays[2] |
| 2005 | 32.3 | 36.1 | –3.8 | 174.7 | 4.9 | | | | | |
| 2006 | 34.1 | 37.4 | –3.3 | 171.4 | 4.7 | | | | | |
| 2007 | 35.8 | 38.6 | –2.8 | 168.7 | 4.4 | | | | | |
| 2008 | 37.8 | 39.9 | –2.1 | 166.5 | 4.2 | | | | | |
| 2009 | 41.5 | 41.5 | 0.0 | 166.5 | 4.0 | 39.7 | 40.5 | –0.8 | 154.4 | 3.8 |
| 2010 | 43.2 | 42.6 | 0.6 | 167.0 | 3.9 | 39.9 | 41.4 | –1.6 | 152.8 | 3.7 |
| 2015 | 50.5 | 47.3 | 3.2 | 176.3 | 3.7 | 50.4 | 48.1 | 2.4 | 155.1 | 3.2 |
| 2020 | 56.5 | 49.7 | 6.8 | 204.2 | 4.0 | 59.9 | 51.8 | 8.1 | 185.5 | 3.4 |
| 2025 | 61.8 | 52.5 | 9.3 | 246.3 | 4.5 | 66.8 | 55.2 | 11.6 | 236.2 | 4.1 |
| 2030 | 67.4 | 57.5 | 9.9 | 295.8 | 5.0 | 74.1 | 59.4 | 14.7 | 304.8 | 4.9 |
| 2040 | 77.4 | 73.5 | 3.9 | 368.8 | 5.0 | 88.0 | 75.9 | 12.1 | 447.0 | 5.7 |
| 2050 | 86.6 | 87.8 | –1.2 | 377.0 | 4.3 | 101.8 | 93.8 | 8.0 | 544.3 | 5.7 |
| 2060 | 95.3 | 97.7 | –2.4 | 356.3 | 3.7 | 114.5 | 110.6 | 3.8 | 603.2 | 5.4 |
| 2070 | 103.1 | 107.3 | –4.2 | 324.1 | 3.1 | 124.2 | 127.7 | –3.4 | 602.1 | 4.7 |
| 2080 | 111.9 | 117.8 | –5.9 | 273.1 | 2.4 | 132.6 | 140.5 | –7.9 | 540.3 | 3.9 |
| 2090 | 123.1 | 130.0 | –6.9 | 207.4 | 1.6 | 141.2 | 153.5 | –12.3 | 439.4 | 2.9 |
| 2100 | 136.7 | 143.9 | –7.2 | 136.7 | 1.0 | 148.6 | 169.5 | –20.9 | 272.3 | 1.7 |
| 2105 | | | | | | 151.9 | 178.2 | –26.3 | 151.9 | 1.0 |

1. The sum of projections for the National Pension System and the Employees' Pension System. Figures are in trillion yen unless otherwise noted.
2. Ratio of the Fund at the end of the previous year to annual pension outlays.

*Source:* Ministry of Health, Labour and Welfare (2009b) and OECD Secretariat calculations.

Many working spouses limit their working time and earnings to avoid social insurance and/or tax burdens. Secondary earners with an annual income below 1.3 million yen ($13 700) are exempt from social insurance premiums for pensions, health care and long-term nursing care, as long as they work less than three-quarters of the working hours or days of regular workers. The same exemption applies to firms, giving them an incentive to hire part-time workers to avoid insurance co-payments. Reducing disincentives for full-time employment of secondary earners would encourage labour supply and help reverse the rising share of non-regular workers. A revision proposed to the Diet in 2009, although it did not pass, aimed at expanding the coverage of the Employees' Pension System by changing the criteria for inclusion:

- At least 20 hours of work per week compared to about 30 hours under the current system.
- A reduction in the earnings threshold to 1.18 million yen a year. An exemption for low-income persons from social contributions, as from income tax, makes sense. However, there is no reason to also exempt employers. Given that the self-employed pay the fixed amount of National Pension System premiums as both employer and employee, it would be reasonable for employers to pay the pension co-payments of all employees regardless of their wage level.[16] This would also narrow the gap in labour costs between regular and non-regular workers, a factor fuelling labour market dualism.
- At least one year of employment, which is aimed at limiting the administrative burden on employers, is required. However, the size of any burden should be very small as the necessary information for social insurance premiums should be virtually identical to that for income tax. If such burdens are in fact significant, the best solution would be to harmonise administrative procedures between tax and social insurance systems rather than maintain a time criteria for employment. Such harmonisation could be achieved by introducing a social security card.

The proposed reforms would only boost the number of workers eligible for the Employees' Pension System by 0.1 to 0.2 million, generating additional premium payments of 10 billion to 20 billion yen. A more extensive reform of the criteria for the exemption of firms from co-payments for pension premiums would reduce inequality across different types of employment contracts and promote labour supply.

## Policies to achieve fiscal sustainability

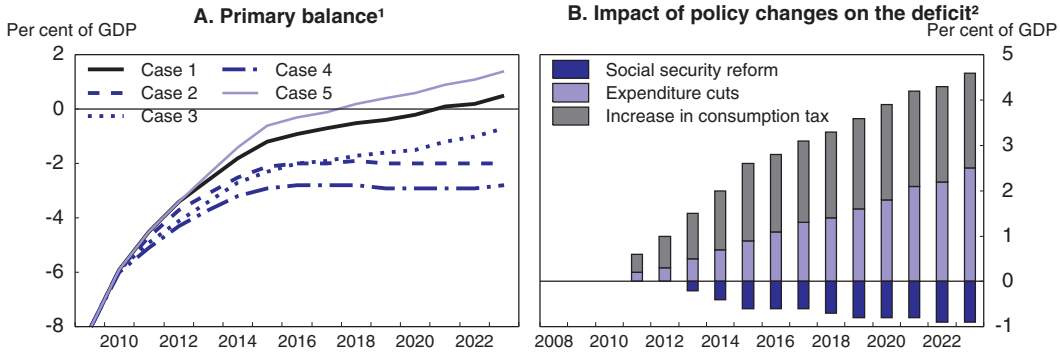
### *The government's June 2009 Reference Projection*

The June 2009 *Reference Projection* provided a quantitative picture of how fiscal consolidation can be achieved. Figure 3.6 shows the evolution of the primary balance of central and local governments in the scenario of a steady recovery in the world economy.[17] The five cases, explained in Table 3.5 correspond to different combinations of policies with respect to: the consumption tax (left at 5% or raised to 10%), cuts in spending (11.4 trillion yen or 14.3 trillion yen) and reform of the social security system. A number of important results emerge from the *Reference Projection*:

- If the consumption tax were to remain at 5% (Cases 3 and 4), the primary deficit in FY 2023 is projected at between 0.7% and 2.8% of GDP (depending on the size of spending cuts) even without social security reform. In short, achieving a primary surplus is not possible without a hike in the consumption tax rate.[18]
- Social security reform is expected to boost the primary deficit by almost 1% of GDP (Figure 3.6, Panel B). Achieving a primary budget surplus (Case 1) would require doubling

Figure 3.6. **The 2009 *Reference Projection***

Primary balance of central and local governments as a per cent of GDP




1. The five cases from the *Reference Projection* are explained in Table 3.5.
2. The bars indicate the change in the primary budget balance of central and local governments resulting from a reform of social security, spending cuts and an increase in the consumption tax from 5% to 10%.

*Source:* Cabinet Office (2009a) and OECD Secretariat calculations.

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Table 3.5. **The different cases in the *Reference Projection***

| | Consumption tax | Cut in spending | | Reform of social security? | Primary balance in 2023[1] |
|---|---|---|---|---|---|
| | | By FY 2011 | After FY 2012 | | |
| Case 1 | Raised to 10% | 14.3 trillion yen | Constant in nominal terms | Yes | 0.5 |
| Case 2 | Raised to 10% | 11.4 trillion yen | Constant in real terms | Yes | –2.0 |
| Case 3 | Unchanged at 5% | 14.3 trillion yen | Constant in nominal terms | No | –0.7 |
| Case 4 | Unchanged at 5% | 11.4 trillion yen | Constant in real terms | No | –2.8 |
| Case 5 | Raised to 10% | 14.3 trillion yen | Constant in nominal terms | No | 1.4 |

1. Primary balance of central and local governments as a per cent of GDP.

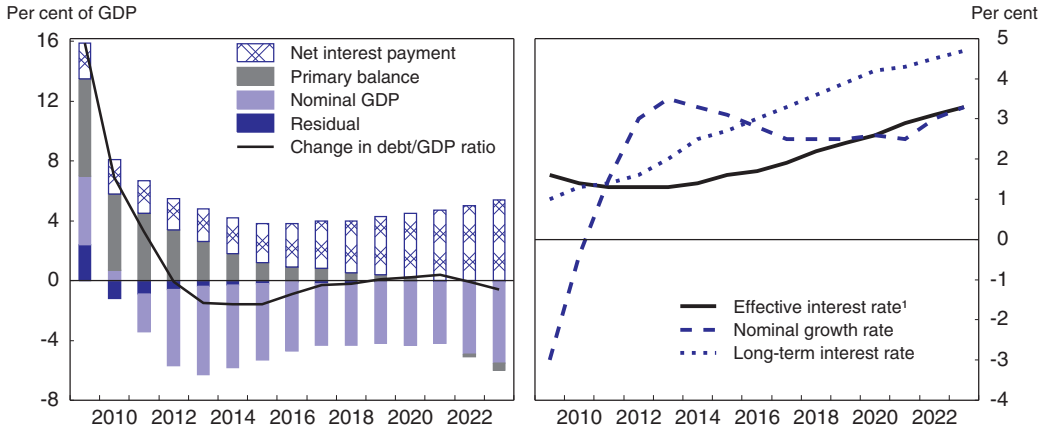
*Source:* Cabinet Office (2009a).

the consumption tax to 10% as well as cutting spending by 14.3 trillion yen (2.8% of 2008 GDP) and keeping it fixed in nominal terms thereafter.

Even with a primary budget deficit until at least FY 2021, the debt ratio is projected to stabilise from FY 2012 in Case 1 (Figure 3.7), as the projected rise in nominal GDP offsets continued primary budget deficits and rising net interest payments. This relatively benign outcome depends, however, on the key assumption that the effective interest rate on government debt is less than the growth rate of nominal GDP through FY 2020. Nominal growth is boosted by a projected pick-up in inflation; during the decade from FY 2013, the annual increase in the consumer price index in the *Reference Projection* remains consistently above the 1% midpoint of the Bank of Japan's understanding of price stability (0 to 2%) and above the 2% upper bound in the final four years. In addition, the effective interest rate on government debt lags behind the expected rise in the long-term interest rate, as it is held down by the maturity of government debt, which averages around five years.

The *Reference Projection*'s assumptions differ markedly from those in the OECD's medium-term scenario,[19] which has a higher effective interest rate, lower nominal and real GDP growth and lower inflation between 2010 and 2017 (Table 3.6). As a result, the OECD scenario shows an increase in the debt ratio over that period, in contrast to the slight decline in the *Reference Projection*, even though the OECD scenario is based on a larger reduction in the fiscal deficit (5.5 percentage points *versus* 4.8 points).[20]

Figure 3.7. **Debt dynamics in Case 1 of the *Reference Projection***




1. Defined as interest payments minus interest receipts divided by gross government debt (net debt is unavailable).

*Source:* Cabinet Office (2009a) and OECD Secretariat calculations.

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In sum, the early stabilisation of the debt ratio in the *Reference Projection* hinges on nominal GDP growth exceeding the effective government interest rate for several years during the 2010s, which is not the historical norm, making it unlikely to occur consistently in the future. The effective rate in Japan has averaged 3.3% since 1990, considerably above the 0.9% nominal GDP growth rate. While this certainly was influenced by Japan's economic stagnation during the 1990s, an effective interest rate that is higher than the nominal growth rate is the norm in the OECD area. Indeed, the average effective interest rate has exceeded the nominal growth rate by about two percentage points between 1990 and 2008.[21] In Japan, nominal growth may exceed the effective interest rate for several years during the 2010s as output growth picks up and the large output gap closes,[22] as in the OECD's medium-term scenario. Such an outcome would help slow the build-up of public debt. However, this situation is unlikely to last as ageing will drag down economic growth, while the high and

Table 3.6. **Comparison of medium-term fiscal scenarios**

| | OECD's medium-term scenario | | Reference Projection[1] | |
|---|---|---|---|---|
| | 2010 | 2017 | FY 2010 | FY 2017 |
| Potential GDP growth rate | 0.8 | | 1.0 | |
| Effective interest rate[2] | 1.9 | | 1.5 | |
| Nominal GDP growth rate | 2.2 | | 2.8 | |
| Real GDP growth rate | 1.7 | | 2.1 | |
| GDP deflator | 0.5 | | 0.7 | |
| Unemployment rate | 5.7 | 4.3 | 5.4 | 4.1 |
| Fiscal balance/ GDP[3] | –8.7 | –3.2 | –8.8 (–8.1) | –4.0 (–3.9) |
| Gross financial liabilities/GDP[4] | 200 | 208 | 170 | 168 |

1. Case 1 in Table 3.5.
2. The effective rate in the *Reference Projection* is calculated as net interest payments divided by gross liabilities as defined by the government.
3. General government basis. The figures in parentheses show the balance of central and local governments combined that is consistent with gross financial liabilities in those years.
4. The coverage of debt in the OECD's medium-term scenario is different from that in the *Reference Projection*. See footnote 20.

*Source:* OECD (2009b), *OECD Economic Outlook*, No. 85 and Cabinet Office (2009a).

rising level of public debt will tend to push up interest rates. Therefore, faster consolidation than envisioned by the government may well be needed to ensure that the public debt-to-GDP ratio stabilises from the mid-2010s and falls from the early 2020s.

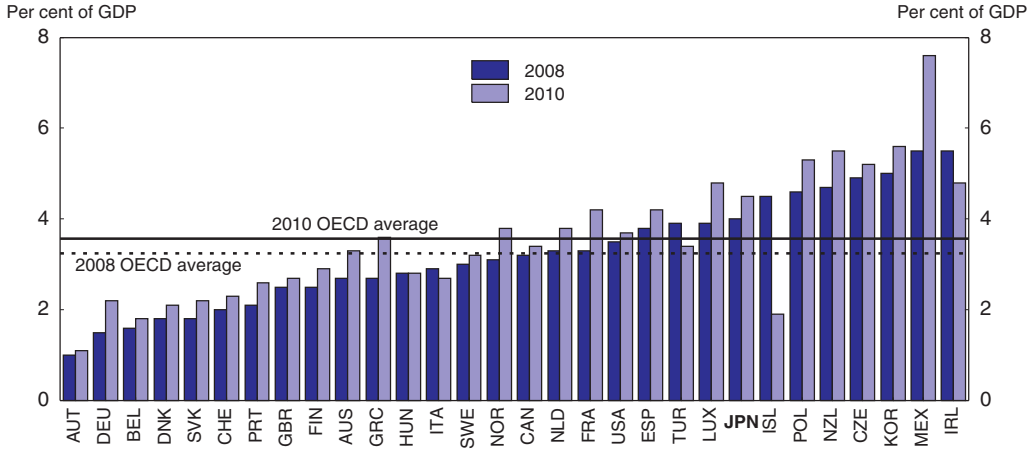
### *The scope for spending reductions*

Increased social spending is projected to raise the primary deficit by almost 1% of GDP by FY 2023, as noted above, while expenditure reductions in other areas would reduce it by 2.5%. Between 2002 and 2007, public spending was cut by 2.8% of GDP. However, future spending reductions are more difficult given that public investment has already been scaled back to a large extent. This section will focus on the scope for additional cuts in public investment and in the government wage bill.

#### *Public investment*

Public investment, including by public enterprises, fell from 8.4% of GDP in 1996 to 4.0% in 2008 (Figure 3.8), closer to the OECD average of 3.3% of GDP. The fiscal stimulus packages implemented in many OECD countries in the wake of the global crisis are projected to raise the OECD average by 0.3% of GDP by 2010, compared with a 0.7% increase in Japan. It is essential to unwind this increase in public investment, as shown in the *Reference Projection*, which included a decline from 4.5% of GDP to around 3½ per cent, the current OECD average. However, further declines would raise concerns about regional income disparities and the need to maintain existing public infrastructure.

Figure 3.8. **Public investment in OECD countries**




*Source:* OECD (2009b), *OECD Economic Outlook*, No. 85, Paris, OECD.

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Public investment has long been used to promote regional equality; low-income prefectures thus tend to receive more of it (2008 *OECD Economic Survey of Japan*). However, public investment has not been an efficient tool for reducing regional inequality as it has failed to create a foundation for sustainable growth and the marginal gains, in terms of attracting private investment, are small relative to the cost. The allocation of public investment, therefore, should be driven more by economic criteria, while regional inequality is addressed through other measures, such as well-targeted social welfare programmes, tax

transfers among prefectures and policies to boost productivity growth in services. However, such policies should not be allowed to discourage economically rational migration.

The rising share of public investment needed to maintain and renew existing infrastructure is another constraint on further reducing spending. According to the Ministry of Land, Infrastructure and Transport (2005), expenditure on maintenance and renewal will exceed the amount of new investment by 2011 and will totally crowd out new investment by 2022, if the pace of spending cuts in *Basic Policies 2006* were achieved. However, this calculation assumes that the existing stock of infrastructure is maintained, which is not economically efficient in the context of a falling population, internal migration and population ageing. Japan's working-age population is projected to fall by 13% between 2010 and 2025, with the extent of the decline ranging from 3% to 27% in Japan's 47 prefectures. Meanwhile, the population over 65 will rise by 24% nationwide, with the rate of increase by prefecture varying between 8% and 47%. Such shifts imply that the type and quantity of public infrastructure needed will change rapidly. The government should thus write off unnecessary infrastructure to make room for new investment.

Further cuts in public investment should be accompanied by measures to increase its efficiency. The government aimed at reducing the "general cost index" – which reflects the current cost as well as the duration and future maintenance costs of public works – by 15% between FY 2002 and FY 2007. In the event, a 14% reduction was achieved. The government targeted another 15% cut in a new composite index that takes into account technological and environmental factors between FY 2007 and FY 2012 (Cabinet Secretariat, 2008a and 2008b). This new programme should enhance the efficiency and transparency of public works by providing a common basis to evaluate quality and efficiency.

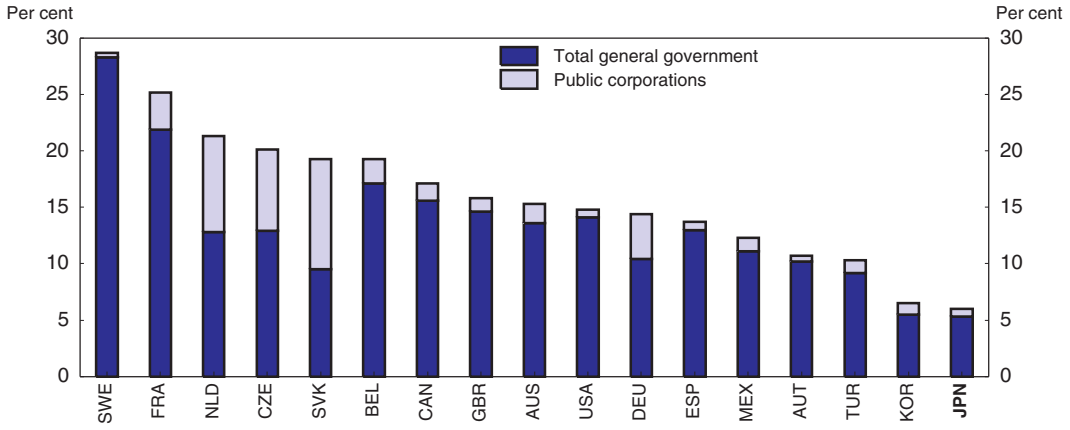
### *Increasing the efficiency of government and reducing its size*

The *Reference Projection* maintained the target in *Basic Policies 2006* of reducing the government wage bill by 0.5% of GDP by FY 2011 below a baseline that assumes 3% nominal GDP growth and no reform. This was to be achieved by cutting employment and reforming the wage system. Indeed, central government employment in FY 2009 is 6.8% below that in FY 2005 and 5.5% below for local governments. However, the scope for cutting the size of the central government is limited by the fact that its workforce is already small. Indeed, there were only 2.6 central government workers per 1 000 population in Japan, compared to 4.0 in the United States in 2006 (2008 *OECD Economic Survey of Japan*). Given that workers in the central government account for only one-tenth of public-sector employees in Japan, efforts to reduce the public-sector wage bill should focus on local governments and public enterprises. However, overall government employment is also low as Japan has the lowest share of public workers in the labour force of any OECD country (Figure 3.9). Moreover, the share has continued to decline since 2005 (Figure 3.10).

Despite the cut in the number of employees and deflation, the budgeted wage bill of central and local governments fell by only 2.6% between FY 2005 and FY 2009 due to continued wage gains. Indeed, since 1996, public-sector wages have increased by 18%, compared to only 5% in the private sector (Figure 3.10).[23] This widening gap does not reflect greater productivity gains but a number of other factors, including a sharper increase in low-paid non-regular workers in the private sector. In addition, the public sector has a steeper wage-tenure profile and more downward rigidity in wages. The large number of people retiring also has a bigger effect on the public sector, as the longer average tenure boosts the lump-sum retirement allowances by more than in the private sector.

Figure 3.9. **Employment in government and public corporations in OECD countries**

In per cent of labour force in 2005 or latest year



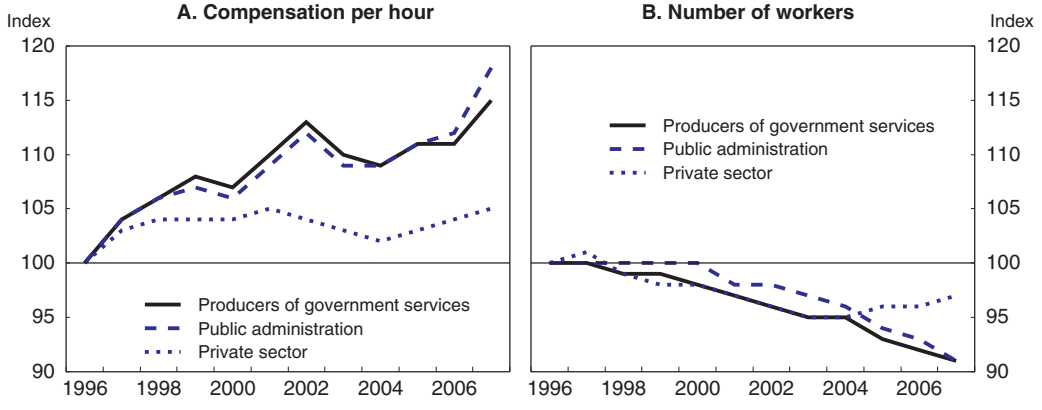

*Source:* OECD (2008a).

StatLink http://dx.doi.org/10.1787/725420722670

Reductions in the government wage bill should be accompanied by policies that enhance productivity and efficiency in the public sector. The priority should be to further reform aspects of the rigid and closed wage and employment system, such as the steep seniority-based wage curve and the retirement pay structure that discourages job changes, resulting in low labour mobility. In this regard, the full implementation of the planned reform of the remuneration and retirement pay structure in FY 2010 is expected to help alleviate the problem. Introducing more flexible career paths and wage structures, combined with active personnel exchanges with the private sector, would enhance productivity. Privatisation and greater use of the 2006 market-testing initiative to outsource activities to the private sector, where appropriate, may further reduce the government wage bill.

Figure 3.10. **Changes in wages and number of workers in the private and public sectors**

1996 = 100




*Source:* Cabinet Office, *National Accounts*.

StatLink http://dx.doi.org/10.1787/725440024780

Furthermore, there is scope to reduce the wages of local government workers. The variation in public-sector wages across regions does not appear to accurately reflect differences in cost of living. In particular, the gap between public and private-sector employees is larger in lower-income areas, suggesting scope for reducing the local government wage bill (2008 *OECD Economic Survey of Japan*).

### *The need for additional revenue: size, timing and instruments*

Since the early 2000s, spending cuts have been the priority in the government's plan to achieve a surplus in the primary balance of the combined central and local government budgets by FY 2011. In contrast, there were few measures to increase tax revenues. The *Reference Projection* assumed a hike in the consumption tax rate from 5% to 10% in Case 1.[24] However, a number of factors suggest that an even larger revenue increase may be necessary:

- The size of the reductions in spending in the *Reference Projection* – a 2.8 percentage point of 2008 GDP cut by FY 2011 and constant in nominal terms thereafter (Case 1) – appears extremely challenging, even given the scope for reducing public investment and the government wage bill noted above. Indeed, the latter condition implies a 23% reduction in inflation-adjusted terms by FY 2023. Failure to meet the spending targets would require a larger revenue increase.
- Even if the spending targets were met and the consumption tax rate were raised to 10%, the *Reference Projection* (Case 1) shows a primary budget deficit through FY 2020. This seems incompatible with the objective of stabilising the debt ratio from the mid-2010s and reducing it from the early 2020s. Indeed, the debt ratio is constant between FY 2020 and FY 2023 even in Case 1 (see Figure 3.7).
- Continuing to run primary budget deficits for more than a decade leaves Japan vulnerable to a loss of market confidence in the sustainability of its public finances, pointing to the need for larger revenue increases to accelerate fiscal consolidation.

In addition to the size of the necessary revenue increases, there is also the question of timing, which was debated in the preparation of the FY 2009 tax law. Clearly, tax increases are contingent on an economic recovery. The Council on Economic and Fiscal Policy (CEFP) argued that tax reform should be implemented once observed growth exceeds potential.[25] While appealing theoretically, this approach has difficulties. *First*, there is great uncertainty about the potential growth rate, which has only increased since the onset of the crisis. *Second*, it is thought to be difficult in Japan to quickly implement a hike in the consumption tax rate once the condition is met, given the necessary administrative procedures and preparations. Thus, the authorities should be prepared to move ahead promptly with tax reform once a recovery is in place, rather than waiting for a mechanical trigger point.

The *Programme* offered a number of ideas for tax reform. *First*, additional consumption tax revenues are to be spent only on the social security system, *i.e.* pensions, health and long-term care and measures to raise the birth rate. *Second*, the personal income tax system should be revised by increasing the tax burden on high-income earners and reducing that on middle and low-income earners. *Third*, the corporate tax rate should be reduced and the base broadened. Given that the latter reforms may tend to be revenue-neutral, the consumption tax would be the primary source of additional revenue. However, the plan to dedicate additional consumption tax receipts to boosting social security outlays would mean that reducing the primary deficit from 8.1% of GDP in FY 2009 depends entirely on spending cuts and cyclical factors.

The recommendations in the 2008 *Survey* for a comprehensive tax reform plan for Japan remain pertinent, although little progress in implementing them has been achieved thus far (Table 3.7):

- The negative impact of taxes on economic growth can be minimised by shifting the composition of taxes from direct to indirect taxes. A hike in the consumption tax should thus be the main source of additional revenue, as proposed in the *Programme*.

Table 3.7. **Taking stock of structural reforms: reforming the tax system**

| Recommendations in the 2008 *Survey* | Actions taken or proposed by the authorities |
|---|---|
| ***Consumption tax*** | |
| Boost the consumption tax rate from 5% to raise additional revenue and increase the share of indirect taxation. | No action taken. |
| Maintain a single consumption tax rate to avoid the complications inherent in multiple-rate systems. | No action taken. |
| Retain flexibility in allocating additional tax revenue. | No action taken. |
| As the consumption tax rate is increased, maintain the share that is allocated to local governments. | No action taken. |
| ***Corporate income tax*** | |
| Reduce the statutory tax rate by phasing out local taxes on corporate income. | No action taken. However, the temporary reduction in the national corporate rate for SMEs from 22% to 18% has reduced the tax base of the local inhabitant tax on corporations. |
| Broaden the corporate tax base by reducing the number and size of tax expenditures, particularly those that target specific industries and regions, thereby improving the allocation of resources. | The number of tax expenditures was unchanged while the amount fell slightly from 1.1 trillion yen in FY 2008 to 0.8 trillion yen in FY 2009. The ceiling on exemptions for entertainment expenses for SMEs was temporarily raised from 4 million to 6 million yen in 2009. |
| Maintain incentives only if rigorous cost-benefit analysis demonstrates that they expand productivity-enhancing activities to socially optimal levels. | No action taken. |
| Increase the proportion of firms that pay the corporate income tax by modifying generous exemptions allowed in the tax code, while retaining loss carryover provisions. | No action taken. |
| ***Personal income tax*** | |
| Raise additional revenue by broadening the income tax base, focusing on reducing the deduction for wage income and increasing the tax compliance of the self-employed. | No action taken. |
| Reform the deductions and allowances in the personal income and local inhabitant taxes that encourage secondary earners to limit their hours of work. | No action taken. |
| Reduce the preferential tax treatment of lump-sum retirement allowances in order to promote labour mobility. | No action taken. |
| Address income inequality primarily through the introduction of an Earned Income Tax Credit. | No action taken. |
| Reduce exemptions, which tend to benefit high-income households, such as the mortgage deduction, to help reduce income inequality. | No action taken. On the contrary, the mortgage deduction was extended and expanded as a part of fiscal stimulus. The amount of deduction for life insurance premiums was also expanded. |
| Strengthen pension taxation by reducing the deduction on benefits and taxing corporate-based pensions more strictly. | No action taken. On the contrary, the exemption of contributions to the defined contribution corporate pension plan was raised. |
| Broaden the base of the local inhabitant tax. | No action taken. |
| Continue to move in the direction of a unified tax on financial income at a uniform rate to reduce distortions in the allocation of capital, while expanding the scope of loss offsets between various financial investments. | The reduced tax rates on dividends and capital gains were extended for two years (until the end of 2011). Dividends on listed securities are combined with capital losses after January 2009. |
| ***Property and inheritance taxes*** | |
| Bring the assessment of property values used for tax purposes closer to market prices. | Preferred registration tax rates on real estate trade and entrustment were extended for two years. A new deduction scheme for long-term real estate holders was established. |
| Strengthen the role of the inheritance tax by reducing the basic deduction and raising the top tax rate, to promote equality. | No action taken. On the contrary, inheritance taxes for SMEs' equity and agricultural land were reduced. The exemption of gift taxes on bequests to family for housing investment was extended for two years. |

- The *Programme* proposed to allocate all consumption tax revenues to social security. Although earmarking may make it politically easier to raise the consumption tax rate, it could also limit flexibility in spending.
- Broadening the corporate tax base, thereby lowering the proportion of firms that do not pay tax, would allow scope for cutting tax rates, which would be positive for economic growth, as proposed in the *Programme*.
- There is also considerable scope for boosting revenue by broadening the personal income tax base, given that less than half of wage income is taxed. One priority is to increase the proportion of self-employed income that is taxed. Raising tax rates on high incomes, which are already above the OECD average, should be avoided as it would reduce work incentives. Relative poverty should be addressed through the introduction of an Earned Income Tax Credit.
- Tax reform should also focus on improving the local tax system, which is exceptionally complicated, with 23 taxes, while allowing only limited fiscal autonomy to local governments.

## Conclusion

Achieving fiscal consolidation will require a combination of discretionary spending cuts, reform of social insurance programmes and tax increases. The early announcement of a comprehensive medium-term consolidation programme, even if its implementation is conditional on actual economic developments, would sustain market confidence in fiscal sustainability and hold down the cost of financing higher debt levels. The key elements of such a programme are shown in Box 3.2.

### Box 3.2. **Recommendations to achieve fiscal sustainability**

- Phase out the spending increases and tax cuts in the stimulus packages once the recovery has taken hold.
- Achieve a pace of fiscal consolidation that is at least as fast as that targeted by the previous government's medium-term plan to limit the run-up in debt and the risk of higher interest rates.
- Ensure the sustainability of public pensions by further raising the pension eligibility age if additional reforms are necessary in the future.
- Implement a programme of spending cuts, once the recovery takes hold, focusing on:
  - Cutting public investment, while allocating it on the basis of efficiency criteria and demographic changes, thereby mitigating the impact of the reduction in investment outlays.
  - Reducing the government wage bill, focusing on local jurisdictions, where wage levels seem out of line.
- Implement a comprehensive tax reform, as recommended in the 2008 *OECD Economic Survey of Japan*, to provide additional revenue, while increasing efficiency to enhance Japan's growth potential.
- Retain flexibility in allocating revenues which could be limited by earmarking.

### *Notes*

1. The 2006 *Integrated Reform of Expenditures and Revenues* (CEFP, 2006), which was part of the *Basic Policies 2006*, established spending limits by category to achieve the FY 2011 target. It assumed 3% average annual nominal GDP growth over FY 2006-11.
2. In 2007, public social spending in Japan was 19% of GDP compared to an OECD average of 21%. According to one study, the stabilisation effect of social spending in Japan over 1980-2003 was the weakest among 11 major OECD countries under consideration (Furceri, 2009).
3. Such transfers do not directly boost effective demand. The overall figure also assumes that local governments spend the 0.6% of GDP in transfers from the central government rather than using it to reduce their own budget deficits, which would negate the intended economic stimulus.
4. In addition, the tax rate on some SMEs was reduced from 22% to 18% through FY 2010 and the basic exemption for gift taxes was expanded for a year to promote the transfer of housing to younger generations.
5. The decline was due to strong GDP growth and some one-off factors, notably a reduction in debt through a transfer from the Fiscal Loan Fund Special Account and the sale of government assets, which declined by 6.5%, from 397 trillion yen in March 2006 to 371 trillion yen in March 2007.
6. The effective interest rate on assets fell less, from 3.7% to 2% over that period, reflecting the fact that assets contain securities other than bonds. This helped reduce the net effective rate to below 1% in 2005-06.
7. One study compared the observed allocation of assets by international banks and their implied risk-returns against an optimal, risk-minimising allocation yielding a similar return (García-Herrero and Vázquez, 2007). The deviation of the actual allocation from the optimal one in Japan was 37 percentage points, biased toward domestic assets, from 1995 to 2004, the second largest gap among G7 countries after Italy.
8. See Table 3.5 in the *OECD Interim Economic Outlook* (March 2009). For example, Laubach (2003) finds that a 1 percentage point of GDP rise in expected fiscal deficits increases interest rates on ten-year US government bonds by about 25 basis points. There is also some evidence that interest rate effects are non-linear and tend to be greater at higher levels of indebtedness.
9. The annual revision of the mid-term policy plan, re-named the *Medium to Long-term Fiscal Policy and Economic and Fiscal Outlook for Next Ten Years* (hereafter the *Outlook*) in January 2009 had set an objective of achieving a surplus in the primary balance "as soon as possible", while "placing top priority on achieving an economic recovery" (Government of Japan, 2009b).
10. As noted in Chapter 1, there is a need for caution in comparing the percentages across countries, as these gross numbers do not include the impact of the tax system on social expenditure.
11. There was a temporary change in the indexation of pension benefits to prices. The fall in the consumer price index (CPI) between 1999 and 2001 was not reflected in pension benefits. To bring benefits back into line with prices, pension benefits will be adjusted in line with the CPI when it declines but not when it rises.
12. According to the 2009 *Reference Projection*, "macroeconomic indexation" will come into force sometime between FY 2012 and FY 2014 depending on economic developments and continue until 2038 when the replacement rate falls to 50.1%.
13. In the 2004 projection, indexation was projected to continue only until 2023. The expected delay of 15 years in ending indexation according to the 2009 projection is mainly attributable to changes in the population projection (MHLW, 2009).
14. Pension laws state that asset management should be "safe and efficient", thus giving little guidance. At present, 67% of the Fund is allocated to domestic bonds, 11% to domestic equities, 8% to foreign bonds, 9% to foreign equities and 5% to short-term liquidity.
15. In FY 2009, the eligibility age for receiving the flat-rate portion of the pension was 64 for men and 62 for women, respectively. It is to be raised to 65 in 2013 for men and in 2018 for women.
16. In Germany, for example, the lower boundary applies only to employees. Those earning less than € 400 per month do not have to pay social security contributions, but employers do have to pay. For earnings between € 400 and € 800, contributions increase gradually for employees. Thus, the incentive for non-regular employment applies only to employees and not to the employer.
17. There are also "rapid recovery" and "sluggish recovery" scenarios for the world economy.

18. Under the rapid recovery scenario, there is a case in which a primary budget surplus is achieved without any hike in the consumption tax rate.

19. The OECD's medium-term scenario is a stylised scenario based on a number of assumptions, including: *i)* the gap between actual and potential output is eliminated by 2017 and unemployment returns to its structural rate; *ii)* oil and commodity prices rise by 3% per annum in real terms; and *iii)* exchange rates remain unchanged in nominal terms (OECD, 2009b).

20. The definition of gross debt used in the *Reference Projection* – normal central and local government bonds and bank borrowing by the special account for the local allocation tax – is narrower than the OECD's general government measure. The OECD's SNA-based measure also includes Zaito bonds and other borrowings.

21. This calculation is for the 12 OECD countries with a government that is a net debtor and data on net debt and interest payments over the period 1991-2008. The effective interest rate exceeds nominal growth in each of the 12 countries.

22. An increase in the consumption tax rate assumed in the government projection affects the development of the GDP deflator instantly.

23. The goal in *Basic Policies 2006* of a 0.5 trillion yen cut per year requires reducing wage growth to 1.5% a year, which is far below recent trends.

24. The *Reference Projection* assumes a tax hike beginning in FY 2011. In Case 1, the consumption tax rate rises by 1 percentage point a year for five years. In other cases, the hike is accomplished in one or two steps, although this does not influence the FY 2023 outcome.

25. The CEFP is an important advisory body to the prime minister. Based on past data, an expert member of the CEFP argued that an acceleration occurs one year after the trough of the business cycle (CEFP, 2008).

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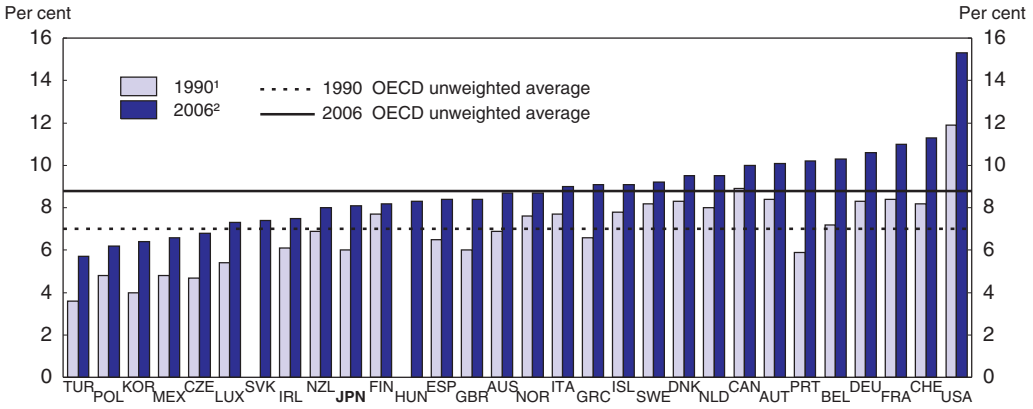
*Chapter 4*

# Health-care reform in Japan: controlling costs, improving quality and ensuring equity

*Japan's health-care system has provided universal access to care and contributed to the outstanding health status of the Japanese. Public spending has been kept below the OECD average through high co-payment rates and reductions in medical fees. However, with continued upward pressure on expenditure, in part due to rapid population ageing, reforms are needed to limit spending increases through greater efficiency, while improving quality. It is essential to shift long-term care out of hospitals, reform the pricing mechanism away from pay-for-visit, increase the use of generic drugs, encourage healthy ageing and promote restructuring in the hospital sector. Quality should be improved by increasing the availability of effective new drugs and medical devices. In funding spending increases, it is important to limit the share borne by employees to avoid negative effects on the labour market. Japan may need to allow more mixed billing to enhance access to some advanced medical treatments.*

Japan's health-care system stands out as one of the best in the world in a number of respects, including access, effectiveness and efficiency. *First*, it provides universal access, allowing everyone to receive care at any institution at any time, subject to a co-payment at the time of service. *Second*, it has contributed to the outstanding health status of the Japanese, which ranks at the top of OECD countries in a number of categories. *Third*, it is relatively efficient, as Japan's favourable health status has been achieved with total health-care spending that is below the OECD average as a share of GDP (Figure 4.1), despite factors that tend to boost spending, notably Japan's relatively high income and large proportion of elderly.

Figure 4.1. **Health-care spending as a share of GDP in OECD countries**




1. Except for Slovak Republic and Hungary, for which data are not available.
2. Except for Norway (2003), New Zealand (2004) and Turkey (2005).

*Source:* OECD Health Database (2008).

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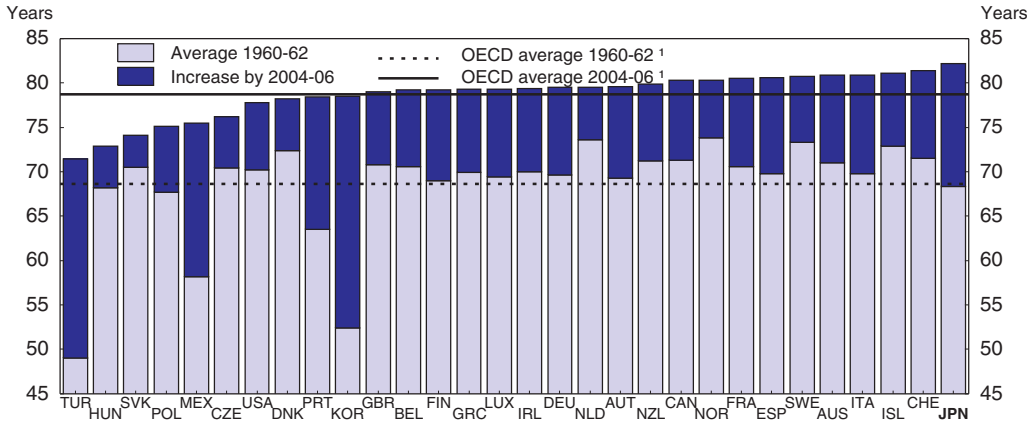
The chapter begins by presenting the challenges facing the health-care system, followed by an overview of the system. The major challenges – containing the growth of spending, enhancing quality, addressing imbalances in the system and maintaining universal coverage – are analysed in the subsequent sections. The chapter concludes with a summary of recommendations, which are shown in Box 4.3.

## Major challenges facing the Japanese health-care system

The Japanese population enjoys an excellent health status. Life expectancy is the longest in the OECD area, thanks to significant gains since 1960, when it was slightly below average (Figure 4.2).[1] In addition, the infant mortality rate is the second lowest. Health care is a major determinant of health status: for the OECD area as a whole, the rise in health spending is estimated to have boosted life expectancy by slightly more than one year for both men and women between 1991 and 2003, accounting for one-third of the overall

Figure 4.2. **International comparison of life expectancy at birth**




1. The OECD average is weighted by the population of all of the countries shown above, excluding Japan.

*Source:* OECD Health Database (2008).

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increase over that period (Joumard *et al.*, 2008). Lifestyle factors, notably tobacco and alcohol consumption and diet, socio-economic factors, such as income *per capita* and education, and pollution also influence health status. Most of these factors have contributed to Japan's good performance: Japan has the lowest obesity rate[2] and calorie intake in the OECD, one of the highest levels of education and above-average *per capita* income, while alcohol consumption is relatively low. However, the percentage of adults who smoke currently is the fifth highest in the OECD, reflecting a high rate for men.

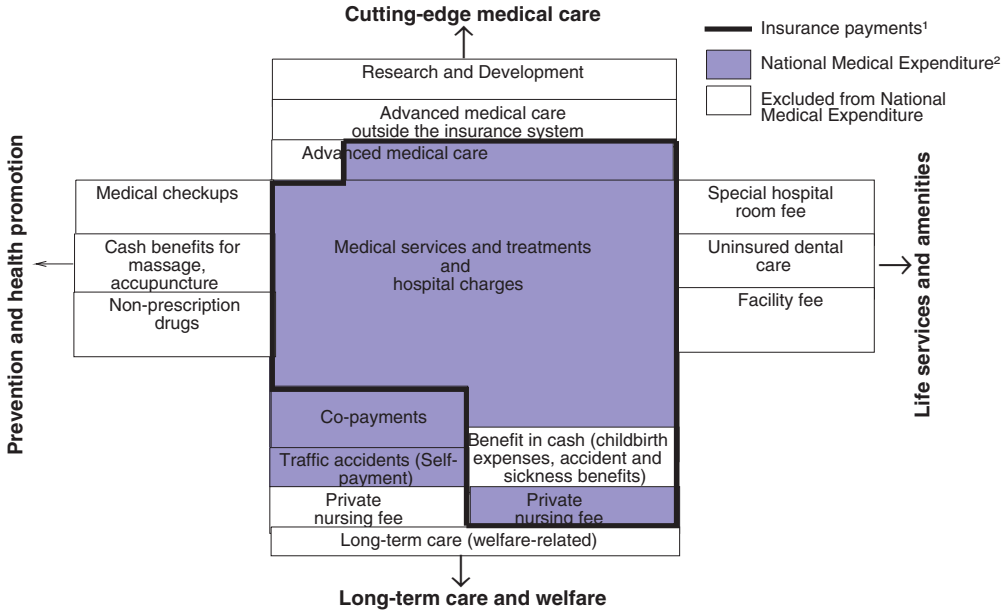
Japan's health-care system is now facing a number of serious challenges:

- Rising income, technological change and rapid population ageing are putting upward pressure on health-care spending, which is increasing much faster than output. With the public sector responsible for 86% of health spending, the government is attempting to limit outlays as part of its strategy for coping with the serious fiscal situation (see Chapter 3).
- There is increasing dissatisfaction with the quality of health care, in part because it takes two to three times longer than in other OECD countries for newly-developed pharmaceuticals to be introduced in Japan. The December 2008 plan approved by the Cabinet calls for upgrading Japan's social welfare system, including health care.
- The system suffers from a number of imbalances, such as shortages of emergency care and paediatricians, as well as regional disparities.
- Universal coverage requires improving compliance in paying premiums, as a significant share of the population does not pay. In addition, the burden of co-payment raises concern.

## An overview of Japan's health-care system

The government's objective is to provide equitable access to "necessary and adequate" medical services to the entire population at a relatively low cost. This approach has led to some advanced medical care services being excluded from the system (Figure 4.3). Indeed, the depth of public insurance coverage in Japan appears to be relatively low compared to other OECD countries. In addition, health insurance reimburses only the treatment of

Figure 4.3. **The coverage of Japan's health-care system**




1. The area inside the line is paid for by health insurance. Some health costs, such as those related to traffic accidents, are not covered by health insurance but are still considered to be part of National Medical Expenditure (NME), calculated by the Japanese government. Conversely, maternity and childbirth expenses are covered by health insurance but are not part of NME.
2. NME is about 80% as large as health expenditure calculated by the OECD, as it excludes maternity and childbirth expenses, preventative health care and non-prescription drugs.

*Source:* National Institute of Population and Social Security Research (2007).

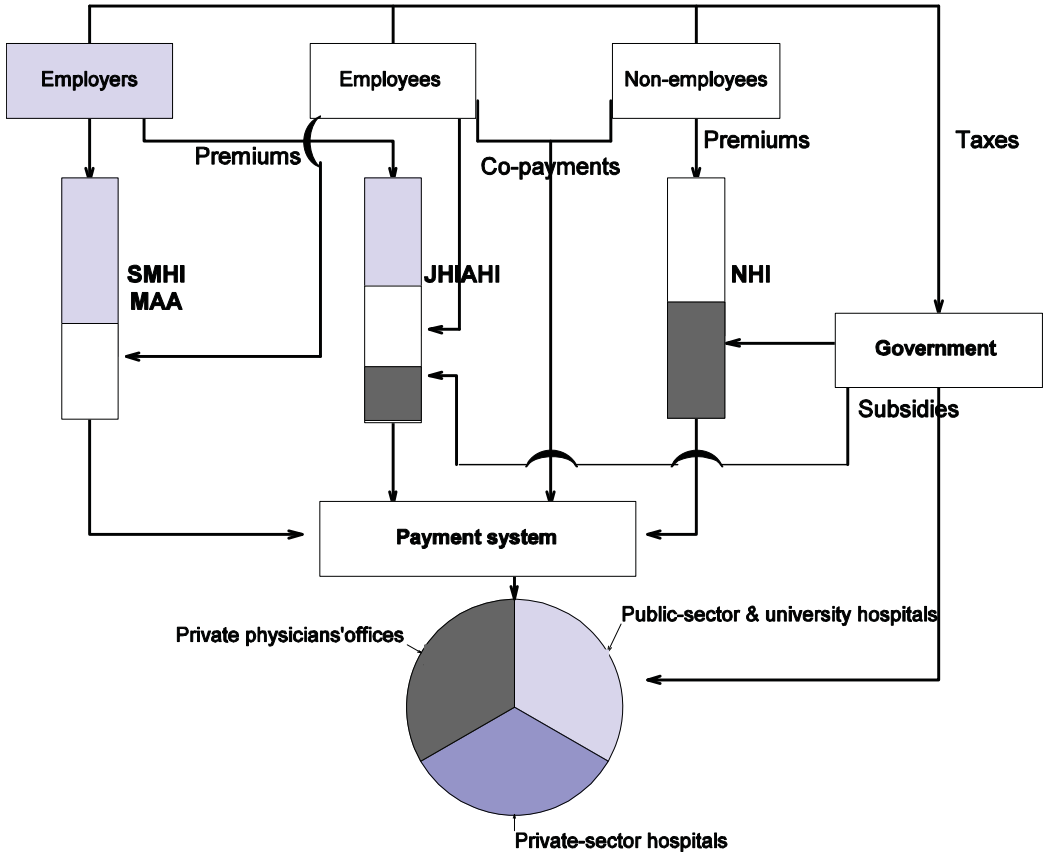
disease and excludes preventative care, including medical check-ups. Nor is normal childbirth covered, although a lump-sum payment is provided. In line with the stress put on equality, each institution provides essentially the same treatment to patients with the same medical problem, with little scope for purchasing premium medical services or differentiated treatment. According to the landmark study by Campbell and Ikegami (1998), "The underlying principle of the Japanese health-care system is equality, among patients and providers, and equality and quality tend to contradict".

### *The health insurers and their financing*

Japan's health-care system is fragmented and complex, with payments by employers, employees, the non-employed and the government to 3 600 health insurers (Figure 4.4). The system combines primarily private provision of services[3] with mandatory insurance in one of four systems (Figure 4.5):

- **Society-Managed Health Insurance** (SMHI) is for employees of large companies (more than 700 workers) and their dependents, including some elderly who are dependent on their children. It consists of 1 541 insurance societies, which are managed by employers and employees and are primarily funded by their premium payments. The premium rates charged by the insurance societies range from 3% to 10% of wages (Table 4.1), reflecting differences in medical needs and the income of the insured in each SMHI. In FY 2007, the SMHI sector as a whole recorded a surplus equal to more than 5% of its

Figure 4.4. **Japan's health-care system is complicated and fragmented**[1]




1. The lines represent financial flows. The three rectangles at the top represent the entities paying health premiums (employers, employees and non-employees) to the health insurers (SMI, MAA, JHIAHI and NHI), who are represented by the thin rectangles. The funds, including taxes, flow from the insurers into the payment system, which distributes payments to health-care providers.

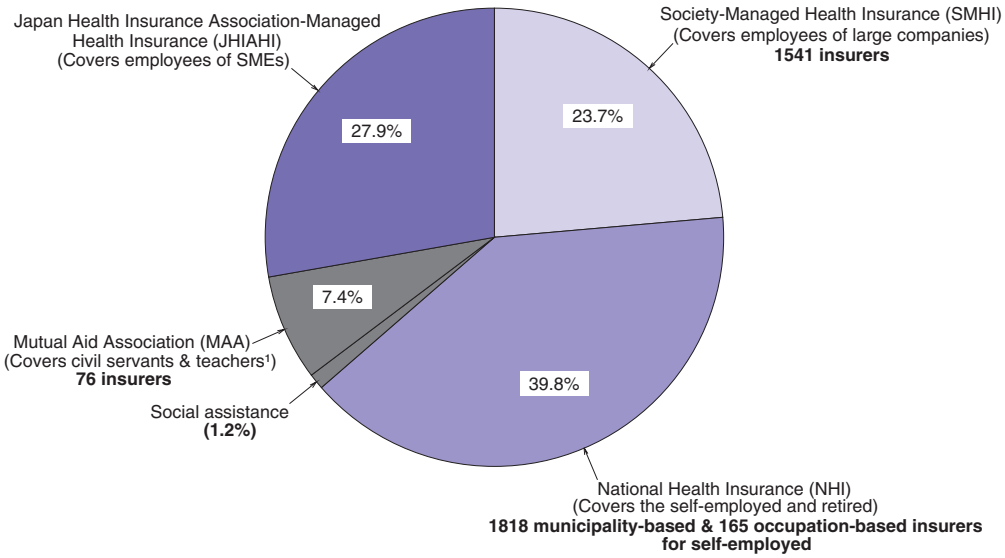
*Source:* Ikegami (2008a).

revenue. However, around 40% of the insurance societies were in deficit and have limited scope in practice to improve their situation.

- **Japan Health Insurance Association-Managed Health Insurance** (JHIAHI) covers employees of small companies in a single nationwide pool administered by a public corporation. Government subsidies fund 13% of its health payments and the premium, paid by employees and employers, is set at 8.2% of wages.
- **National Health Insurance** (NHI) is the residual category for non-employees, such as the self-employed and retired persons. It consists of 1 818 insurance pools administered by municipal governments and 165 occupation-based societies for the self-employed. Premiums, which are based on income and the number of persons insured in a household, are typically around 2% of the average wage, although there is wide variation. Indeed, the highest premium, in the town of Rausu in Hokkaido, is 4.7 times higher than that in the lowest.
- **Mutual Aid Associations** (MAA) number 76 and cover civil servants and teachers.

The fragmented system results in a high variation in premium rates and horizontal inequality as health insurers are too small to effectively pool health risks. Japan thus

Figure 4.5. **Health insurance schemes in Japan in 2007**




1. This includes Seamen's Insurance, run by the government, which insures 0.1% of the population.

*Source:* Ministry of Health, Labour and Welfare.

tolerates considerable inequality through the variations in health-care premiums. Addressing these imbalances would be an effective means to promote equality. The insurers are quasi-autonomous bodies that are heavily regulated by the government and are not allowed to earn profits. No competition between insurers is allowed, thus weakening incentives to increase efficiency or innovate. Instead, insurers provide access to the same package of services at the same prices, which are set by the government. Membership in health insurance is mandatory and strictly determined either by employment or place of residence, with no choice allowed either to citizens or insurers.[4] Private insurance companies play an insignificant role in health care and generally do not

Table 4.1. **The distribution of contribution rates across Society-Managed Health Insurers in 2007**

| | Per cent | Number of insurers | Share of insurers (%) |
|---|---|---|---|
| | 3.0 – 6.0 | 210 | 13.6 |
| | 6.0 – 6.9 | 381 | 23.7 |
| Contribution rates | 7.0 – 7.9 | 544 | 35.3 |
| | 8.0 – 8.9 | 363 | 23.6 |
| | 9.0 – 9.4 | 33 | 2.1 |
| | 9.5 – and up | 10 | 0.6 |
| Total | | 1 541 | 100.0 |
| | 50 – 59 | 1 182 | 76.7 |
| Employers' share of contribution | 60 – 69 | 339 | 22.0 |
| | 70 – 79 | 20 | 1.3 |
| | 80 – | 0 | 0.0 |
| Total | | 1 541 | 100.0 |

*Source:* Ministry of Health, Labour and Welfare.

provide insurance for co-payments. Private health insurance products tend to provide lump-sum payments for treatments not covered by public insurance and for amenities.

Although Japan has many health insurers, all reimbursements pass through a single payment system. In FY 2006, the financing of health care was provided by:

- **Insurance payments:** 49.0% of total outlays, split between employers and employees.
- **Government subsidies:** 36.6% of total outlays, with the central government share set at 25% of total health costs. Subsidies account for 43% of outlays by the NHI.
- **Co-payments by patients:** 14.4% of total outlays, which is only one-half of the co-payment rate of 30% for those between the ages of six and 70 for both outpatient and hospital care. The gap is due to the lower co-payment rate for the elderly and very young and a monthly ceiling on an individual's co-payments. In addition, the limited role for mixed billing of services covered by mandatory health insurance and those that are not (Box 4.2) may reduce out-of-pocket payments below those in other countries.[5] Consequently, the share of out-of-pocket payments in total health spending is below the OECD average of 18%, despite a co-payment rate in Japan that is one of the highest in the OECD area.[6]

As employees retire and leave the employee-based insurers (SMHIs, the JHIAHI and MAAs), the burden on the NHI is increasing over time. To cope with the rising cost of health care for the elderly, Japan re-introduced co-payments for the elderly in 1983 and created an "equalisation fund" that transfers revenue from employee-based schemes to the NHI. Each insurer makes a payment to the fund based on what it would pay if its number of elderly matched the national average. Despite these transfers and the government subsidies, almost three-quarters of municipal health insurers recorded a deficit in FY 2007.[7]

High co-payments are one of several mechanisms that limit health-care spending.[8] A second factor is supply constraints; the number of physicians, at two per thousand population, is one of the lowest in the OECD area (Table 4.2).[9] The number of medical students is set by the government. However, the most important factor limiting health spending is the government's control over prices for all procedures, drugs and devices, which apply uniformly to all physicians and hospitals. In revising the fee schedule every two years, the government first sets the overall size of health-care spending based on expected revenues and the fiscal situation. Changes in relative prices within that envelope are decided by the government, in line with basic policy set by an advisory board and the result of discussion in the Central Social Insurance Medical Care Council[10] among the

Table 4.2. **International comparison of health-care services in 2006**[1]

| | Number of hospital beds[2] | Average hospital stay (in days) | Number of long-term care beds[3] | Number of physicians[2] | Number of physicians[4] | Number of nursing personnel[2] | Consumption of drugs[5] |
|---|---|---|---|---|---|---|---|
| **Japan** | **14.0** | **34.7** | **15.0** | **2.0** | **14.9** | **9.0** | **405** |
| OECD average | 3.7 | 9.6 | 6.3 | 3.3 | 65.6 | 8.8 | 342 |
| Highest country | 14.0 | 34.7 | 25.6 | 4.9 | 109.6 | 15.4 | 525 |
| Lowest country | 1.7 | 4.1 | 0.0 | 1.5 | 14.9 | 1.8 | 110 |

1. Or latest year available.
2. Per 1 000 persons.
3. In hospitals.
4. Per 1 000 hospital beds.
5. Per capita in US$ PPP.

*Source:* OECD Health Database (2008).

health insurers, health-care providers and public-interest representatives. The government has significantly reduced medical prices in recent years.

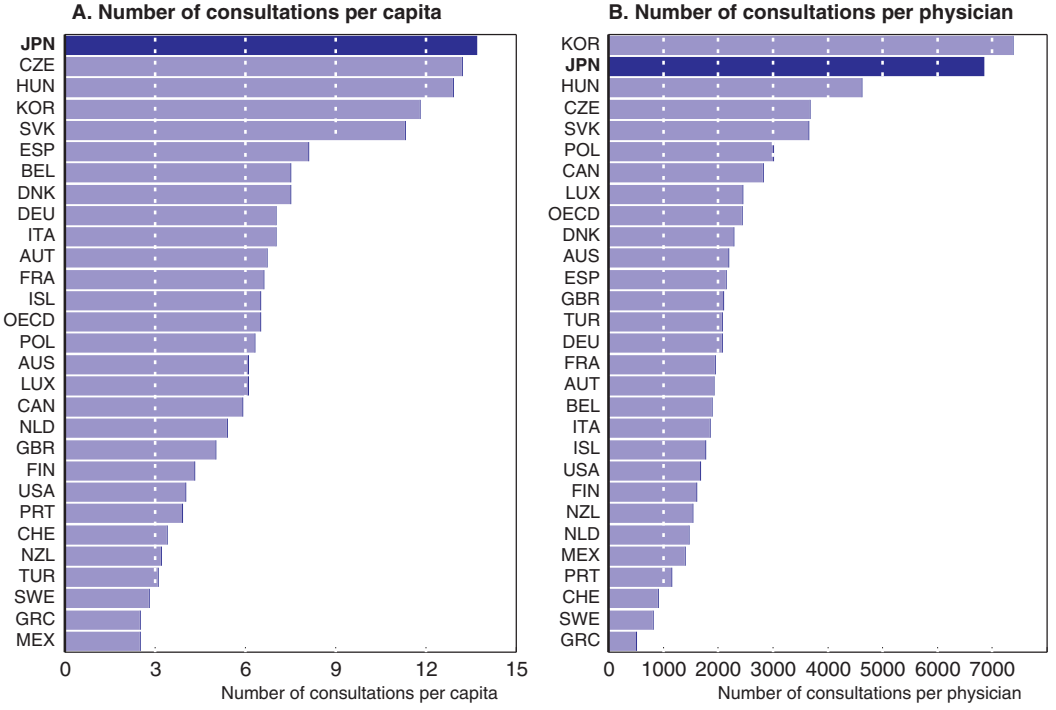
### *The suppliers of health care*

Given the low regulated fees and a fee-for-service payment system, physicians generate a high volume of services to boost their income. Indeed, the number of consultations *per capita* in 2005 was 14, double the OECD average, while the number per doctor was three times higher (Figure 4.6), suggesting that consultations tend to be rather short. One common complaint is that patients spend three hours waiting for three minutes with the doctor, although long waiting times occur primarily in university hospitals. The large number of appointments per physician results in very long working hours, which has become a serious problem. Allowing physicians to sell pharmaceutical drugs boosted their income as well as the level of overall drug consumption. Indeed, Japan had the highest level of drug consumption in the OECD area in 1996. Despite reductions in drug prices during the past decade, *per capita* drug consumption in 2006 was $405, 18% above the OECD average (Table 4.2), though no longer the highest.

One exceptional feature of the Japanese health care system is the number of hospital beds and the length of the average stay, which are both about four times longer than the OECD average (Table 4.2). One reason is the role of hospitals in providing long-term care (see below). However, even after excluding long-term care beds, the number of acute-care hospital beds remains double the OECD average despite a significant drop since 1996

Figure 4.6. **International comparison of the number of consultations with physicians**

In 2005 or latest year

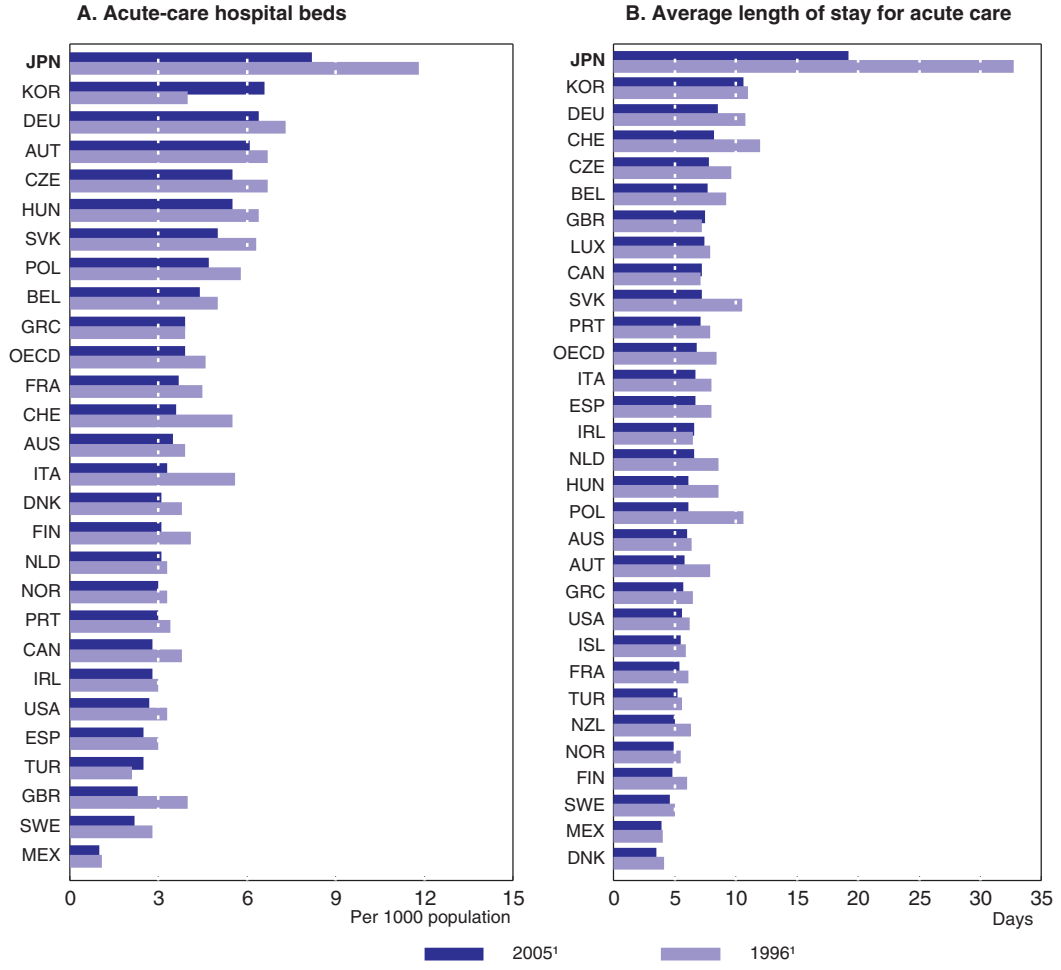



*Source:* OECD Health Database (2008).

StatLink http://dx.doi.org/10.1787/725517471886

(Figure 4.7). Moreover, the length of stay in acute-care hospitals, even though it also declined substantially is around three times the OECD average.

Figure 4.7. **International comparison of acute-care hospitals**




1. The most recent year for which complete data are available is 2005. For Panel A, data are not available for Iceland, Luxembourg and New Zealand.

*Source:* OECD Health Database (2008).

StatLink http://dx.doi.org/10.1787/725544576333

Private hospitals account for two-thirds, with physician-owned clinics providing another 3% in 2007. All hospitals and clinics are non-profit organisations that must be directed by a medical doctor. The ban on profit-seeking hospitals, introduced in 1948 on the grounds that they lower the quality of service, effectively prevents equity financing.[11] Private hospitals and clinics instead rely on borrowing and bond issuance to finance capital costs, which are not explicitly covered by the fee schedule. Given that bank financing is constrained by their limited collateral, the *de facto* ban on equity financing limits the size of private hospitals, which may tend to reduce efficiency. Private hospitals tend to be small, with an average of 160 beds (excluding clinics with beds), compared to 286 beds in public hospitals in 2007. In practice, physician-owned hospitals seek profits, while being taxed at

the same rate as commercial companies (Rodwin and Okamoto, 2000). The joint role of physicians as clinicians and owners of hospitals and clinics with beds contributes to the long average stay of 34.7 days in hospitals in 2006, almost four times higher than the OECD average (Table 4.2). Keeping patients in beds is an easy way to gain revenue. One study reported a direct relationship between the number of free beds and the average length of stay (Henke *et al.*, 2009). Nevertheless, most hospitals operate at a loss and the total number fell by 6% to just under 9 000 during the decade to 2009.

Public hospitals, which account for around one-third of hospital beds, have the dual mission of providing high-tech care – they perform around three-quarters of operations requiring general anaesthesia – and serving isolated areas. Most run deficits, despite government subsidies amounting to 11% of hospital revenue, and are exempt from all taxes.

### *Long-term care*

The large number of hospitals beds and the long average stay in Japan are partly explained by the role of hospitals in providing long-term care to the elderly. The removal of co-payments for health-care services in 1973 for persons over the age of 70 had the unintended effect of turning hospitals into *de facto* nursing homes. Indeed, the proportion of elderly among hospital patients rose from 16.2% in 1970 to 46.3% in 1990 and to 64.1% in 2005. Japan had 15 long-term care beds in hospitals per thousand elderly in 2005, compared to an OECD average of six. The important role of hospitals in providing long-term care, which is referred to as "social hospitalisation", also reflects a number of other factors. *First*, there was an absolute shortage of formal long-term care, both institutional and community-based. *Second*, small hospitals have experienced trouble in filling their beds, as patients increasingly prefer large medical centres, giving small hospitals an incentive to provide long-term care. *Third*, health and long-term care costs for the elderly are open-ended and not capped by the budget, in contrast to other social welfare programmes. *Fourth*, ageing increased the number of elderly people while reducing the availability of family care as the caregivers themselves age (Ikegami, 2009b).

To reduce the burden on the health-care system, Japan launched the Long-Term Care Insurance System (LTCI) for the elderly in 2000 as a third pillar of social security along with pensions and health care. This mandatory insurance is operated by municipalities and provides benefits to persons over the age of 65 who are certified as eligible based on an objective assessment of their physical and mental condition by the municipality in which they live. In principle, neither the willingness nor the ability of family and friends to provide care are taken into account in deciding eligibility, but there are complaints that budget constraints influence the level of care provided. Once eligibility is determined, a "care manager" employed by a welfare or health-care facility develops an appropriate plan of care. The system allows consumer choice of services and providers and covers both institutional and home-based care. The prices for LTCI services are set by the government and apply to all providers, who are subject to nationwide quality standards. Patients are required to pay 10% of the cost out-of-pocket, with the remainder split equally between the government and insurance contributions by those over age 40. Premiums for persons between the ages of 40 and 64 are set by health insurers, while those paid by persons over the age of 65 are set by municipalities so as to cover their costs and thus vary widely. The number of persons receiving long-term care services (institutional and home-based) rose from 1.5 million in 2000 to 3.8 million in 2009.[12]

## Containing the growth of health spending and financing it efficiently

Japan's budget deficit is projected to widen to 10% of GDP by 2010, boosting gross public debt to 200% (Chapter 3). The upward trend in health spending has been a key factor in the deterioration in the fiscal situation. National medical expenditure has increased at a 3.0% annual rate since 1990, far outstripping the 0.9% expansion in nominal output (Figure 4.8), in contrast to the 1980s when their growth rates were comparable. The rise in health spending is explained by four factors (Table 4.3):

- *Population ageing* accounted for 1.6 percentage point of growth, reflecting the rise in the share of the elderly from 12% of the total population in 1990 to 20.8% in 2006.

Table 4.3. **Factors contributing to the growth of national medical expenditure**[1]

Percentage points

| | Population ageing | Population growth | Fee schedule | Other factors[2] | National medical expenditure | GDP (nominal) |
|---|---|---|---|---|---|---|
| 1990-2000 | 1.6 | 0.3 | 0.5 | 1.5 | 3.9 | 1.3 |
| 2000-2006 | 1.6 | 0.1 | –1.2 | 1.0 | 1.6 | 0.1 |
| 1990-2006 | 1.6 | 0.2 | –0.1 | 1.3 | 3.0 | 0.9 |

1. Defined as medical services funded through public health insurance, including the associated co-payments by patients.
2. Residual includes changes in volume (the number of patient visits and hospital admissions) and other factors, which are generally associated with technological progress.

*Source:* Ministry of Health, Labour and Welfare.

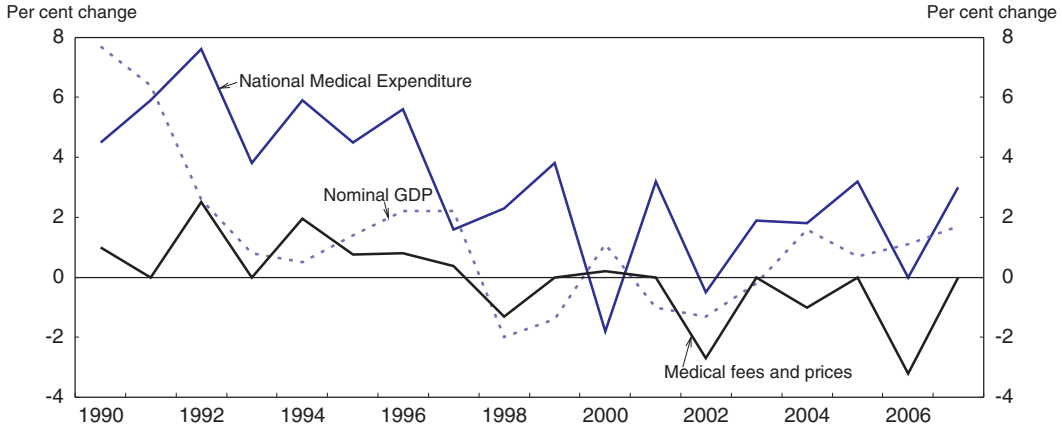
- *Population growth* explained 0.2 percentage point. Following the 2007 peak in total population, population growth is making a small negative contribution to the growth of health spending.
- Changes in the *fee schedule* decreased outlays by 0.1 percentage point, reflecting significant cuts in medical fees and prices since 2000.
- *Other factors*, defined as the residual, accounted for 1.3 percentage points. It includes changes in the volume of health services and technology, which is the key driver of health spending in most countries.[13] While it is not possible to calculate its precise impact in Japan, it is estimated that the rise in spending due to technology was less than the growth of GDP (Ikegami and Campbell, 2004).

As a share of GDP, the OECD measure of health spending expanded from 6% of GDP in 1990 to 8.1% in 2006 (Figure 4.1).[14] The 2.1 percentage point increase was slightly above the 1.8% point average rise in the OECD area, despite the cuts in medical fees and prices.

Looking ahead, population ageing is likely to put further upward pressure on health spending. Between 2000 and 2006, health spending increased at a 2.2% annual rate for the elderly, while it declined at a 0.6% rate for the rest of the population, reflecting the growing number of persons over 65 and the falling number under that age. Ageing will accelerate in the years to come, with the share of the population over age 65 projected to reach 26.9% by 2015 and 30.5% by 2025. The increase will be concentrated among the very old and will thus have a major budgetary impact. Indeed, the over 75 age group, which already accounts for almost one-third of health spending, will double from 9% to 18% of total population, while the share of the population in the 65-to-74 age group will rise only slightly from 11% to 12%.

Figure 4.8. **Cuts in medical fees and prices have reduced the growth of medical expenditure**

Percentage change each year in nominal terms




*Source:* Ministry of Health, Labour and Welfare.

StatLink http://dx.doi.org/10.1787/725552635010

The National Commission on Social Security's report in 2008 projected that spending on health and long-term care combined will rise by about 3% of GDP to around 11% by 2025 under the current framework and utilisation patterns and by about 4% if reforms to improve quality and expand capacity were implemented.[15] According to an OECD study (Oliveira Martins and De la Maisonneuve, 2006), public health and long-term care spending combined in Japan will rise from 6.9% of GDP in 2005 to 9.4% by 2050 due to demographic changes alone. Other factors, including technological advances and rising income and wealth, which make individuals seek more frequent and higher-quality treatment, are projected to boost spending by another 1.5 to 4 percentage points of GDP, depending on the degree of cost containment. As a result, public expenditures on health and long-term care are projected to rise to between 10.9% and 13.4% of GDP by mid-century, a larger increase than the OECD average.[16]

The central government, which finances a quarter of health spending directly from general tax revenue, has made it a priority to contain total outlays on health, particularly as the fiscal situation deteriorated. This has been accomplished primarily by controlling medical fees rather than reducing the coverage of public health insurance, which would be inconsistent with its goal of providing "necessary and adequate" medical care through public health insurance. Limiting the coverage of health care conflicts with Japan's emphasis on equality, with access to health services based on need and not on the ability to pay. The biennial revision of health-care fees has resulted in a cumulative reduction of 8.4% since 1997 (Figure 4.8), much more than the 1% fall in the consumer price index over that period. According to a projection by the Ministry of Health, Labour and Welfare (MHLW), reforms will limit the rise in public spending on health and long-term care from 6.8% of GDP in FY 2006 to 7.4% in FY 2015, well below the 8.3% expected under an unchanged policy baseline. A number of reforms have been launched in recent years, including a programme to reduce "metabolic syndromes", a new health-care system for those over 75 and a plan to decrease the number of long-term care beds in hospitals (Box 4.1). Another major step is the recent decision to increase the ceiling on the number of medical students by 50%.

### Box 4.1. **The government's recent initiatives in health care**

The government launched a programme in FY 2008 to reduce the number of persons suffering from or at risk of "metabolic syndromes" – hypertension, cancer, ischemic heart disease, cerebrovascular disease and diabetes – by one quarter by 2015.[1] This is to be accomplished through more effective and extensive health check-ups, individual counseling to support lifestyle changes for those suffering from or at risk of metabolic syndromes and the provision of more information by health insurers and communities. A quarter of the 56 million persons between the ages of 40 and 74 are to be screened. To encourage health insurers to pay for check-ups, a reward system that adjusts their contribution to the health care of those over age 75 (see below) will be introduced in 2013.

The government implemented a new health insurance system in 2008 for those over age 75, who account for 9% of the population and 30% of health outlays. The co-payment rate is kept at 10% and insurance premiums continue to cover 10% of the total costs of the over age 75 population. The remainder will be covered by insurance premiums from people under 75 (40%) and government subsidies (50%).[2] The new system makes the subsidy for elderly health-care costs more explicit. As the population ages, the share of contributions by the elderly will increase. The new system should reduce the large inter-municipal differences in premiums noted above by moving to a prefectural basis, with premiums based on how much was spent on health care for the elderly in each prefecture during the preceding two years (Tomizuka and Matsuda, 2008). The incentive of prefectures to limit the level of their premiums is likely to promote efficiency, while ensuring that each prefectural insurer achieves a balanced budget. Premium payments, which are deducted from pension benefits to increase compliance and reduce administrative costs, have fallen for about two-thirds of this age group as a result of the new system. In addition, it introduces a specific benefit package for the elderly based on a comprehensive payment, rather than the usual fee-for-service system. The new system for the "old elderly" was to be accompanied by an increase in the standard co-payment rate for those between the ages of 70 and 74 from 10% to 20% and to 30% for those with incomes matching the average for the population under the age of 70, but it has been delayed.

In 2005, MHLW announced a plan to restructure the 380 000 long-term care beds in hospitals by FY 2011, based on targets set by local governments. Of those beds, 250 000 were financed by public health insurance and the remainder by LTCI.[3] The distinction between the two insurance systems is blurred as there are beds in the same hospital unit financed by the different insurance systems. The objective is to reduce the number of long-term care beds to 150 000, devoted entirely to the treatment of patients with chronic medical conditions and financed by health insurance. After FY 2012, no long-term beds in hospitals will be financed using LTCI. This is to be accomplished through differentiated *per diem* payments for long-term beds in hospitals according to medical need and an increase in co-payments. Public financial assistance, including subsidies, and deregulation will help shift the remaining 230 000 beds into other uses, notably a new type of long-term care facility that will be subject to relaxed regulations on manpower and facilities.

1. This initiative is similar to the Health Care for the Aged legislation in 1981, which established screening, prevention and education for everyone over the age of 40.
2. Previously, the government subsidy financed 30%, with health insurance premiums accounting for the remainder.
3. In addition to the 130 000 beds in hospitals, LTCI financed 400 000 in nursing homes and 270 000 in intermediate care facilities.

### *Policies to limit the growth of health-care spending*

Japan's strategy of repeatedly cutting the fees for physicians and hospitals and the price of drugs and equipment cannot continue forever. Prices can fall only so far before products become unavailable and the quality of care suffers; some would argue that this point has already been reached (McKinsey, 2008). The challenge is to increase the efficiency of health-care spending, thereby limiting the need for additional revenue, and to raise any additional revenue in the least distortive way possible. An OECD study (Joumard *et al.*, 2008) found that the efficiency of Japan's health-care sector, although determined only with considerable uncertainty, has scope to catch up with the most efficient countries and thereby reduce health spending. Even in the absence of a serious budgetary situation, the large and growing amount of resources devoted to health care underscores the importance of ensuring efficiency in this sector.

### *Shifting long-term care from hospitals*

The reliance on hospitals to provide long-term care – the so-called social hospitalisation – is a major source of inefficiency, as it creates a mismatch between the needs of hospitalised persons and the services provided. This mismatch increases health spending per patient through inappropriate care, notably the excessive use of laboratory tests and medication under the fee-for-service method of payment and higher numbers of medical personnel (Ikegami, 2009a). Indeed, hospital beds covered by LTCI must have three physicians per 100 beds, while a LTCI facility only requires one. Consequently, large savings could be achieved by shifting long-term care to specialised nursing institutions and home-based care.[17]

With the introduction of LTCI in 2000, it was expected that long-term care units in hospitals would all be transferred from health insurance to LTCI. In the event, less than half of the beds were transferred. Moreover, the number of long-term care beds financed by health insurance increased by almost one-half to around a quarter million, more than double the number financed by LTCI (Table 4.4).

The government's 2005 plan (Box 4.1) projects that the number of long-term care hospital beds (financed by health insurance) will fall to 150 000 by FY 2011. This decline is one of the means to accomplish its objective of shortening the average hospital stay from 36.3 days to 31.5 by 2015.[18] However, there has been little progress in the past few years in moving toward the FY 2011 objective. Municipalities, which manage LTCI, did not want to have the hospital-based beds transferred because it would raise spending on long-term care. In addition, physician-owners of hospitals had second thoughts about transferring beds from the profitable service of providing long-term care under health insurance to

Table 4.4. **Long-term care beds in hospitals**

In thousands

| | Financed by long-term care insurance | Financed by health insurance | Total |
|---|---|---|---|
| 2001 | 120.4 | 175.5 | 295.9 |
| 2002 | 138.0 | 187.8 | 325.7 |
| 2003 | 139.6 | 227.5 | 367.2 |
| 2004 | 138.9 | 234.9 | 373.8 |
| 2005 | 129.9 | 254.0 | 383.9 |
| 2006 | 119.8 | 252.0 | 371.8 |
| 2007 | 110.7 | 251.7 | 362.4 |

*Source:* Ministry of Health, Labour and Welfare.

LTCI. Moreover, there was a general concern that long-term care beds in hospitals might be shifted to other uses, thus reducing the overall capacity to care for the rising number of elderly. In 2008, the government announced a more modest objective, based on the targets set by the prefectures, to reduce the number of long-term care beds in hospitals to 210 000 in FY 2011, well above its 2001 level.

The failure to make significant progress in shifting long-term care out of hospitals also reflects policy mistakes in introducing a case-mix based payment beginning in 2003. A government-organised committee defined three levels of medical need that would determine the payment from health insurance. In 2006, the payment for those at the lowest care level in health insurance (known as Level 1), who then accounted for a little more than one-half of all patients in long-term care beds financed by health insurance, was set below the cost of providing care. The 2006 reform was intended to give hospitals an incentive to either become a LTCI facility themselves or transfer such patients to LTCI facilities. However, the hospitals did not respond as expected. Rather than discharge the patients to long-term care facilities, hospitals up-coded them to higher medical care levels in order to receive larger payments from health insurance. Indeed, during the five months following the change in the tariff, the proportion of Level 1 patients in health insurance-financed long-term care beds fell from 50% to 33% (Ikegami, 2009a).

Hospitals' strategy of retaining their long-term care patients by re-defining their medical needs reflects the high profitability of long-term care; hospitals with more than 60% of their beds in long-term care had a profit margin of 7.9% in 2004 compared to 0.7% for all hospitals (excluding psychiatric). Many hospitals therefore have transformed acute-care units to long-term care. With the reductions in insurance payments, the profit rates declined, to 3.7% and negative 2.3%, respectively, with long-term care remaining much more profitable on average, despite the policy changes to make it less attractive (Ikegami, 2009a). Clearly, the goal of reducing long-term care in hospitals cannot be met as long as it remains the most profitable service for hospitals. Changes in the reimbursement structure must be accompanied by steps to prevent up-coding of patients, notably through a comprehensive patient-level database, which in turn requires electronic record-keeping and on-site inspections, preferably through the insurers or third-party experts chosen by them.

Despite the problems in shifting long-term care out of hospitals, the experience with LTCI does demonstrate the positive benefits from opening a publicly-provided service to private firms. Prior to 2000, the coverage of long-term care by public health insurance was restricted to the public sector, reflecting concern that allowing for-profit firms in the health-care sector would result in opportunistic behaviour (Noguchi and Shimizutani, 2005). The introduction of LTCI allowed for-profit firms to compete in the provision of at-home long-term care (but not medical care). By 2006, the number of private companies providing such care had surpassed 11 000, accounting for more than one-third of the total.

### *Reforming the pricing mechanism away from pay-for-visit*

The government's objective of providing "necessary and adequate" health care is a vague concept that depends, in part, on the payment system. The current fee-for-service approach tends to expand the "necessary treatment", while an inclusive payment would reduce it. Introducing a "diagnostic-related group" (DRG) approach, which sets an overall fee according to the illness, would help reduce the number of consultations per physician

and the length of hospital stays in line with the government's objective. It may also help lengthen the relatively short consultations with physicians, which is a major complaint of patients. One solution would be to reimburse physicians on the basis of the number of patients during a year rather than the number of visits. A less radical reform would be to modify the reimbursement rate in some cases, such as a second visit for a cold or another minor ailment. The government took a step in this direction in 2008 by reducing reimbursement of medical consultations of less than five minutes.

For hospitals, the government introduced in 2003 a case-mix based payment, the Diagnosis Procedure Combination (DPC), which classifies patients according to their diagnosis and required treatment.[19] This new approach, which adapts the DRG systems used in a number of OECD countries to Japanese practices, was initially limited to 82 university and public hospitals. Japan's case-mix payment is unusual in that it includes both a DPC component and a fee-for-service component. The DPC part includes the hospital's basic charge, medicine and supplies used in wards, laboratory tests, radiology and any procedures costing less than 10 000 yen (around $100). The fee-for-service component covers surgical procedures, medicine and supplies used in operating rooms and procedures that cost more than 10 000 yen. For the DPC component, a *per diem* payment schedule is applied that declines as the length of the hospital stay increases. It is important to note that there is a "conversion factor" for the DPC payment, which varies from 0.85 to 1.32, thus lowering the payment by as much as 15% or raising it by up to 32%. This payment eases the impact on the income of individual hospitals that have introduced the DPC system.

The DPC has led to some reduction in the length of hospital stays, but not in overall costs. The average stay in the 82 hospitals using the DPC fell from 20.4 days in the summer of 2002 to 18.8 days in the summer of 2003 after the introduction of DPC (Wang *et. al*, 2008). The fact that the DPC is paid on a *per diem* basis, in contrast to DRG systems in some countries, limits its impact on the length of hospital stays. However, overall medical costs rose relative to the fee-for-service method, with increases recorded for eight of the 16 Major Diagnosis Categories. The failure to reduce costs reflects in part hospitals' strategies to "game the system". *First*, the re-admission rate of patients increased from 4.7% in 2002 to 9.7% in 2004, primarily due to planned re-admissions. *Second*, hospitals have "up-coded" patients by classifying them for more intensive (and expensive) treatments (Ikegami, 2009a). Another factor is that the use of conversion factors to set the *per diem* rates of individual hospitals weakens pressure to increase efficiency. In addition to failing to reduce hospital costs, the DPC also increased outpatient medical costs. Hospitals concentrated clinical tests in their outpatient departments before admitting patients, thus allowing them to charge extra on a fee-for-service basis rather than having the tests covered by the DPC (Wang *et al.*, 2008). Indeed, there are examples of revolving door practices as hospitals discharge patients and perform expensive tests on them in their outpatient departments before re-admitting them.

While the DPC is aimed at controlling costs, another important objective is to upgrade the quality of hospital care by enhancing standardisation, transparency and accountability. The DPC system makes hospital services and outcomes measurable, thus providing a basis for improving treatment.[20] It also strengthens competition by providing patients with information to help choose hospitals. The website of the MHLW shows the outcomes at hospitals using DPC, including treatment rates, length of stay and re-admission rates. Such transparency can mitigate concerns that case-base mixed payments could lead to lower quality of treatment by prompting suppliers to skip important tests and examinations.

The coverage of DPC spread with the inclusion of 360 hospitals, both public and private in 2006.[21] By July 2009, it included 1 283 hospitals with almost one-half of acute-care beds. The conversion factors are to be phased out beginning in 2011. To make the DPC effective in containing costs, it is essential that the DPC rates be set closer to the cost in the best-performing hospitals rather than the worst to encourage less-efficient institutions to improve their performance. In addition, it is important to establish rules to prevent hospitals from taking advantage of the DPC system. For example, DPC rates should be reduced in the case of re-admission, and clinical tests and imaging performed in outpatient departments should be covered at least in part by the DPC if those patients are later admitted.[22] On-site inspections need to be expanded to prevent the up-coding of patients.

### *Expanding the use of generic medicine*

The profits available to doctors from prescribing and selling pharmaceutical drugs had made the level of drug consumption in Japan the highest in the OECD area by 1996. Since then, the government has taken measures to reduce expenditures on drugs, notably by bringing drug prices closer to wholesale prices,[23] encouraging the separation of prescribing and dispensing and imposing penalties on over-prescription. Reimbursement is cut by 10% if seven or more drugs are prescribed.This has helped to halve physicians' share of the total number of drug prescriptions from 80% in 1996 to 41% in 2008 and, combined with cuts in drug prices, reduced total drug costs from 29% of health spending to 21%.

However, there is potential for additional savings in this area, as drug costs per capita were still 18% above the OECD average in 2006 (Table 4.2). One key is to increase the use of generic medicine. Japan accounts for only 3% of the world market in value terms, well behind North America (52%) and the major five European countries (30%) (EGMA, 2008). In volume terms, generics accounted for 19% of Japan's pharmaceutical market in 2007, well below the 59% share in the United States. Moreover, generics cost around one-half of the price of the original branded drug, compared to 20% to 30% in the United States. Their use in Japan was not allowed unless the physicians stated on the prescription form that generics are acceptable. In a 2006 poll by the Healthcare Policy Institute, Japan (HPIJ), 97% of the public were aware of generics and 80% wanted to use them. However, only 14% had asked physicians to prescribe generics, reflecting the traditional deference to the judgment of physicians. Furthermore, only 9% of physicians agreed to prescribe generics, given the negative financial impact on physicians' income and their distrust of their quality. The use of generics is further complicated by the lack of supply at pharmacies; in the 2006 poll, only 8% of the public reported that pharmacies were able to provide generics.

Increasing the market share of generics and reducing their price relative to branded drugs to US levels would cut Japan's drug bill by one-third (Kadonaga and Kanzler, 2007), thus reducing total health spending by 7% (0.5% of GDP). The government has a target of expanding the market share of generics to at least 30% by 2012 by making them a more attractive option for patients and health-care providers. In the new prescription form, generics are acceptable unless the physician explicitly states otherwise. In addition, the fee schedule will provide supplementary fees to compensate pharmacists for the burden of stocking and selling generics. While these measures are likely to have a positive impact, the government should boost the use of generics by requiring pharmacies to fill prescriptions using generics when they are available and, for example, moving towards

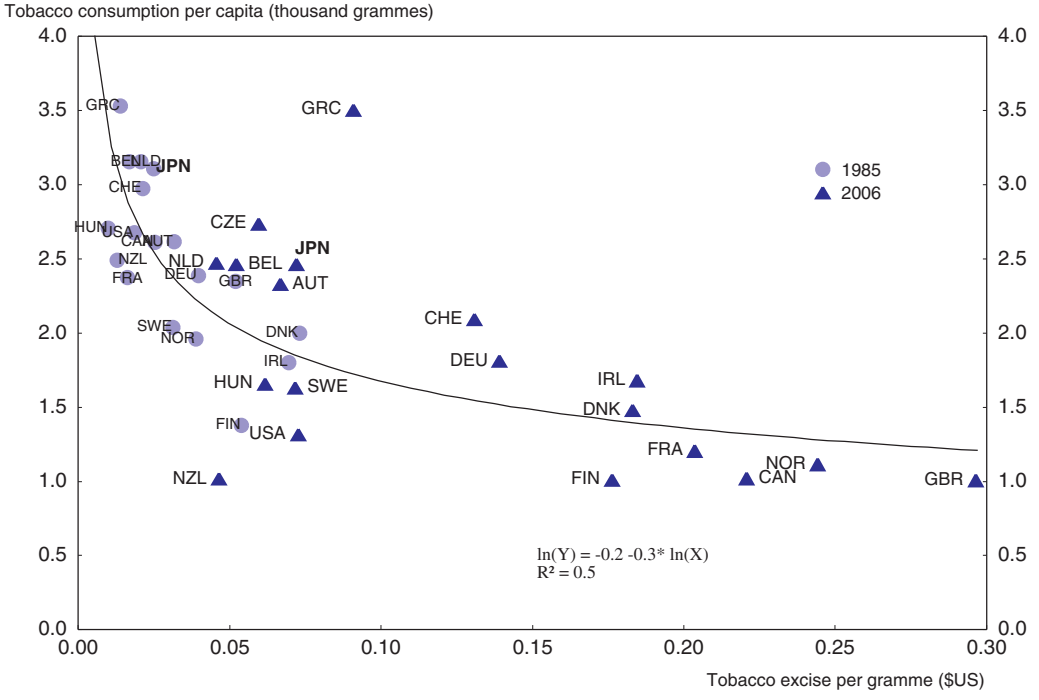
making them the standard for reimbursement. According to a 2007 HPIJ poll, 61% of the public favoured such an approach.

### *Promoting healthy ageing*

With the number of persons over the age of 65 rising rapidly, reducing the relatively high expenditures on health care for the elderly is essential to restrain total health spending. In 2006, health expenditures (excluding pharmaceuticals and dental care) per person over 65 were 4.5 times higher than for those under that age. The government estimates that lifestyle-related diseases, defined as those resulting from improper diet, smoking, alcohol consumption, lack of physical exercise and excessive stress, accounted for almost one-third of all health spending in FY 2005 and about 60% of deaths. Moreover, the outlook for "healthy ageing" is weakened by changes in the lifestyle that has helped Japan achieve the longest life expectancy in the world (Kadonaga *et al.*, 2008). With the westernisation of the diet and less physical activity, the incidence of obesity and diabetes is rising.

It is uncertain to what extent individual check-ups and counselling as well as the provision of additional information under the "healthy ageing" initiative (Box 4.1) will lead to lifestyle changes. In the short run, it may even boost health spending by encouraging aggressive treatment, in addition to the cost of up to 14 million additional health check-ups per year. Greater use of monetary incentives to encourage healthier living would likely be more effective in changing behaviour. In particular, the tax on cigarettes, which are responsible for one in eight deaths in Japan (WHO, 2002), is well below that in a number of other OECD countries despite an increase since 1985 (Figure 4.9). Higher taxes are linked

Figure 4.9. **Tobacco tax and consumption**[1]




1. Converted into US dollars using purchasing power exchange rates for 1985 and 2006.

*Source:* OECD Health Database (2008).

StatLink http://dx.doi.org/10.1787/725573104314

with lower rates of smoking. A recent study of the price elasticity of cigarette demand suggests that raising the tax from its currently low level would significantly reduce the high rate of smoking in Japan (Wan, 2006). This should be accompanied by tightening the regulations on tobacco, which are less restrictive than in other industrialised countries in the areas of advertising and sponsorship, sales and distribution and smoke-free air restrictions (WHO, 2003).

There is popular support for increased taxes on products damaging to health. According to an HPIJ poll in January 2007, two-thirds of the public support the introduction of economic incentives to discourage behaviours that lead to lifestyle-related diseases. The most popular measure (74% support) would be to increase the cigarette tax to boost the price of a pack above its current level of around 300 yen. In the survey, more than half favoured raising the retail price to at least 600 yen by a tax hike. Other options include refunding a portion of insurance premiums to those who have not become ill over a certain period of time (67% support) and boosting the tax on liquor (55%). However, raising insurance premiums or co-payment rates for those who do not improve their lifestyles was favoured by only 42% in the poll.

### *Introducing a gate-keeping system*

In many OECD countries, patients must see a general practitioner (GP), who provides primary care, to obtain a referral to see a specialist. Such an approach limits health costs by reducing the number of unnecessary medical appointments. In Japan, however, there is no gatekeeper. Instead, patients are free to consult any provider – primary care or specialist – at any time without proof of medical necessity and with full insurance coverage. Consequently, persons with a cold can seek treatment at a university hospital, assuming they are willing to wait a long time, when they could be treated more efficiently at a clinic or with over-the-counter medications.

Patients tend to prefer large hospitals over clinics and do not trust clinic physicians to make timely referrals to hospital specialists. Consequently, they go directly to hospitals without referrals. Although a one-time fee was introduced at some hospitals for newcomers without a referral, the fee was kept small for equity reasons and has not significantly reduced demand thus far. This fee should be raised to a level that discourages patients from going to hospitals without referrals and should be applied to each visit. Over the long run, creating an effective gatekeeper system would require increasing the number of GPs and clearly identifying specialists. Although the number of GPs is increasing, there are limited opportunities for systematic student and resident training in general medicine or primary care as few medical schools have departments in these areas. Most physicians identify themselves as specialists – any physician can profess any specialty in Japan – and tend to expand their coverage over time to attract more patients. The fee schedule should be gradually adjusted to encourage the practice of primary medicine by GPs. At the same time, this would encourage hospital physicians to focus on their respective specialties.

### *Implementing electronic billing and consolidating insurers to reduce administrative costs*

Traditionally, medical bills have been mailed from providers to insurers for payment. In 2006, the government introduced an on-line system for payment, which will be phased in for all hospitals and pharmacies by 2013 and is expected to enhance the efficiency and quality of health care (Chino, 2007). Electronic processing of bills will facilitate the review

of all reimbursements to weed out fraud and abuse and reduce administrative costs. However, there is opposition from the medical profession on the grounds that older physicians, who are prevalent in rural areas, do not have the necessary computer skills. Less than 8% of the approximately 54 thousand hospitals and pharmacies that were required to make the transition to electronic billing by April 2009 failed to meet the deadline. The government has announced that it will provide subsidies to help introduce the on-line system for payments. It is important to carry out this plan.

Insurers entrust the reviewing and payment of claims to other organisations – prefectural organisations established by the NHIs and the Social Insurance Medical Fee Payment Fund for SMHIs and the JHIAHI. Strengthening effective competition in this market would increase incentives for these organisations to carefully review medical bills for fraud and abuse, thus making them effective in promoting electronic billing and cutting unnecessary expenditures. Encouraging insurers to sub-contract the reviewing of bills to other organisations would help enhance efficiency through competition.

Consolidating the fragmented system of health insurers should also help to limit administrative costs, while reducing horizontal inequality and strengthening the government's monopsony power. *First*, the NHI is to be shifted from a municipal to a prefectural basis, which is expected to reduce the variation in premiums. In 2006, the premium in the highest municipality was almost five times higher than in the lowest as noted above.[24] *Second*, beginning in 2009, JHIAHI premiums are set on a prefectural basis rather than nationwide, thus introducing competition. *Third*, in the SMHI, a large number of small insurers are in financial difficulty. The government is allowing the creation of regional insurers including all types of companies to improve their financial situation. Reducing the number of insurers from the current number of 3 600 improves efficiency.

### *Restructuring the hospital sector*

The fragmentation of the hospital system has a negative impact on its financial situation and the quality of care. In 2007, 75% of municipality-managed public hospitals had a negative current balance and 83% had a negative cumulative balance, placing a significant burden on local governments (NLI Research Institute, 2009). Research has shown that outcomes for a given procedure are better when hospitals and doctors perform it on a large scale. However, the average Japanese hospital performs only 107 percutaneous coronary interventions compared to a range of 381 to 775 in other OECD countries (Henke *et al*., 2009). Private-sector hospitals tend to be small, with an average of only 160 beds in 2007.[25] In addition, Japan does not systematically collect data on outcomes for individual hospitals, thus limiting the scope for evaluating their performance. Such an approach would help ensure that the necessary reduction in hospital beds would be focused on low-quality institutions. Removing the rules that prevent hospitals from using equity financing would facilitate the creation of larger hospitals as well as M&As of hospitals and clinics. Well-managed hospitals would then be able to take over poorly-managed hospitals, resulting in greater efficiency in the hospital sector. Finally, easing the requirement that hospitals be directed by medical doctors would likely lead to more professional management and better outcomes.

### *Raising more revenue*

Health spending tends to grow faster than income; indeed, the elasticity of health expenditure *per capita* with respect to income across OECD countries has been estimated

at 1.4 (Carey *et al.*, 2008), as rising incomes increase the relative benefits of investing in health care to extend life and improve its quality. A key problem is how to finance the rising cost of health care for the elderly while limiting the burden on younger generations. The new system for the over 75 age group (Box 4.1) has proven to be politically unpopular, in part due to the automatic collection of insurance premiums. Moreover, the separation of the "old elderly" in a distinct scheme is criticised as tantamount to "leaving them to die", reflecting a fear that it will facilitate cuts in their health care in the future. For those in employee-based insurance systems, the new scheme appears to increase the burden of paying for elderly health care. Payments to the equalisation fund already amounted to 38% of total premium revenues in FY 2007. Employee-based insurers complain about such subsidies as the self-employed in the NHI tend to under-report their income (2008 *OECD Economic Survey of Japan*).

Funding for increased health spending will have to come from some combination of co-payments, insurance premiums and general tax revenue. Substantially increasing the co-payment rate, which is already high at 30%, would undermine the concept of health insurance and limit the access of low-income households to health care. Relying primarily on premiums would sharply increase the tax wedge on labour, causing an adverse impact on labour supply. According to one estimate, the average health insurance premium would have to rise from 8% at present to 24% of wages by 2035 if there were no increase in tax financing (McKinsey, 2008). That leaves tax revenue from a relatively non-distortionary tax, such as the consumption tax, as the best option.

## Enhancing the quality of health-care services

Meeting demand for higher-quality health care is expensive in a system based on the egalitarian provision of services to all. The challenge of increasing quality has been exacerbated by the slow growth of output and government revenues over much of the past two decades. Cutting medical fees and prices, the key strategy used in recent years to meet budget constraints, tends to limit quality. The fee schedule discourages high-quality care by making "inexpensive primary care relatively profitable and expensive high-tech procedures unprofitable" (Campbell and Ikegami, 1998). Furthermore, some "advanced medical care" is excluded from the public health insurance (Figure 4.3). Areas for reform to improve quality include more use of evidence-based medicine, accreditation standards, reducing the "drug lag" and allowing more mixed billing.

### *Evidence-based medicine to promote best practices*

The transition to electronically-provided data in a standardised format provides an important resource that should be used to raise the quality of health care by promoting evidence-based medicine to help identify best practices.[26] This needs to be accompanied by an independent analysis of hospitals' performance, which should be publicly available to promote competition based on the quality of service.

### *Accreditation standards*

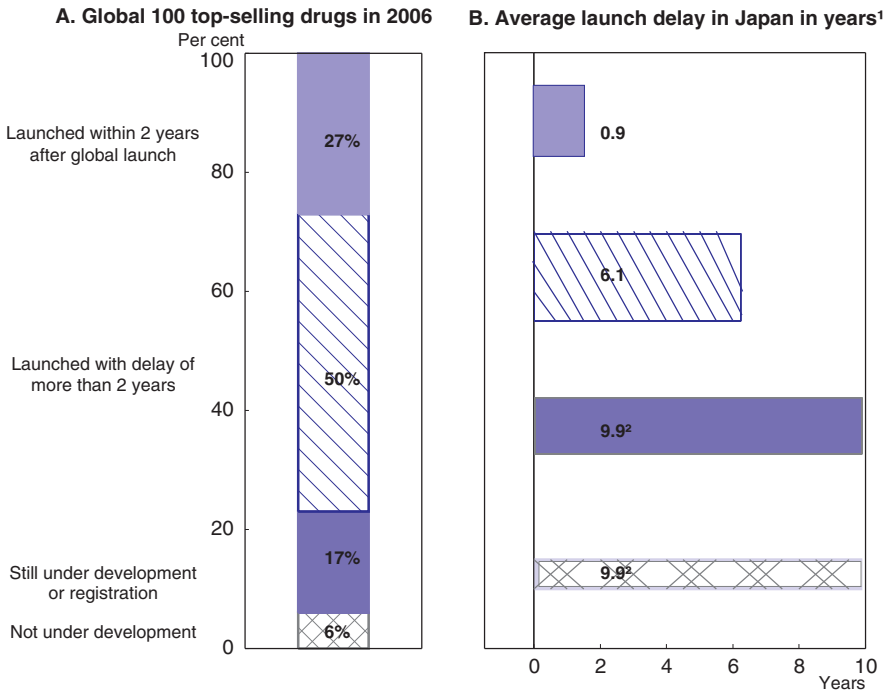
There tends to be less trust in clinic doctors than in hospitals, which may reflect the lack of accreditation standards. The increasing frequency of medical errors, even in prestigious hospitals, has eroded patients' trust in hospitals as well (Ikegami, 2008b). As noted, physicians are allowed to claim any speciality, even without training in that area. Consequently, about two-thirds of physicians are classified as specialists even though only one-half have undergone formal training for that purpose. Hospital accreditation was

introduced in 1996, but only a quarter of hospitals are accredited, in part because it does not confer tangible benefits. An HPIJ poll found that the proportion of persons who think that they will be a victim of medical malpractice jumped from 25% in 2007 to 33% in 2009. Strengthening certification and accreditation of health-care providers would enhance quality. Accreditation of technical expertise would be best left to professional associations, while consumers or insurers could evaluate consumer satisfaction.

### *Reducing the medical drug and device lag*

Japan accounts for about 10% of the world pharmaceutical market, making it the second-biggest consumer after the United States. Access to the world's newest drugs, though, lags behind most other OECD countries. According to one study, one-quarter of the world's top-selling drugs in 2006 had not been introduced in Japan, while one-half were only available six years on average after their global launch (Figure 4.10). A study by the Office of Pharmaceutical Industry Research in Japan found that the world's 88 top-selling drugs in 2004 were introduced in Japan 1 417 days on average (almost four years) following their global launch, compared to around 500 days in the United Kingdom and the United States (Table 4.5). Furthermore, only 60 of the 88 top-selling drugs had been introduced in Japan, the lowest number among the top 40 countries.

Figure 4.10. **The drug lag in Japan**




1. Compared to the earliest launch in the United States or Europe.
2. As of 2007.

*Source:* PhRMA (2008).

StatLink http://dx.doi.org/10.1787/725586742842

Moreover, there has been a marked slowdown in the introduction of new drugs in Japan, as the average delay rose 39%, from 1 020 days in 1994 to 1 417 in 2004, while the average delay of the top 40 countries fell 9% to 758 days.[27] In addition, there has been a

Table 4.5. **Delays in the introduction of new drugs**[1]

| 1994 | | | | 2004 | | | |
|---|---|---|---|---|---|---|---|
| Rank | Country | Delays in days | Number of drugs introduced | Rank | Country | Delays in days | Number of drugs introduced |
| 1 | United Kingdom | 658 | 29 | 1 | United States | 505 | 88 |
| 2 | Ireland | 736 | 26 | 2 | United Kingdom | 512 | 87 |
| 3 | Germany | 764 | 30 | 3 | Switzerland | 538 | 85 |
| 4 | Netherlands | 764 | 28 | 4 | Sweden | 583 | 81 |
| 5 | Canada | 805 | 28 | 5 | Germany | 620 | 86 |
| 6 | Italy | 841 | 30 | 6 | Netherlands | 666 | 76 |
| 7 | Belgium | 896 | 27 | 7 | Canada | 715 | 83 |
| 8 | Finland | 901 | 28 | 8 | Finland | 727 | 85 |
| 9 | United States | 928 | 29 | 9 | Denmark | 757 | 83 |
| 10 | Sweden | 956 | 29 | 10 | Ireland | 766 | 79 |
| 11 | Denmark | 966 | 30 | 11 | Argentina | 786 | 88 |
| **12** | **Japan** | **1 020** | **29** | 12 | Italy | 802 | 85 |
| 13 | Spain | 1 119 | 29 | 13 | Mexico | 815 | 84 |
| 14 | South Africa | 1 129 | 28 | 14 | Austria | 832 | 84 |
| 15 | Mexico | 1 170 | 31 | 15 | Puerto Rico | 870 | 62 |
| 16 | Switzerland | 1 177 | 28 | 16 | Spain | 895 | 77 |
| 17 | New Zealand | 1 187 | 25 | 17 | France | 915 | 79 |
| 18 | Portugal | 1 243 | 28 | 18 | Brazil | 933 | 80 |
| 19 | Columbia | 1 280 | 30 | 19 | Greece | 951 | 85 |
| 20 | Argentina | 1 291 | 30 | 20 | Australia | 979 | 67 |
| 21 | Austria | 1 294 | 29 | 21 | South Africa | 1 010 | 73 |
| 22 | Malaysia | 1 313 | 24 | 22 | Columbia | 1 016 | 83 |
| 23 | Greece | 1 339 | 28 | 23 | Philippines | 1 034 | 78 |
| 24 | Brazil | 1 343 | 28 | 24 | Hong Kong | 1 084 | 70 |
| 25 | Thailand | 1 351 | 29 | 25 | Singapore | 1 084 | 66 |
| 26 | Israel | 1 397 | 28 | 26 | Belgium | 1 096 | 77 |
| 27 | France | 1 452 | 27 | 27 | New Zealand | 1 134 | 71 |
| 28 | Chile | 1 454 | 29 | 28 | Thailand | 1 144 | 79 |
| 29 | Philippines | 1 457 | 29 | 29 | Portugal | 1 153 | 67 |
| 30 | Venezuela | 1 460 | 29 | 30 | Venezuela | 1 195 | 79 |
| 31 | Hong Kong | 1 465 | 25 | 31 | Chile | 1 198 | 80 |
| 32 | Korea | 1 516 | 33 | 32 | Peru | 1 213 | 73 |
| 33 | Australia | 1 522 | 23 | 33 | Malaysia | 1 249 | 61 |
| 34 | Central America | 1 574 | 31 | 34 | Central America | 1 254 | 80 |
| 35 | Equator | 1 672 | 29 | 35 | Israel | 1 258 | 70 |
| 36 | Turkey | 1 676 | 29 | 36 | Indonesia | 1 410 | 69 |
| 37 | Saudi Arabia | 1 774 | 29 | 37 | Turkey | 1 411 | 79 |
| 38 | Peru | 1 917 | 29 | **38** | **Japan** | **1 417** | **60** |
| 39 | Dominican Republic | 1 986 | 29 | 39 | Korea | 1 427 | 83 |
| 40 | Indonesia | 2 107 | 29 | 40 | Uruguay | 1 457 | 78 |
| | Average | 936 | 29 | | Average | 836 | 78 |

1. The time lag between a drug's global launch and its introduction in other countries. The survey covers 33 drugs in 1994 and 88 in 2004.

*Source:* Office of Pharmaceutical Industry Research (2006).

deterioration in availability. In 1994, all but four of the top 33 top-selling drugs had been introduced in Japan in contrast to 2004. The relatively long delay in introducing new drugs and reduced availability diminishes the quality of health care in Japan.

Despite the size of the Japanese market, the time and cost of the drug development process and the application review tend to discourage manufacturers from entering. To

some extent, this reflects physiological factors; given the variation in drug response in patients from different ethnic backgrounds, the government requires some clinical trials to be conducted in Japan, while accepting foreign clinical data based on the ICH-E5 guideline.[28] Indeed, about one-third of the drugs marketed in Japan, Europe and North America have different approved doses, with the dose in Japan usually smaller (Tominaga, 2008). In addition, it appears that the cost of clinical trials in Japan is high because of a number of factors such as less standardised clinical trial procedures, smaller hospitals and clinics, and a limited number of physicians and staff to conduct trials. However, there are a number of other factors that discourage and delay the launch of new drugs in Japan. *First*, physicians and patients have less incentive to take part in trials as they are not allowed to be compensated by the manufacturers. Consequently, an increasing number of Japanese companies have opted to conduct clinical trials overseas. *Second*, the PMDA, the agency that reviews new drugs, has faced capacity problems since its inception in 2004. *Third*, some foreign pharmaceutical companies complain that cuts in drug prices make the Japanese market unattractive.

In response to complaints from doctors and patients, the government has pledged to reduce the lag in introducing drugs in Japan following their launch elsewhere. The key is for global companies to include Japan in their initial development of drugs, rather than to use a bridging study after the drug's development is completed elsewhere in the world. One positive step is the decision to increase the number of reviewers in the PMDA from 200 as of 2007 to more than 400 in 2010 by hiking user fees. This should result in a substantial reduction in review times. The government has also been implementing the "Clinical Trial Activation Plan" since 2003 for improving the cost, speed and quality of clinical trials. A number of other steps are important as well to facilitate the entry of new drugs with clear health benefits. *First*, the cost of clinical trials should be reduced, while expanding the scope for using results from clinical trials in other Asian countries where costs are lower. *Second*, it is important that the PMDA expand its capacity to advise foreign pharmaceutical companies on clinical trials and approval applications in Japan. *Third*, while reducing drug prices is an important part of Japan's policy to limit health costs, it is important that prices properly reflect the cost of drugs and promote innovation.

There are similar problems for medical devices. According to a recent study (ACCJ, 2008), the number of medical devices available in Japan is substantially less than in the United States and Europe. As in the case of drugs, there is a significant time lag between the time that products are first approved elsewhere and when they are accepted in Japan. According to a study by the PMDA, which is also responsible for evaluating medical devices, the lag between approval in the United States and Japan averaged between 34.2 months and 43.6 months during FY 2003-05 (Table 4.6). A study by a private firm for FY 2005-07 found similar results. While there has been a reduction in the time needed for approval, it has been offset by a lengthening of the submission lag, leaving the overall lag unchanged, although it may be too early to make a firm judgement on the reforms introduced in 2005.

One survey (ACCJ) found that firms did not submit devices for approval in Japan because of insufficient demand (24%), the high cost of doing business (10%) and a lack of resources (7%). However, a number of other reasons cited by firms could be addressed by policy reforms; *i)* 28% cited high regulatory costs, including requirements for additional clinical trials and data and application fees; *ii)* another 13% mentioned the time lag until approval (Table 4.6); and *iii)* 7% cited unattractive reimbursement as a result of significant cuts in the prices of medical devices. High regulatory costs are related to the submission

Table 4.6. **The delay in approving medical devices in Japan**

In months

| Product type[1] | Submission lag[2] | | | Approval lag[3] | | | Total device lag[4] | | |
|---|---|---|---|---|---|---|---|---|---|
| | PMDA[5] | L.E.K.[6] | Differences | PMDA[5] | L.E.K.[6] | Differences | PMDA[5] | L.E.K.[6] | Differences |
| PMA equivalent | 17.4 | 24.0 | 6.6 | 16.8 | 11.0 | –5.8 | 34.2 | 35.0 | 0.8 |
| 510(k) equivalent | 18.0 | 31.3 | 13.3 | 25.6 | 12.1 | –13.5 | 43.6 | 43.4 | –0.2 |

1. A PMA-equivalent product is one that was approved in Japan after having been approved through the "Premarket Approval Application" process in the US. A 510(k)-equivalent product is one that has been approved in Japan that has been cleared through the 510(k) (Premarket Notification) process in the US.
2. The period of time between when a product is submitted to the US FDA and when it is submitted to Japan's PMDA.
3. The differences in the period from the submission of the application to approval between Japan and the US.
4. The sum of the submission lag and the approval lag.
5. This study by the PMDA, which is responsible for product review and evaluations, covers FY 2003-05.
6. This study by L.E.K. Consultancy covers FY 2005-07.

*Source:* ACCJ (2008).

lag.[29] In sum, the regulatory structure and reimbursement levels deprive Japanese consumers of access to medical devices available in other OECD countries.

In 2007, the government established a task force, including domestic and foreign industry representatives, to reduce the time lags and improve the efficiency of reviews. The task force recommended that Japan; *i)* simplify information requirements; *ii)* harmonise testing procedures with international standards; and *iii)* reduce the need to have minor changes that do not affect the safety or effectiveness of products approved by the government. The government published an action programme in 2008 to accelerate the review of medical devices. This includes expanding the capacity of PMDA by increasing the number of reviewers from 35 in 2008 to 104 in 2013 and by enhancing the joint efforts of the authority and the industry based on scientific measures. Such reforms would increase predictability about the length of the approval process. As for reimbursement, prices should reflect the sophistication of the product and its costs. While the MHLW and PMDA have a key role in ensuring safety, reforms are crucial to allow patients to benefit from the most advanced medical drugs and devices.

### *Relaxing the ban on mixed billing*

Health-care providers can only be reimbursed by public health insurance if they limit their care to the treatments listed in the public insurance package, given the ban on mixed billing (Box 4.2). This constraint limits the input choices of providers and makes it difficult to keep up with the rapid pace of technological development in health care (Chino, 2007). At the same time, the prohibition on mixed billing makes high-quality services more expensive, as patients have to pay both for the services normally covered by health insurance, as well as the uncovered, higher-quality services, thereby reducing their use. While the "specified medical costs" (SMC) list allows mixed billing in specific cases, there are complaints that the SMC has failed to keep up with the pace of technological change in some areas, such as new cancer treatments (Ikegami, 2006). Inclusion in public health insurance, which is adjusted every two years when the Central Social Insurance Medical Council revises medical fees, is a prerequisite for the diffusion of new health-care treatments.

The ban on mixed billing is aimed at equality in health care. It clearly does promote equality between those who could afford to pay the non-covered services and those who cannot. On the other hand, it creates inequality between those who can afford to pay for

### Box 4.2. **The issue of mixed billing of covered and non-covered health treatment**

Patients wishing to combine a new medicine or treatment that is not included in the prescribed treatment in the health insurance package with services that are included must pay not only the cost of the additional treatment but also the cost of services that would normally be covered by health insurance. This discourages patients from choosing new drugs and treatments that have not been listed in public health insurance by making them more expensive. From the perspective of doctors, they can only be reimbursed by health insurance if they limit their care of a particular ailment to the treatments prescribed in the fee schedule. This regulation is sometimes referred to as the ban on mixed or balance billing. In addition, "off-label prescribing" – the use of drugs covered by public health insurance for a reason other than their accepted purpose – is also forbidden in Japan. These regulations are enforced by the committee that reviews insurance claims sent by providers and refuses to reimburse those that include the joint provision of covered and non-covered services and drugs and off-label prescribing.

However, the benefit package cannot fully keep pace with the emergence of new medical technologies and drugs and the changing needs of patients. To address this gap, some exceptions to the ban on mixed billing have been listed in the "specified medical costs" (SMC or *Tokutei Ryoyouhi*). *First*, some highly-advanced medical treatments that are under development in 128 designated hospitals have been exempted. Thus far, hospitals have requested that 165 services be added to the SMC. Of these, 58 were later added to the insurance package and ten were discontinued, leaving 97 on the list. *Second*, services chosen by the patient, notably amenities such as extra-charge hospital rooms, appointments for consultations and initial visits to large hospitals have been exempted.

In 2001, the government established the Council for the Promotion of Regulatory Reform with the goal of accelerating reforms. In the area of health, the Council proposed allowing mixed billing of covered and non-covered services as it would promote the infusion of private funding that would encourage the supply of high-quality services and meet the individual needs of patients (Ikegami, 2006). In addition, it would promote competition based on the quality of services rather than the current practice of increasing revenue by maximising quantity. The emergence of a private market for health care could be a positive factor for economic growth.

The proposed reform was strongly opposed by the MHLW and the Japan Medical Association, primarily on grounds of equity. The debate over mixed billing led to a compromise in 2004 between the MHLW and the minister for regulatory reform to expand the list of treatments in the SMC. In particular, a committee was formed to expedite the launch of clinical trials of drugs, during which time the drugs would be listed on the SMC, if the manufacturer indicates that it plans to market the drug in Japan after approval. In addition, 100 additional treatments were added to the SMC and the number of hospitals allowed to offer these treatments was expanded to about 2 000, although still subject to prior approval in each case. Following the 2004 agreement, spending on treatments for which mixed billing was allowed more than doubled to 4.9 billion yen in 2007, although the total amount (0.01% of total health spending) is small.

In November 2007, an individual successfully sued the government in the Tokyo District Court by claiming that the government violated his constitutional rights by refusing to allow him to apply his public health insurance to any of his cancer treatment because his treatment included uncovered services. The Japan Medical Association opposed this decision on the grounds that it would make the provision of medical care dependent on patients' financial status. The appeal by the government is still pending.

both covered and non-covered services and those who are only able to pay for non-covered services, and therefore do not have access due to the prohibition on mixed billing. It could also be argued that the ban on mixed billing does not address more important sources of inequality: those with higher incomes tend to work in healthier occupations, drive safer cars, live in safer neighbourhoods, eat healthier food and make other choices that have larger and more predictable effects on their health than the level of medical services (Fuchs, 1996).

Perhaps the most serious risk attached to removing the ban on mixed billing of covered and non-covered services is that it could undermine support for public health insurance in the long run. As upper-income households came to rely increasingly on the private market to meet their health-care needs, they may become less supportive of public health insurance, causing its coverage to shrink. A number of other concerns about mixed billing have been raised. *First*, it might promote the use of unsafe treatments and drugs, although in practice, mixed billing could be limited to drugs and treatments that have been approved as safe and effective, as is the case with the SMC. *Second*, low-skilled physicians would lose patients to hospitals capable of providing more advanced non-covered services. However, such competition would encourage higher quality health care. *Third*, physicians may neglect basic care in favour of more profitable non-covered services in the absence of regulations requiring them to provide a certain quantity of basic services in order to be eligible for providing advanced care. *Fourth,* physicians and hospitals may foist unnecessary treatment on risk-averse patients, taking advantage of the knowledge asymmetry. Avoiding such an outcome would require having health insurers check billing statements for abuse and perhaps limiting the provision of uncovered services to certain doctors and hospitals.

It is important to consider the impact of any reforms on the growth of public health-care spending. On the one hand, easing the ban on double billing would promote the use of new treatments and drugs, and may thus accelerate the expansion of the public insurance package through the demonstration effect. The result would be to put upward pressure on public health spending, while enhancing the quality of care. On the other hand, some countries attempt to control public spending on health by excluding some treatments from public insurance, leaving them to be funded by out-of-pocket payments and private insurance. The rapid development of drug treatments over the past 20 years is likely to continue, particularly for conditions that have been difficult to treat in the past. Advances in knowledge of genetics and biochemical pathways are allowing the creation of drugs targeted at small groups of patients with a particular genetic characteristic (Richards, 2008). However, including expensive new drugs in public health insurance would divert resources away from other health-care priorities, raising difficult decisions. Allowing individuals to purchase such treatments out of their own pockets is one possible compromise.

In sum, allowing more mixed billing for a wider range of uninsured treatments to reflect the diversifying needs of patients and the rapid advance of technology would raise the quality of health care by making advanced treatment and drugs more accessible. It would also strengthen competition as health-care providers begin to offer such services. The ban on mixed billing appears to be unique to Japan (Saito and Suzuki, 2008), as the United Kingdom, which had a similar regulation, recently abolished it.[30] In Japan, there appears to be support for relaxing the ban on mixed billing. A 2008 HPIJ poll found that 77% of respondents agreed that mixed billing should be allowed for a wide range of treatments

to broaden treatment options for the public. At the same time, patient groups expressed concern about rapid reform. The benefits need to be weighed against the long-term risk of undermining public health insurance noted above. The issue continues to be discussed by the Council for the Promotion of Regulatory Reform.

## Addressing imbalances in the provision of health-care services

A number of shortages have emerged in recent years in the health-care system. According to a January 2009 HPIJ poll, the most serious shortages are emergency care and obstetrics/paediatrics, cited by 19% and 18% of respondents, respectively. In 2007, more than 14 000 emergency patients were rejected at least three times by hospitals before receiving treatment, according to a government survey.[31] The number of obstetricians fell by 12% between 1994 and 2006. The large stock of advanced medical equipment also indicates problems in the pricing system. Indeed, Japan has five times more MRI units relative to the population than the median OECD country and six times more CT scanners, nearly three times more than the United States (Carey *et al.*, 2009). Not surprisingly, most of these machines are underutilised (Henke *et al.*, 2009). The over-capitalisation of small medical clinics, with high-tech facilities and low utilisation, is found in other regulated sectors.

The supply of specific health services is determined by prices, which in Japan are set by the government as described above. Imbalances in health-care supply essentially reflect the failure of the government to set prices at the level necessary to elicit the appropriate level of supply for each type of treatment and drugs. Admittedly, setting prices for thousands of medical treatments and more than 10 000 drugs is no easy task.[32] The fee structure is shaped by several principles (Ikegami, 2009a); *i)* maintaining the income balance among providers (for example, hospitals *versus* clinics) and clinical specialties; *ii)* reducing the fees for services that have experienced an increase in revenues or volume,[33] while raising fees for services that the government wants to encourage, such as home visits by doctors; *iii)* making relatively inexpensive procedures profitable for the providers and expensive procedures unprofitable; and *iv)* favouring primary care at the expense of high-tech care. Not surprisingly, health providers complain that the fee schedule does not correspond to the real cost of medical services (Matsuda, 2007). Given the *ad hoc* and arbitrary method of revising health-care fees, it is important to adopt a more rigorous and scientific system that gives more importance to cost/productivity studies showing the standard time that medical personnel need to perform each task. Moreover, the Council should be held accountable to provide information on the rationale for its decisions and analysis of its expected impact.

Regional imbalances in the availability of physicians and hospitals are another concern, particularly in the context of Japan's relatively low number of doctors. There are few mechanisms to achieve a balance, apart from regional limits on hospital beds to avoid over-supply. Physicians have the freedom to choose where to practice. In a system where medical fees are identical throughout the country, non-price mechanisms are needed to achieve regional balance. This could be achieved by measures linking medical university education and the future working location of physicians.

## Maintaining universal coverage in a context of rising relative poverty

A significant share of the population does not pay health insurance premiums. The share of households that is supposed to be covered by NHI but are delinquent in their

premium payments increased from 19% in 2006 to 21% in June 2008, according to the Ministry of Health, Labour and Welfare. Given that the NHI is supposed to cover 40% of the population (Figure 4.5), more than 8% of the population is delinquent in their premium payments. One-third of this group has a short-term insurance card (up to three months) or a "qualifying certificate". Households with certificates are responsible for all of their medical bills. These costs can later be reimbursed but overdue premiums can be subtracted from the reimbursement. The remaining two-thirds (almost 6% of the total population) have normal insurance. In 2007, most of the 1.2% of the population (or 2.3% of households) receiving public assistance also received health benefits via public assistance.

Universal coverage requires improving compliance in paying premiums through a number of steps. *First*, including more non-regular workers, who are currently covered by the NHI, in employee-based health insurance would improve compliance. Moreover, it would reduce the incentives that have prompted firms to increase the share of non-regular workers in recent years, which poses both equity and efficiency problems (Chapter 1). *Second*, ensuring that low-income households – even if they do not qualify for public assistance – receive health insurance benefits in practice should be a priority, perhaps through a means test that allows low-income persons to be promptly exempted from premiums even if they do not qualify for public assistance. *Third*, better enforcement of premium payments would increase compliance.

In addition, a significant proportion of households limits the use of health care for financial reasons. According to an HIPJ poll in 2007, 26% of respondents had a specific medical problem during the preceding year but elected not to visit the doctor because of the cost (Table 4.7). Not surprisingly, the proportion is higher among low-income households (40%) than those with high incomes (16%). Moreover, it is high compared to other countries with similar data (Panel B), perhaps due to the relatively high co-payments

Table 4.7. **Access to health care**

Proportion that did not seek health care due to the cost[1]

**A. In Japan**

| Income class[2] | Did not visit doctor for a medical problem[3] | Did not purchase a prescription drug[4] | Did not get follow-up recommended by doctor | Did not visit a dentist for dental care |
|---|---|---|---|---|
| High | 16 | 4 | 9 | 13 |
| Middle | 25 | 11 | 16 | 23 |
| Low | 40 | 18 | 26 | 40 |

**B. International comparison**

| | Japan | Australia | Canada | New Zealand | United Kingdom | United States |
|---|---|---|---|---|---|---|
| Did not visit doctor for a medical problem | 26 | 11 | 5 | 20 | 3 | 24 |
| Did not purchase a prescription drug | 11 | 19 | 13 | 15 | 7 | 26 |
| Did not get follow-up recommended by doctor | 17 | 15 | 6 | 14 | &2 | 22 |
| Did not visit a dentist for dental care | 24 | 33 | 26 | 37 | 19 | 35 |

1. During the preceding 12 months. Based on a January 2007 poll of 1 076 persons.
2. High income (corresponding to top 20%) is defined as annual household income of more than 8 million yen and net financial assets over 20 million yen. Low income (corresponding to the bottom 20%) is defined as annual household income of less than 3 million yen and net financial assets of less than 3 million yen.
3. A follow-up survey in January 2008 reported similar figures of 18% (high income), 29% (middle income) and 39% low income.
4. A follow-up survey in January 2008 reported 2% (high income), 11% (middle income) and 16% (low income).

*Source:* Healthcare Policy Institute, Japan and 2001 Commonwealth Fund International Health Policy Survey.

in Japan, despite the ceiling. If monthly payments surpass 80 000 yen per month (about a quarter of the average wage), the co-payment rate for additional treatment falls to 1%. However, this ceiling may not be fully understood by the population. A January 2009 HPIJ poll found that 81% of the population has heard of the "High Cost Medical Treatment System", which places a limit on co-payments, but that only 55% understand at least part of it. It is important to lower the ceiling on co-payments to increase access to health care. This is particularly important as there is rising concern about being able to pay for health care in the context of the recession. In another HIPJ poll, the proportion of the population that is "very worried" that they will not be able to pay their medical bills in the event of serious illness jumped from 28% in 2007 to 43% in 2009, while another 44% are "somewhat worried". The share that is "very worried" is highest among those under age 40 (over 50%) and among part-time workers (55%).

## Conclusions

The health-care system, which offers a standard level of care while keeping total health spending relatively low, appears consistent with the current preferences of the Japanese.[34] However, the pressure to increase health spending, dissatisfaction with quality, imbalances in the system and the significant number of persons who do not pay health insurance premiums point to the need for broad-based reforms, summarised in Box 4.3.

### Box 4.3. **Summary of recommendations to reform the health-care system**

**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.
- Improve the payment system by reforming the Diagnosis Procedure Combination to strengthen incentives for hospitals to increase efficiency and extending the case-mix based approach more broadly and by modifying the reimbursement rate for outpatient treatment in some cases to reduce the large number of consultations.
- Expand the use of generic medicine, for example by moving towards making them the standard for reimbursement.
- Use monetary incentives, notably higher tobacco taxes, to encourage healthy ageing.
- Introduce gatekeepers to reduce the number of unnecessary consultations with specialists.
- Implement electronic billing and consolidate health insurers as scheduled to reduce administrative costs and increase quality, while strengthening effective competition for the Social Insurance Medical Fee Payment Fund.
- Implement measures to collect and analyse hospital performance.
- Relax the rules that prevent equity finance to facilitate the restructuring of the hospital sector.
- Implement reform initiatives to address the fragmentation of insurers.
- Shift toward general tax revenue to finance health care for the elderly to avoid unduly increasing labour costs.

Box 4.3. **Summary of recommendations to reform the health-care system** *(cont.)*

**Enhance the quality of health care**

- Shorten the drug and medical device lag by reducing the cost of clinical trials in Japan, accepting more results from other countries, particularly in Asia, and ensuring that reimbursement levels are appropriate.
- Expand mixed billing to make treatments not yet covered by public health insurance more affordable, while addressing the inequality in premium payments in promoting equality.

**Addressing the imbalances in the health-care system**

- Base the fee-setting process on rigorous cost and productivity studies.
- Reconsider wide usage of measures linking medical university education and the assignment of the working place of doctors.

**Ensuring universal coverage in the context of rising relative poverty**

- Improve compliance in paying premiums.
- Ensure that low-income households – even if they do not qualify for public assistance – receive health insurance benefits in practice.
- Increase the participation of non-regular workers in employee-based insurance systems.

## *Notes*

1. Longevity indicators do not fully reflect a country's health status as they do not take account of the severity and prevalence of sickness and functional disability.
2. The rate of obesity, defined as a body mass index over 30, was only 3% in Japan in 2004, compared to an OECD average of 15% (OECD, 2007).
3. The government provides health care directly through public doctor's clinics, which number around 5 000 (5% of the total) and are located primarily in rural areas. Three-quarters are run by local governments.
4. Claims are reviewed by a committee, which denies payment for inappropriate or fraudulent claims and ensures that all reimbursements are for services covered by insurance. Around 1% of claims are refused.
5. In other OECD countries, medical treatments that are not covered by public health insurance are financed by out-of-pocket payments. In Japan, patients that combine new medicines or treatments that are not included in the prescribed treatment of a certain illness in the health insurance package with services that are included must pay not only the cost of the additional treatments but also the cost of services in health insurance. In fact, there are no data on the amount of spending on uncovered services as they do not pass through the public health insurance system.
6. Only one-third of OECD countries require co-payments by patients for hospital care. Of those that do, all except Korea and Japan set a fixed amount as co-payment rather than a percentage. For ambulatory care, two-thirds of countries require co-payments. Japan's rate of 30% is the second highest.
7. In some rural areas where more than half of the population is over age 65, municipal insurers record losses even with subsidies amounting to 80% of their costs.
8. A number of econometric studies have found that higher co-payment rates restrain health spending (Kumagai, 2007). Assuming the standard price elasticity of 0.1 to 0.2, health-care spending would have been 3% to 6% higher in the absence of the 30% co-payment.

9. One study (Kumagai, 2007) found that an increase in non-monetary costs, such as waiting time, reduced demand for health care.
10. It consists of seven representatives each from providers and payers, as well as six academics. In addition, there are a maximum of ten specialist members who are allowed to express their views when requested.
11. Payment of dividends and the distribution of assets are prohibited, making equity financing irrational.
12. In-home services accounted for most of the increase, rising from 0.9 million in 2000 to 3.0 million in 2009. The increase in in-facility services was much more modest, from 0.5 million to 0.8 million over that period.
13. According to one study (Mehrotra *et al*., 2003), "When surveyed, 81% of health-care economists stated that technological change in medicine was the primary reason for the rise in health expenditures".
14. The OECD measure of health spending is broader than Japan's "national medical expenditure" (NME) as it includes preventative health care and over-the-counter drugs. NME is about 80% of the OECD measure.
15. The improvement scenario is based on "bold reform with a view to realising the ideals of health and long-term care service".
16. The demographic effect for the OECD area is less at 1.8% points. Consequently, the rise in health and long-term care spending, from 6.8% of GDP to between 10.1% and 12.9%, is less than that for Japan.
17. The government, though, has no estimates of the extent of the cost saving. Of course, some long-term care patients with chronic medical problems need to remain in hospitals, as envisioned in the government plan.
18. The objective is to reduce it to the point midway between the national average of 36 days and the average of Nagano prefecture, which is the shortest in the nation at 27 days.
19. There are 16 Major Diagnosis Categories that are divided into 1 727 diagnostic groups, which in turn, are subdivided into 2 552 DPC groups.
20. However, realizing such a benefit requires that hospitals do not "game the system".
21. Given that the DPC started in 82 prestigious university and public hospitals, other hospitals were anxious to acquire this mark of prestige.
22. In the case of re-admission within three days, the length of hospital stay is calculated as the total of both periods in the hospital.
23. Providers can buy drugs and medical devices from wholesalers at prices below those in the fee schedule due to competition. When revising the fee schedule, the government sets prices 2% above the market price. For example, if the price of a drug set at 110 yen is available at 100 yen in the market, its price in the fee schedule would be cut to 102 yen. In 2008, the prices of 88.7% of the 12 740 listed drugs were decreased, 10.7% were left unchanged and only 0.5% increased. The average was a 5.2% decline.
24. On a prefectural basis, the difference was less than two based on the simple average of premiums.
25. In addition, 4 885 of the 49 010 private doctor clinics have beds, but the average is only 10.8 beds.
26. For example, the average hospital stay for Major Diagnosis Category 1 (nervous system diseases) ranges from 14.6 days to 27.4 days (Wang *et al*., 2008).
27. Among Asian countries, Japan had the shortest delay in 1994. In 2004, in contrast, its delay was longer than in such developing countries as the Philippines, Thailand, Malaysia and Indonesia.
28. The International Conference on Harmonisation of Technical Requirement for Registration of Pharmaceuticals for Human Use (ICH) is a project that brings together the regulatory authorities from Europe, Japan and the United States and experts from the pharmaceutical industry in the three regions to discuss scientific and technical aspects of product registration.
29. For PMA-equivalent products, 32% mentioned non-clinical trial data required in Japan and 27% cited additional clinical trials required in Japan. For 510(k) equivalent products, the proportions were 40% and 10%, respectively (ACCJ, 2008).

30. This is discussed in a report, "Improving Access to Medicines for NHS Patients" to the Secretary of State for Health (Richards, 2008). NHS and private treatments must be separated.

31. In one incident in January 2009, an elderly Japanese man with head injuries after getting struck by a motorcycle was rejected by 14 hospitals, which cited a lack of specialists, equipment and staff. The man died 90 minutes later of blood loss at a facility that finally accepted him (*Japan Times*, 5 February 2009).

32. Cases of bribery involving members of the Council further complicate the task of making scientifically-based revisions of prices (*Japan Times*, 3 December 2004).

33. For example, the cost of a head MRI was reduced by almost one-third in 2002 when overall medical fees and prices were decreased by only 2.7%.

34. According to a January 2007 HPIJ poll, 57% favoured a "low-burden, low-benefit, equity-oriented" system that provides a standard level of health care to all citizens, while maintaining a low level of tax and social security premiums. Only 12% preferred a "high burden, high-benefits, equity-oriented" system. Another 25% opted for a "low-burden, low-benefit, self-choice" system in which health care exceeding the standard level is offered to individuals at their own expense, thus allowing the level of services to vary by income and preferences.

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*Chapter 5*

# Improving the policy framework in Japan to address climate change

*Japan, a relatively energy-efficient country, has been active in combating climate change. Under the Kyoto Protocol, Japan is committed to reducing greenhouse gas emissions by 6% relative to 1990 over the period 2008-12. As of 2007, however, its emissions were up by 9%. Japan has relied primarily on voluntary measures, which are monitored by the government, without binding commitments or price signals on carbon. It is essential to improve the policy framework to achieve its ambitious longer-term target of a 60% to 80% emission reduction by 2050 in a cost-effective manner. Japan should shift from voluntary measures to market-based instruments, notably a mandatory and comprehensive emission trading scheme, supplemented if necessary, by carbon taxes in areas not covered by trading, which minimise abatement costs and promote innovation to reduce emissions. Trading schemes should be linked to those in other countries, while expanding Japan's use of a well-functioning Clean Development Mechanism. Continued public support for R&D in emission reduction technology, particularly in basic research, is important.*

Global climate change is one of the key concerns of the 21st century, with serious environmental and economic implications. While there are significant uncertainties about the cost of inaction, it would likely be immense as sea levels rise, agricultural yields decline and infectious diseases become more prevalent.[1] Indeed, climate change risks unpredictable and irreversible damage worldwide, posing sustainability challenges. Ambitious action to reduce greenhouse gas (GHG) emissions – the main driver of climate change – is therefore a priority.

Japan is active in the effort to limit climate change and increase energy efficiency. It launched an Action Programme to Halt Global Warming in 1990 and ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1993. Under the Kyoto Protocol, Japan committed to cut its GHG emissions by 6% from the 1990 base year. In June 2009, Japan announced a target of cutting its emissions by 15% from the 2005 level by 2020 through domestic reductions alone. Given that GHG emissions increased by 7.7% between 1990 and 2005, the new target implies a reduction of about 8% by 2020 from the 1990 base year.[2] This mid-term target is a step towards Japan's long-term objective of cutting its own emissions by 60% to 80% by 2050.

$CO_2$ emissions from energy use account for 60% of GHG emissions in the world, about 80% in developed countries and 89% in Japan. Policies to limit GHG emissions in Japan are thus closely linked to energy efficiency. GHG emissions per capita, which can be broken down into per capita income, energy intensity and GHG emissions per unit of energy, were more than one-fifth below the OECD average in 2005 (Table 5.1, Column A). This reflects Japan's relatively low level of energy intensity (Column C),[3] which more than offset the impact of its above-average per capita income (Column B). In addition, Japan's GHG emissions per unit of energy were also below the OECD average (Column D). The relatively good performance in 2005 was achieved despite some negative trends over the period 1990 to 2005 (Panel B). Indeed, Japan's GHG emissions per capita rose 11.8% over that period, far outstripping the OECD average (Panel A), despite its relatively weak economic growth (Column B). While energy intensity dropped 15.3% in the OECD area between 1990 and 2005 (Column C) and GHG emissions per unit of energy fell 6.5% (Column D), Japan recorded much smaller declines. Meeting its Kyoto commitment, its mid-term target and its long-term goal for emission reductions will be a difficult challenge for Japan given its emissions profile and already high level of energy efficiency.

After a brief overview of Japan's policy framework, this chapter analyses and assesses specific measures implemented to reduce GHG emissions. It then describes Japan's performance under this policy framework in terms of the Kyoto Protocol targets and discusses policies necessary to achieve its objectives. Policy recommendations are summarised in Box 5.2 at the end of the chapter.

Table 5.1. **Decomposition of GHG emission trends**[1]

**A. Level in 2005**

| | (A) GHG emissions/ population[2] | (B) GDP/population[3] | (C) Energy/GDP[4] | (D) GHG emissions/energy[5] |
|---|---|---|---|---|
| Canada | 23.1 | 30.6 | 0.206 | 3.7 |
| France | 8.6 | 26.5 | 0.105 | 3.1 |
| Germany | 12.0 | 26.6 | 0.114 | 4.0 |
| Italy | 9.7 | 25.7 | 0.096 | 3.9 |
| **Japan** | **11.2** | **27.1** | **0.102** | **4.0** |
| United Kingdom | 11.1 | 28.2 | 0.095 | 4.1 |
| United States | 25.0 | 36.9 | 0.145 | 4.7 |
| OECD average | 14.4 | 25.8 | 0.127 | 4.4 |

**B. Percentage change between 1990 and 2005**

| | GHG emissions/population[2] | GDP/population[3] | Energy/GDP[4] | GHG/energy[5] |
|---|---|---|---|---|
| Canada | 8.2 | 29.7 | –15.6 | –1.2 |
| France | –4.7 | 22.1 | –9.2 | –14.0 |
| Germany | –19.0 | 21.9 | –19.8 | –17.2 |
| Italy | 9.6 | 17.3 | 3.0 | –9.3 |
| **Japan** | **11.8** | **16.7** | **–4.0** | **–0.2** |
| United Kingdom | –10.6 | 36.5 | –22.1 | –15.9 |
| United States | –0.9 | 30.8 | –21.4 | –3.5 |
| OECD total | 2.1 | 28.9 | –15.3 | –6.5 |

1. GHG emissions/population = (GDP/population) * (Energy/GDP)* (GHG emissions/energy).
2. In tCO2 eq per head.
3. In thousand US$ using PPP exchange rates for the year 2000.
4. For total final energy consumption in ktoe/billion PPP US$ for the year 2000.
5. For total final energy consumption in Mt $CO_2$eq/ktoe. In ktoe/billion PPP US$ for the year 2000.

*Source:* IEA and OECD calculations.

## Japan's policy framework to address climate change

In 1997, the government established the Global Warming Prevention Headquarters to achieve the Kyoto Protocol target. The Prime Minister serves as chairperson,[4] with all other state ministers included as members. The Kyoto Protocol Target Achievement Plan includes about 60 initiatives that are primarily aimed at improving energy efficiency. The Headquarters biannually reviews progress in each sector and co-ordinates measures against climate change. In 2008, Japan announced the Action Plan for Achieving a Low-Carbon Society to support the adoption of a goal at the 2008 G8 Summit to reduce global emissions by 50% by 2050 (Box 5.1).

Box 5.1. **Recent climate change initiatives in Japan**

**Cool Earth 50 (May 2007)**

1. Launching a national campaign to achieve the Kyoto Protocol target
   - Call upon the Japanese society to re-examine their lifesytles and call for new efforts and ideas to reduce GHGs, with the motto "one kilogramme per person per day".
2. Three principles to build a new framework beyond 2012
   - Participation of all major emitters to move beyond the Kyoto Protocol to reduce global emissions.

Box 5.1. **Recent climate change initiatives in Japan** *(cont.)*

- Adopt a flexible and diverse framework, taking into consideration the circumstances of each country.
- Achieve compatibility between environmental protection and economic growth through energy conservation and other technologies.

3. Long-term strategy
   - Cut global GHG emissions by 50% from the current level by 2050 as a common goal for the whole world.
   - Create a long-term vision of innovative technology and a low-carbon society.

**Cool Earth Promotion Programme (January 2008)**

1. Post-Kyoto Framework: GHG emissions must peak within 10 to 20 years and be reduced by at least half by 2050.
   - Create a framework in which everyone participates, including *inter alia* all major emitters.
   - Set the target based on a bottom-up approach using factors such as energy efficiency on a sectoral basis and adding up the reduction potential that can be achieved based on the technology available in the future.
2. International environmental co-operation
   - Propose a global target of improving energy efficiency by 30% by 2020.
   - Establish a new financial mechanism, the "Cool Earth Partnership", on the scale of $10 billion to support efforts to reduce emissions in developing countries.
3. Innovation
   - Develop innovative technologies to promote a shift to a low-carbon society.
   - Invest about $30 billion over the next five years in R&D in the environment and energy efficiency.

**In pursuit of "Japan as a Low-Carbon Society" (July 2008)**

1. Japan's mid-term and long-term goals

   A) Mid-term goals
   - Reduce global GHG emissions, which should peak in 10 to 20 years, and achieve a 50% cut by 2050.
   - Set quantitative national targets based on the analysis of reduction potential by applying a sectoral approach and improve global energy efficiency through technology transfer.
   - Announce Japan's national target in 2009 (the mid-term target was announced in June as noted above).

   B) Long-term goals
   - Share globally the goal of reducing GHG emissions by 50% by 2050.
   - Set a goal of a 60% to 80% reduction in GHG emissions by 2050 for Japan.

2. Concrete measures (Four Pillars)

   A) Develop new innovative technologies and disseminate existing advanced technologies to other countries.
   - Contribute up to $1.2 billion to a new multilateral fund to support efforts by developing countries.

Box 5.1. **Recent climate change initiatives in Japan** *(cont.)*

- Create an International Partnership for Environment and Energy to develop innovative technologies.
- Increase use of solar energy in Japan by ten times by 2020 and by 40 times by 2030 from its current level.
- Convert all light bulbs from incandescent to low-energy bulbs by 2012.
- Promote next-generation vehicles so that they account for half of vehicles sold in 2020.
- Develop systems to promote energy-efficient homes and buildings, and build housing that lasts 200 years.

B) Framework to move Japan toward a low-carbon society

- Launch a trial run of an integrated domestic market for emissions trading from the fall of 2008.
- Carry out a comprehensive review of the tax system that considers the introduction of environmental taxes.
- Implement a carbon footprint system on a trial basis from FY 2009 to promote the visibility of $CO_2$ emissions.

C) Regional activities

- Select ten model environmental cities and provide government backing to achieve large emission cuts.

D) Nation-led low-carbon society

- Consider the introduction of a summer time system, and establish 7 July as Cool Earth Day.

## Analysis of specific policy measures

Japan's current policies can be divided into three categories; *i)* reducing domestic emissions through voluntary action plans, improving energy efficiency and developing renewable energy sources; *ii)* absorbing $CO_2$ by increasing forest carbon sinks; and *iii)* obtaining emission credits through the Kyoto mechanisms, including the Clean Development Mechanism (CDM). This section evaluates the results of these policies.

### *Reducing domestic emissions*

#### *Voluntary action plans*

In 1997, Keidanren (Japan Business Federation) established the Voluntary Action Plan (VAP) on the Environment, which set a target of keeping $CO_2$ emissions in FY 2010 below their FY 1990 level. The 35 industrial organisations (such as the Iron and Steel Federation, which has 134 firms) that participate in this initiative accounted for 84% of the total amount of $CO_2$ emitted by the industrial and energy conversion sectors and 45% of Japan's total $CO_2$ emissions in FY 1990. Progress is reviewed annually by Keidanren as well as by the government and NGOs. By 2006, overall $CO_2$ emissions had decreased by 1.5% from the 1990 level, although this partly reflected a modest increase in production of only 12% over that period. As a result, 17 organisations increased their reduction targets for the following year. In a separate initiative, industrial organisations, including some that are not affiliated with Keidanren, announced their own GHG reduction objectives. As of

March 2008, 54 organisations in the industrial and energy conversion sector, 17 in the transport sector and 32 in other sectors, primarily services, had established measurable targets and their performance was monitored by the government and NGOs.

Japan's efforts to cut domestic emissions through voluntary measures have thus had some positive results. The advantage of voluntary agreements, which are also used in some other OECD countries,[5] is to avoid procedural costs for government and industry and to provide favourable publicity to firms, thus encouraging them to participate. In Japan, monitoring by the government and NGOs and social pressure encourages compliance with voluntary targets, leading to reductions in the industrial sector.[6] However, a voluntary approach is not cost-effective, as the marginal cost of abatement is likely to differ between emitters, and does not provide adequate incentives to motivate emitters to innovate and find abatement options beyond their voluntary agreements that are large enough to meet the Kyoto Protocol targets. Firms may use their informational advantages over policy makers to target emission reductions equal to what would have been achieved in any case. Moreover, a voluntary approach cannot cope effectively with risk and uncertainty (Duval, 2008). Japan should shift policies to combat climate change to market instruments in order to achieve long-term goals in a cost-effective way.

### *The creation of a voluntary emissions trading system*

Japan's Voluntary Emissions Trading System (JVETS) was launched in 2005 to gain experience with emission trading. For participating firms, one-third of the cost of new facilities to reduce emissions is borne by the government, which is an incentive for firms to join JVETS as such facilities also tend to reduce their energy costs. Firms that fail to achieve their objective must purchase credits from firms that have achieved larger-than-targeted reductions or return the subsidy to the government.[7] The system now includes 199 firms that voluntarily pledge to reduce emissions relative to their average during the previous three years. In FY 2007, the committed reduction was 21% below this baseline and, in the event, a 29% cut was achieved. However, the JVETS is at an early stage. The participating firms account for less than 1% of $CO_2$ emissions from the industrial sector and they are allowed to set their own targets for emission reductions. In FY 2007, there were only 51 transactions with a total value of 68 million yen ($0.7 million).

In October 2008, the government launched a trial emissions trading system (ETS) that includes the JVETS as an option. The targets of the trial ETS are not ambitious, as the main objective is to gain experience in using an ETS system. After an intensive recruitment process, 715 firms, including 521 firms with targets accounting for about two-thirds of $CO_2$ emissions by the industrial sector, agreed to participate. Firms already part of the Keidanren's VAP set their targets in line with their individual VAP commitment, while the other firms use the target-setting method of the JVETS. The trial ETS allows participants to use Kyoto mechanism credits (see below) and domestic crediting mechanisms, which permit them to claim the $CO_2$ reductions achieved through their joint efforts with small and medium-sized enterprises (SMEs). Credits are created when SMEs achieve lower emissions, relative to their estimated emissions based on a business as usual approach, using technology and finance provided by large firms.

Firms that fail to achieve their targets face no penalties, although the JVETS participants have to return their subsidies to the government. This voluntary approach reflects concerns in part of the business community, which opposes the idea of mandatory caps on emissions on the grounds that it would hinder economic growth and impede corporate activity. However, it is clear that companies will eventually have to make deep

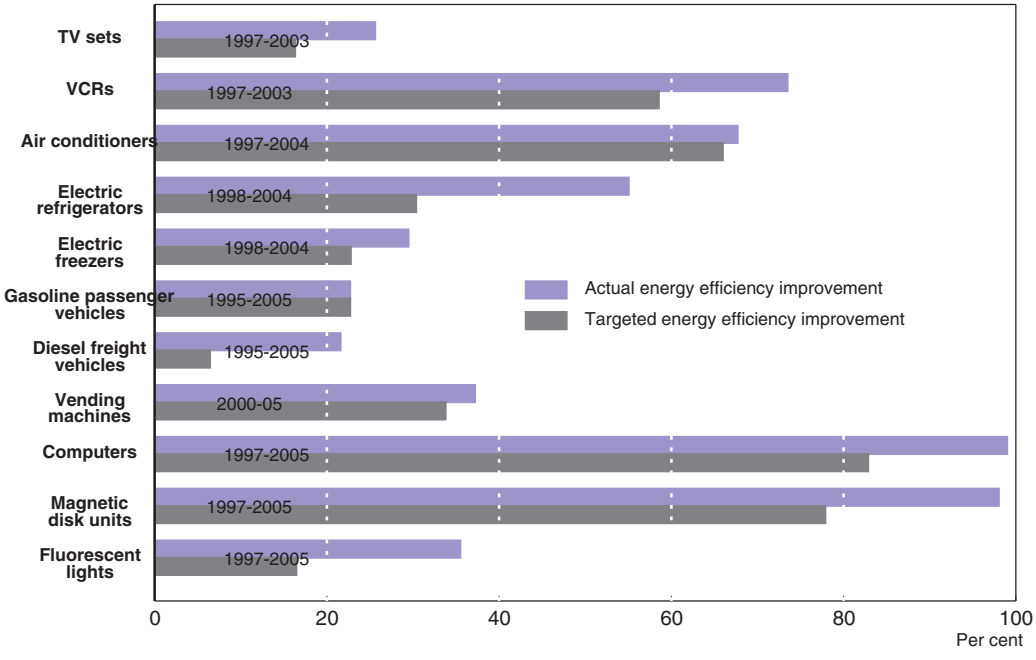
cuts in their emissions in order to achieve Japan's Kyoto objective and its medium and long-run GHG reduction targets.

### *Top Runner Programme to improve energy efficiency*

The *Top Runner Programme* aims at upgrading the energy efficiency of a variety of products to the highest level possible. The government finds the most efficient model on the market and then uses that as the basis for discussions with producers to set a target for energy efficiency within a certain number of years. In many countries, in contrast, the energy efficiency of products is subject to minimum efficiency performance standards (OECD, 2006).[8] This Programme started in 1999 with ten product categories and has expanded to 23. The scheme imposes two legal obligations on manufacturers and importers to achieve technological advances. *First*, they are required to provide information about the end-use energy performance of their products. *Second*, they must prove that the weighted average energy performance of the products they sell in the target year meets the standard. The Ministry of Economy, Trade and Industry can disclose the names of companies that fail to meet the target, as well as issue recommendations, orders and fines. To date, no enforcement actions have been taken, as every producer has been found to meet or exceed the target (Figure 5.1). According to one study (Ito, 2007), the introduction of the *Programme* has reduced energy consumption by 5% in road transport and by 8% in the residential sector.

The positive impact of the Top Runner Programme is a result of several factors (Nordqvist, 2006). *First*, the producers subject to the regulation are themselves involved in setting targets, resulting in high levels of awareness and commitment and ensuring that

Figure 5.1. **Target and performance of the Top Runner Programme**[1]




1. The energy efficiency standard is defined in terms of kilometres per litre for vehicles and kWh/year for electronic appliances. The "energy efficiency improvement" shows the change in this indicator. For example, if energy efficiency increased from 10 kilometres per litre to 15, that would be a 50% improvement.

*Source:* Energy Conservation Centre (2008).

StatLink http://dx.doi.org/10.1787/725603221672

the targets are feasible. *Second,* "name-and-shame" sanctions are effective deterrents in Japan, prompting companies to make considerable efforts to achieve the targets. The Programme is effective because it puts the brand image of a company at risk. *Third,* energy efficiency is perceived as a competitive advantage, making manufacturers supportive of the Programme's objectives. *Fourth*, the markets covered by the Programme are dominated by domestic actors, reducing the risk of objections from stakeholders outside Japan.

Despite some success, there is room to strengthen the Top Runner Programme, particularly with respect to target-setting, the scope of coverage, interim reporting and evaluation (Nordqvist, 2006 and OECD, 2008c).

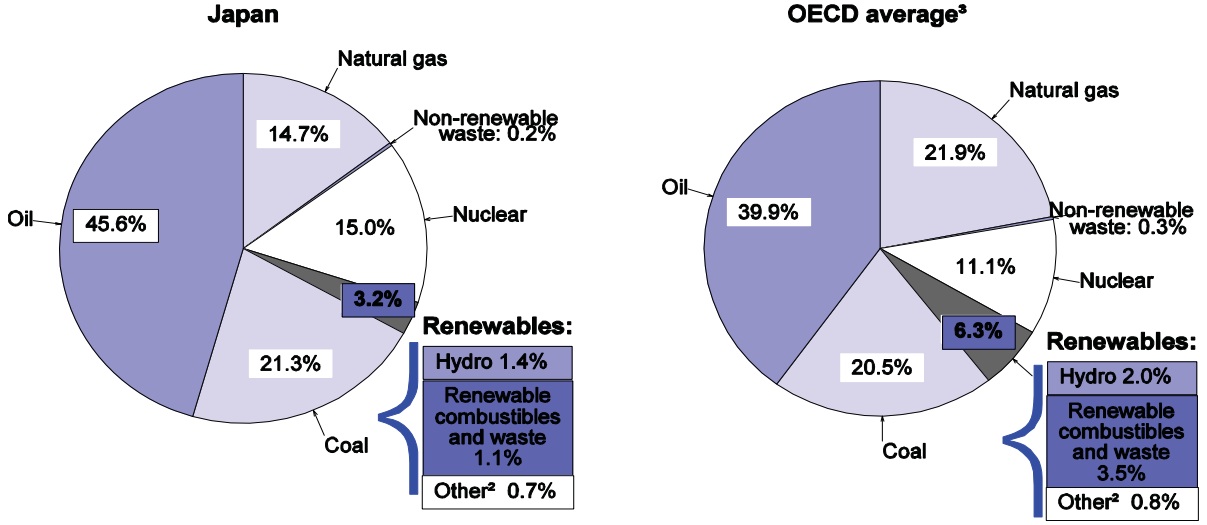
- Generally, the most common critique of the target approach is that its focus on "realistic" levels of energy efficiency encourages only incremental improvements, while giving no incentives for breakthrough innovations. In particular, firms with the most energy-efficient products at the start of a target cycle do not need to invest to achieve additional efficiency gains during the compliance period. Strengthening incentives for the "top runners" is necessary to promote breakthrough technological advancements.
- Some products covered by energy efficiency standards in other countries are not included in the Top Runner Programme. One key priority would be residential and commercial heating, which accounts for about 12% of total energy consumption. Japan should extend its coverage to include other residential and commercial products, as well as industrial and transport products that use significant amounts of energy while phasing out the Programme as market-based instruments become effective.
- The performance under the Top Runner Programme is usually evaluated in the target year. To accelerate efforts for energy efficiency, it would be helpful to evaluate and publish results even before the target is mandatory.
- The financial and economic costs and benefits of the Programme should be analysed.

### *Development of renewable energy sources*

The share of renewable energy in the total primary energy supply in Japan was only 3.2%[9] in 2006, half of the OECD average of 6.3% (Figure 5.2) and the sixth lowest in the OECD area. Moreover, its share declined from 3.4% in 1990 to 3.2% in 2006, while the share in the OECD area increased from 5.8% to 6.3% over the same period. It should be noted that the potential for renewables in each country depends on a number of factors, including geography. Japan's low share reflects the limited amount of energy generated by renewable combustibles and waste. In contrast, it plays a larger role in solar energy: in 2006, Japan produced more than half of the world's solar panels, and ranked second in the world in generating energy by photovoltaic facilities, with almost one-third of the total.

In 2009, Japan set a target to increase the share of renewable energy to 20% of total primary energy supply by 2020 to help achieve its mid-term emission reduction objective.[10] In particular, for photovoltaic generation, a twenty-fold increase from its 2005 level is expected by 2020. To achieve this goal, a number of policies are aimed at reducing the price of such systems by half within three to five years through technological innovation and demand creation to exploit economies of scale. Although setting long-term targets for other renewable energy sources would encourage private-sector investment in these areas, it is not a cost-effective approach. Instead, the authorities should develop transparent and efficient instruments to support the development and use of renewable energy in the short run, while relying on the correct pricing of GHG emissions to achieve the optimal share of renewables in the long run.

Figure 5.2. **Energy sources in the OECD area in 2006**




1. As a share of total primary energy supply.
2. Geothermal, wind, solar and tide.
3. Excludes Iceland, Mexico and Portugal.

*Source:* OECD (2008e), *Renewables Information*, OECD, Paris and IEA/OECD (2008), Energy *Balances of OECD Countries*, Paris.

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The share of renewable energy sources in generating electricity in Japan fell from over 20% in the 1970s to about 10% in 2006, well below the OECD average of 15%. The declining share reflects the fact that electricity from hydro lagged behind the overall growth of electricity generation. Nevertheless, hydro still had the largest share of renewable generation at 79%, followed by biomass (17%), geothermal (3%) and wind (2%).[11] The 2003 Renewable Portfolio Standard (RPS) established procurement quotas to increase the volume of electricity generated from renewable energy sources (excluding hydro) from 7.3 billion kWh in 2003 to 12.2 billion kWh in 2010 (which is equivalent to around 1% of total electricity generation). In 2007, a target of 16 billion kWh was set for 2014. The annual goals have been easily achieved during the first few years, as the objective in 2006 was below the actual share of renewable energy in 2004. However, achieving the target is becoming more challenging each year. The RPS appropriately does not specify which renewable sources are to be increased, thus allowing a cost-effective expansion to meet the overall goal. Utilities can meet their obligations by trading with other utilities. Encouraging such trading would limit the excess cost paid by consumers to achieve the 2014 target, which may amount to 130 billion yen ($1.4 billion) (OECD, 2008c). Boosting the use of renewable energy depends in part on technological advances, an area where Japan is strong. Although total R&D outlays on energy fell slightly between 1996 and 2006, Japan's R&D on renewables more than doubled over that period (OECD, 2008c).

A related goal in the 2008 Action Plan for Achieving a Low-Carbon Society is to increase the proportion of electricity from zero-emission sources, notably renewable and nuclear, from 40% in 2006 to over 50% by around 2020. Power generation from nuclear plants accounted for 28% of total electricity and 11% of total primary energy supply in 2006. With 53 operating nuclear plants, Japan is the third-largest user of nuclear power in the world. The plan to construct 13 additional nuclear power plants, of which nine are to be completed by 2017, will help meet the 2020 target.

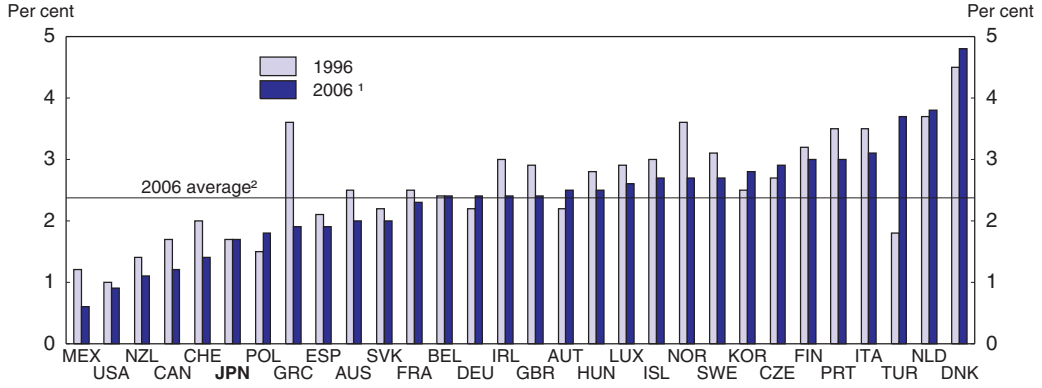
One of the major sources of renewable energy is biomass. The government is promoting the utilisation of this energy source to address climate change and to promote the development of agriculture and forestry, based on the revised 2006 "Biomass Nippon Strategy", which includes the establishment of 300 "Biomass Towns" that will rely extensively on biomass. By July 2009, 218 towns had been recognised. In 2007, the government announced a roadmap aimed at increasing the annual production of biofuels (ethanol and diesel) from the 2006 level of around 5 000 to 60 000 kilolitres within a few years. However, the high cost of biofuels suggests some caution in promoting this energy source. Indeed, the cost of support to biofuels is estimated at between $960 and $1 700 per tonne of $CO_2$ saved in the United States, Canada and the European Union, according to a recent study (OECD, 2008a), compared to the price of $15 to $30 price per tonne in the EU ETS.

### *Making the tax system greener*

A number of reforms have been introduced recently to make the tax system more environmentally-friendly: *i)* the motor vehicle tonnage tax and the automobile acquisition tax were reduced or exempted in 2009 for environment-friendly automobiles until 2012; *ii)* the automobile tax was cut by 25% to 50% depending on a vehicle's environmental performance; *iii)* households were given tax credits for energy-saving measures, including solar panels; and *iv)* firms are allowed to take immediate depreciation on investment in facilities that produce energy-saving products, such as solar panels, until 2011. These measures provide reductions in personal or corporate income taxes to encourage energy-saving measures. However, tax breaks to subsidise environment-friendly activities are a poor substitute for taxing activities with negative externalities. Revenues from environmental taxes, which increase the cost of using energy and environmentally-harmful products, were only 1.7% of GDP in 2006, the sixth lowest in the OECD area (Figure 5.3) and well below the (unweighted) average of 2.3%.[12] Moreover, the share of environmental taxes has stayed around the same level for a decade. In the 2008 Action Plan for Achieving a Low-Carbon Society, the government stated that it would review the entire tax system, including environmental taxes, with a goal of reducing carbon emissions.

Figure 5.3. **Revenues from environmental taxes**

Per cent of GDP




1. For France, 2004 and for Belgium and the Netherlands, 2005.
2. Arithmetic average. The weighted average is 1.6%.

*Source:* OECD/EEA, Database on instruments used for environmental policy.

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Increasing environmental taxes in the fundamental tax reform planned for FY 2011 would not only reduce energy use and emissions but also help meet demands for more tax revenue,[13] although some could be used to increase public R&D on energy conservation.

### *Forest carbon sinks*

Forests, which cover about two-thirds of Japan, are an important source of carbon reduction. Forest carbon sinks[14] in the context of the Kyoto Protocol removed a net total of 37 million tonnes of $CO_2$ (2.7% of Japan's total emissions) in 2006. The Kyoto Protocol Target Achievement Plan implies that forest carbon sinks are expected to account for 3.8 percentage points of the 15% reduction needed to achieve Japan's overall reduction target (see below). Enhanced forest management practices are necessary, given that 65% of managed forests are still immature according to the Forestry Agency. The government launched a programme in 2007 that includes subsidies to help private owners of forest land (who own 58% of the total) improve the condition of their forests. The Forestry Agency estimates that an additional 0.2 million hectares of properly managed forest will be required each year between 2007 and 2012 in order to achieve Japan's goal for $CO_2$ reduction by forest carbon sinks.

Deforestation, primarily in developing countries, is estimated to account for up to 17% of global GHG emissions in recent years (IPCC, 2007). Reducing emissions from deforestation and forest degradation (REDD) could potentially lower the cost of reducing GHG (Burniaux *et al.*, 2009). Monitoring and providing financial incentives to developing countries for REDD requires incorporating forestry in an international agreement for a post-2012 framework. Japan's monitoring technologies for forests and willingness to participate in partnerships with developing countries would be helpful in this regard.[15]

### *The Clean Development Mechanism and other Kyoto mechanisms*

The Kyoto Protocol introduced three mechanisms – *emissions trading*, the *Clean Development Mechanism (CDM)* and *Joint Implementation (JI)*[16] – which together constitute the official international carbon market. These market-based mechanisms help countries meet their Kyoto commitments by reducing emissions or removing carbon from the atmosphere in a cost-effective way (both domestically and in other countries), stimulating sustainable development through technology transfers and investment and encouraging the private sector and developing countries to reduce emissions. Japan has purchased emission credits from the international market since 2004 to offset domestic emissions. The government expects the Kyoto mechanisms to account for 1.6 percentage points of the 15% reduction needed to meet the Kyoto target (see below). The CDM, which is the most used of the three mechanisms, generates credits from projects that reduce emissions in developing countries. The "certified emission reductions" (CERs) from these projects can be used by developed countries to meet their own emission targets, while helping developing countries achieve sustainable development. Japan, as a relatively energy-efficient economy, has large scope to use the Kyoto mechanisms to achieve its emission reduction obligation in a cost-effective way. As of April 2009, Japan was the fourth-largest buyer of CDM credits with 199 projects, 11% of the total number.

The New Energy and Industrial Technology Development Organisation (NEDO) has been commissioned by the Japanese government to acquire CERs and other types of emission reduction credits. The NEDO purchased credits for 55 million tonnes of $CO_2$ emission reductions by the end of FY 2008. In addition, Japan Carbon Finance Limited, established in 2004, uses money supplied by the Japan Greenhouse Gas Reduction Fund

(JGRF) to develop GHG reduction projects and to purchase emission credits. The JGRF was established in 2004 by a total of 33 entities, including private firms and two government banks. By June 2008, Japan Carbon Finance had purchased credits for 18.5 million tonnes of $CO_2$ reductions, which are then distributed to the investors in the JGRF.

Japan has made efforts to promote effective use of its official development assistance (ODA) to acquire credits under the CDM. In the creation of the CDM in 2001, it was agreed "that public funding for clean development mechanism projects … is not to result in the diversion of ODA". Such diversion, which can occur in financial, sectoral and regional terms, risks reducing investment in infrastructure projects in developing countries. CDM projects, in line with market principles, have thus far been concentrated in more advanced developing countries that have greater potential to reduce emissions, in contrast with ODA's primary objective of promoting the economic development of the poorest countries. Indeed, lower-middle and low-income countries, which receive 82.3% of Japanese ODA, were host for only 13.9% of Japan's CDM projects (Table 5.2). Three of the top ten ODA recipients did not receive any CDM projects, while relatively high-income countries, such as Brazil, Korea and Chile, had large shares (Panel B). Moreover, CDM projects are relatively

Table 5.2. **Overseas Development Assistance and the Clean Development Mechanism**

A. ODA recipients[1] and Japanese CDM projects[2] by host country grouped by income levels

| Income level[3] | ODA (in per cent) | CDM (in per cent) |
|---|---|---|
| High-income countries | 0.0 | 6.5 |
| Upper-middle income countries | 6.5 | 13.5 |
| China | 11.2 | 66.1 |
| Lower-middle income countries | 38.4 | 4.6 |
| Low-income countries | 43.9 | 9.3 |
| | 100.0 | 100.0 |

B. Top ten recipients of ODA[1] and Japanese CDM credits by host country[2]

| Top ten recipients of ODA[1] | Per cent of total | Per cent of CDM | Top ten recipients of CDM[2] | Per cent of total | Per cent of ODA |
|---|---|---|---|---|---|
| China | 11.2 | 66.1 | China | 66.1 | 11.2 |
| Nigeria | 9.6 | 0.0 | Brazil | 6.6 | 0.7 |
| Indonesia | 9.3 | 2.0 | Korea | 6.5 | 0.0 |
| Iraq | 7.6 | 0.0 | India | 3.2 | 5.5 |
| Philippines | 6.6 | 0.4 | Chile | 3.2 | 0.1 |
| Vietnam | 6.4 | 0.8 | Uzbekistan | 2.3 | 0.5 |
| India | 5.5 | 3.2 | Indonesia | 2.0 | 9.3 |
| Tanzania | 3.4 | 0.0 | Malaysia | 1.6 | 2.8 |
| Malaysia | 2.8 | 1.6 | Vietnam | 0.8 | 6.4 |
| Sri Lanka | 2.7 | 0.1 | Thailand | 0.7 | 1.9 |
| Total | 65.1 | 74.1 | Total | 92.9 | 38.3 |

1. Percentage of total Japanese ODA (excluding the portion that is not allocated to specific countries) during the period 2006-07.
2. All projects registered as of April 2009. When a project is financed by more than one country, Japan's share is estimated by the total emission reduction divided by the number of countries.
3. As defined by the World Bank. Per capita income is above $11 116 in high-income countries, $3 596 to $11 115 in upper-middle income countries, $906 to $3 595 in lower-middle income countries and below $905 in low-income counties. China is classified as a lower-middle income country.

*Source:* Clean Development Mechanism and OECD.

concentrated, with China alone accounting for two-thirds of total emission reductions from CDM projects and the top eight host countries accounting for more than 90%.

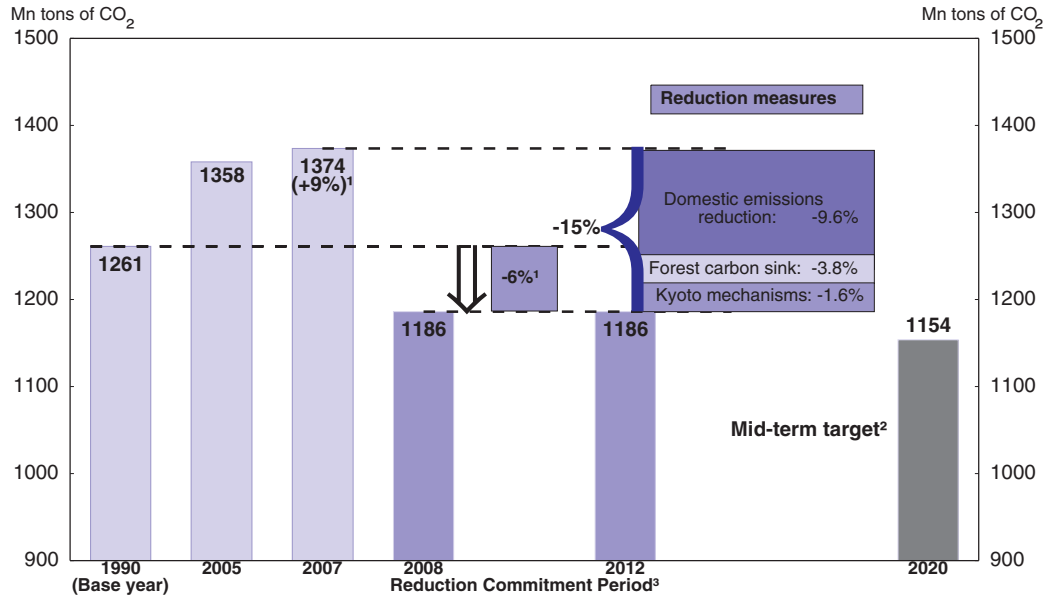
The OECD's Development Assistance Committee, which is responsible for compiling statistics on ODA, reached an agreement in 2004 that the value of emission credits received in connection with ODA-financed CDM projects should be deducted from ODA. In 2007, a Japanese loan for a project in Egypt was registered as the world's first large-scale CDM project directly assisted by bilateral ODA. The CDM Executive Board[17] agreed on the condition that the emission credits generated by this project were bought by a private firm in Japan and that the public funding for CDM projects would not result in the diversion of ODA. The Japanese government plans to continue to promote CDM by utilising ODA.

## Japan's performance under the Kyoto Protocol

As noted above, Japan agreed to reduce its GHG emissions by 6% relative to the 1990 base year over the period 2008-12 (Figure 5.4). However, emissions were up by 9% by 2007, indicating that the diverse set of measures discussed have failed to reduce emissions as envisaged under the Kyoto Protocol. The overall increase was explained by a rapid rise in the commercial and residential sectors. In addition, there was a fall in the capacity utilisation rate for nuclear power plants, from 73% in 1990 to 61% in 2007,[18] due in part to natural disasters, which also caused a decrease in hydroelectric power generation. The 15% reduction from the 2007 level is to be achieved through cuts in domestic emissions

Figure 5.4. **Overview of the Kyoto and mid-term emission targets in Japan**

Emissions in million tonnes of $CO_2$




1. Percentage change relative to the 1990 base year.
2. The mid-term target of a 15% decline by 2020, through domestic reductions alone, from the 2005 level of emissions, implies a fall in emissions to 1 154 Mn tonnes.
3. Japan is committed to reducing GHG emissions by 6% relative to the 1990 base year under the Kyoto Protocol. The 15% decline is calculated as the 9% increase between 1990 and 2007 and the 6% decline.

*Source:* Ministry of the Environment.

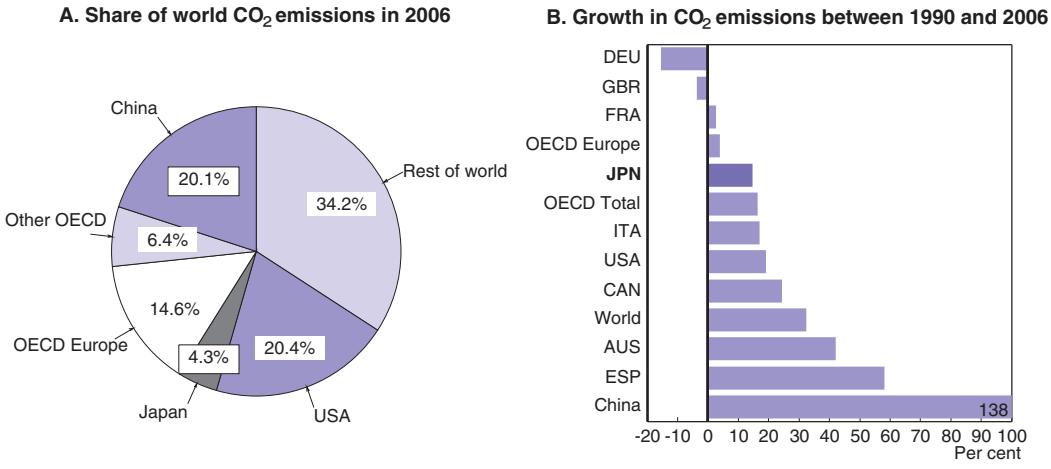
StatLink http://dx.doi.org/10.1787/725664735733

(9.6%), forest carbon sink measures (3.8%) and the Kyoto mechanisms, including CDM (1.6%). Meeting the Kyoto commitment is a challenging objective, given the rise in emissions over the past decade. However, the deep recession, which the government projects will reduce industrial production by 24% in FY 2009, will have a large impact on $CO_2$ emissions, given that industry accounts for 40% of all emissions. In addition, falling consumption tends to cut emissions by the household and transport sectors. However, the prospect of an economic recovery suggests that some of the reductions could be only temporary. It is important, therefore, for Japan to reduce its emissions by improving its policy framework, in particular to meet the mid-term target for 2020.

Japan is the world's second-largest economy and the fifth-largest emitter of $CO_2$, accounting for 4.3% of the global total (Figure 5.5). Its carbon intensity ($CO_2$ emissions per unit of GDP) was almost one-fifth below the OECD average in 2006 (Table 5.3). Given its low carbon intensity, the marginal cost of further reductions in $CO_2$ emissions is higher in Japan than in other countries. These international comparisons also reveal that OECD Europe has achieved a slower pace of growth in emissions since 1990 (Figure 5.5, Panel B), reducing its carbon intensity below Japan's by 2006 (Table 5.3). In per capita terms, the picture is similar; Japan's $CO_2$ emissions are still below the OECD average but they increased by 9.4% between 1990 and 2006, in contrast to declines recorded in OECD Europe (–3.4%) and North America (–2.2%).

The rise in $CO_2$ emissions in Japan between 1990 and 2007 is largely accounted for by the commercial and residential sectors, where they increased by 44% and 41%, respectively (Figure 5.6). The former reflects a 39% expansion in office floor space over that period. As for the residential sector, the number of households jumped 26%, even though total population rose only 3%, while ownership of electrical appliances increased. Growing energy use in the commercial and residential sectors suggests a need for more efforts in this area, in particular by improving the energy performance of buildings. In 2008, the Act on the Promotion of Global Warming Countermeasures was broadened to include the residential and commercial sectors. Emissions are to be limited through comprehensive

Figure 5.5. **International comparison of $CO_2$ emissions**




*Source:* OECD, Environmental Database.

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Table 5.3. **Carbon intensity and $CO_2$ emissions per capita**

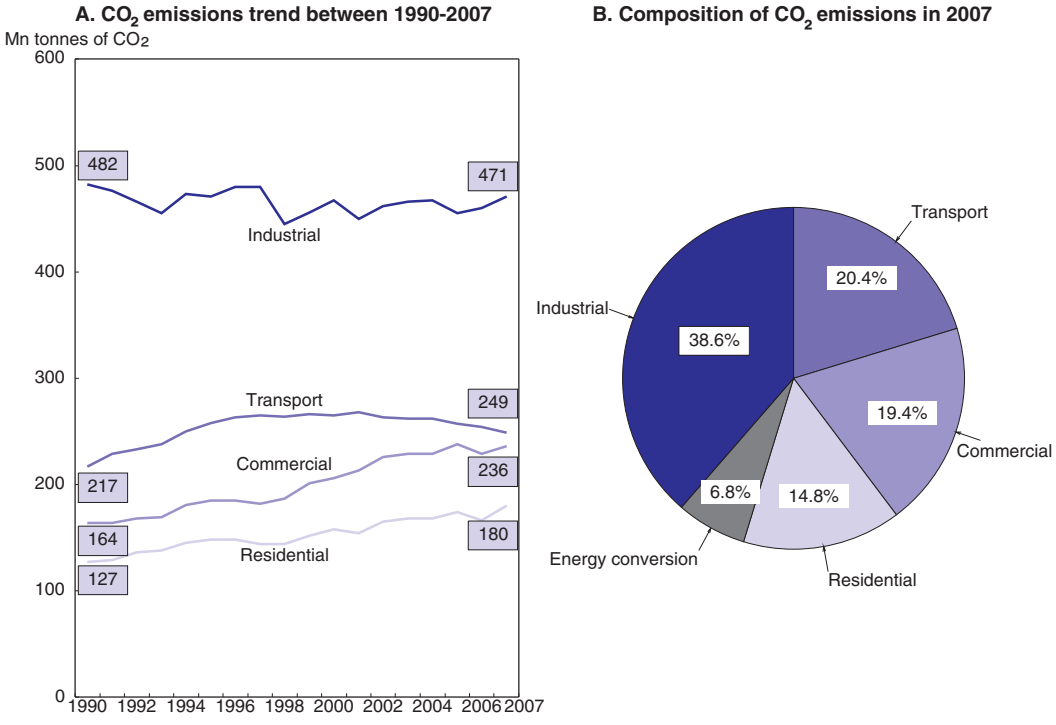
| | $CO_2$ emissions/GDP (Kg, USD)[1] | | | | | $CO_2$ emissions/population (tonnes) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1971 | 1990 | 2000 | 2006 | Cumulative change 1990-2006 (%) | 1971 | 1990 | 2000 | 2006 | Cumulative change 1990-2006 (%) |
| World | 0.81 | 0.63 | 0.52 | 0.49 | –23.3 | 3.75 | 3.99 | 3.87 | 4.28 | 7.4 |
| OECD total | 0.81 | 0.53 | 0.46 | 0.41 | –22.0 | 10.59 | 10.62 | 11.07 | 10.93 | 2.9 |
| OECD N. America | 1.05 | 0.67 | 0.57 | 0.50 | –25.4 | 16.91 | 15.56 | 16.00 | 15.21 | –2.2 |
| OECD Pacific | 0.58 | 0.42 | 0.43 | 0.40 | –5.5 | 6.30 | 8.46 | 10.13 | 10.55 | 24.6 |
| **Japan** | **0.58** | **0.37** | **0.37** | **0.34** | **–8.3** | **7.24** | **8.68** | **9.40** | **9.49** | **9.4** |
| OECD Europe | 0.69 | 0.44 | 0.36 | 0.33 | –26.2 | 8.12 | 7.86 | 7.55 | 7.60 | –3.4 |
| Non-OECD total | 0.71 | 0.76 | 0.57 | 0.54 | –29.9 | 1.48 | 2.20 | 2.06 | 2.64 | 19.9 |
| China | 1.72 | 1.15 | 0.60 | 0.63 | –44.7 | 0.96 | 1.97 | 2.42 | 4.28 | 117.8 |

1. Converted at 2000 PPP exchange rates. Using market exchange rates, Japan's intensity in 2006 was 0.24, compared with an OECD average of 0.44.

*Source:* IEA/OECD (2008), *$CO_2$ Emissions from Fuel Combustion*, Paris.

plans by prefectures and certain major cities and reports from businesses and franchises, but there is no enforcement mechanism to ensure that the plans are achieved. In sum, it is important to reverse the upward trend in the emissions of the commercial and residential sectors, which account for about one-third of the total (Panel B). At the same time, further reductions are needed in the industrial sector, which accounted for 38.6% of emissions in 2007.

Figure 5.6. **$CO_2$ emissions from energy use by sector in Japan**




*Source:* Institute for Environmental Studies and GHG Inventory Office of Japan.

StatLink http://dx.doi.org/10.1787/725677050105

One of the benefits from cutting GHG emissions is the accompanying reduction in air pollutants, which have negative effects on human health, water quality and crop yields. Recent studies have found that climate change and air quality are closely interrelated with respect to the sources, atmospheric processes and environmental effects, reflecting the fact that fossil fuel combustion is a major source of both air pollution and GHG. One study found that cutting $CO_2$ emissions by 10% to 20% compared to the business as usual baseline would reduce sulphur dioxides ($SO_2$) by the same amount and nitrogen oxides (NOx) by 5% to 10% over the next 10 to 20 years.[19] The link between cuts in emissions in air pollutants – sulphur oxides, nitrogen oxides and carbon monoxide (CO) and volatile organic compounds (VOC) – and the decline in $CO_2$ emissions by industry is evident in Japan. Indeed, emissions of air pollutants fell by a combined 24.6% between 1990 and 2007 (Table 5.4). Given the strong link between air pollutants and $CO_2$ emissions, the success in reducing emissions by the industrial sector and limiting those by the transport sector improved air quality.[20] In addition, the decline in other GHG emissions may have contributed to the decline in air pollutants. The benefit, in terms of premature deaths avoided due to reduced air pollution, is estimated to be up to $50 per tonne of $CO_2$ equivalent removed (Burniaux *et al.*, 2008).

Table 5.4. **Changes in air pollutants and GHG emissions between 1990 and 2006**

| Air pollutants (1 000 tonnes) | | | | Other GHG emissions (Mt $CO_2$ eq.) | | | |
|---|---|---|---|---|---|---|---|
| | 1990 | 2006 | % change 1990-06 | | 1990 | 2006 | % change 1990-06 |
| $SO_2$ | 1 012 | 780 | –22.9 | $CH_4$ | 32.6 | 22.6 | –30.7 |
| $NO_x$ | 2 038 | 1 943 | –4.7 | $N_2O$ | 32.0 | 23.8 | –25.6 |
| CO | 4 459 | 2 761 | –38.1 | HFCs | 20.3 | 13.2 | –34.8 |
| VOC | 1 937 | 1 638 | –15.4 | PFCs | 14.4 | 6.5 | –54.9 |
| | | | | $SF_6$ | 17.0 | 4.4 | –74.1 |
| Total | 9 446 | 7 123 | –24.6 | Total | 117.1 | 70.5 | –39.4 |

*Source:* Ministry of the Environment, 2008.

## Looking ahead to the post-Kyoto framework

The 2007 Bali Action Plan launched the development of a new global framework beyond 2012. The G8 countries agreed at the 2008 Hokkaido Summit to "seek to share with all the Parties to the UNFCCC the vision" of at least a 50% reduction in global emissions by 2050 (without specifying the basis for comparison). The Summit emphasised a successful partnership between developed and developing countries, the importance and urgency of stimulating the development and deployment of innovative technologies and practices and cost-effective measures to curb emissions. It also stated that sectoral approaches can be useful tools to improve energy efficiency and reduce GHG emissions. In international discussions in preparation for the COP 15 meeting in December 2009 in Copenhagen, Japan has focused on creating a fair and effective framework that includes all major economies.

In order to achieve its ambitious goals, Japan must improve its policy framework. *First*, the priority is to rely on market instruments to achieve emission reductions in a cost-effective manner rather than on the voluntary measures used thus far. Market-based instruments offer several advantages by setting a clear price. In the short run, market instruments minimise the cost of GHG reductions by equalising marginal abatement cost across all individual emitters. Over the long run, price-based systems provide incentives

for firms to develop new technologies that lower reduction costs. Investors need a clear and credible price signal as early as possible to make appropriate investment decisions for the future. New technologies, such as carbon capture and storage, will not be deployed without a clear price for carbon. A market-based approach is clearly superior to a sector-specific approach that calculates energy efficiency by sector and adds up the reduction volume that can be achieved based on the technology to be used in the future. *Second*, Japan should make more use of the Kyoto mechanisms as the marginal cost of reducing emissions in Japan is relatively high due to its low carbon intensity. Linking its ETS to those in other countries and enlarging the CDM are the key options in this regard. *Third*, non-price instruments should also be strengthened to address market imperfections, to promote innovation for technological breakthroughs and support renewable energy.

### *Making more use of market-based instruments*

#### *Emissions trading systems (ETS)*

A mandatory ETS based on cap and trade allows holders of permits the right to emit a certain amount of GHG, with the total amount of permits set at the overall desired future emissions by the covered sources. Emitters are allowed to buy and sell permits in an open market. One key question is how to allocate the permits. Japan's trial ETS grants permits for free, based on the targets of firms' voluntary action plans. Such a grandfathering approach is politically attractive and is often used to gain the support of incumbents. However, if emitters expect that such an approach will continue in the future, the incentives to reduce emissions would be weakened. Moreover, giving away permits to existing firms could act as an entry barrier, as new firms would face higher costs than existing firms, and it may encourage non-viable firms to stay in business to receive free emission permits. An alternative approach is to sell permits through an auction scheme, similar to the approach adopted for allocating frequency spectrum for mobile telephony. Although this approach is more costly for firms, it would provide revenues to help achieve fiscal consolidation and reduce the need for higher taxes and their associated distortions. In sum, auctioning permits is expected to enhance efficiency as compared with grandfathering. At the very least, policy makers should announce that grandfathering will be gradually phased out to create incentives to reduce emissions.

One option to cope with risk and uncertainty about prices in an ETS is to allow permits that are not used in the trading period in which they are issued to be saved or banked for the future. Such an approach increases efficiency by allowing firms to adjust their emissions reduction schedule to their investment programme. Recent analysis suggests that banking reduces abatement costs, while increasing the amount of GHG emission reductions even in the short term (Bosetti *et al.*, 2008). The borrowing of permits has a similar effect, although there is a need for caution as firms do go bankrupt. Banking and borrowing, however, require adequate compliance mechanisms and long-term targets to be effective. Allowing firms to smooth their emissions profiles through the business cycle by banking and borrowing permits also helps to limit price volatility (Philibert and Reinaud, 2004).[21]

Another option is to set a floor and ceiling for the price in order to reduce the risk of large price fluctuations. However, such an approach would mask market signals and would prevent linking Japan's ETS to those in other countries. Another option to manage risk would be to set targets based on intensity (*e.g.* emissions per unit of output), rather than on the absolute amount of emissions, thereby allowing the automatic adjustment of emission

objectives to unexpected shocks to economic growth and to marginal abatement costs (Ellis and Tirpak, 2006). However, intensity targets would also complicate international links with ETSs based on absolute amounts. In addition, the benefit of an intensity target would be smaller in a country such as Japan, where some estimate the potential growth rate at less than 1%.

Given the ability of a well-designed ETS to efficiently reduce GHG emissions, Japan should shift from its voluntary system to a mandatory ETS based on cap and trade, ideally with the initial permits allocated by auctioning, drawing lessons from the experience of other countries and Japan's voluntary system.[22] The scheme should include banking and possibly borrowing provisions to limit risk, uncertainty and volatility. The ETS should ideally cover the entire economy, including transport.

### *Carbon taxation*

A carbon tax can also force emitters to equalise marginal abatement costs to the level of the tax, thereby ensuring that the least-expensive abatement options are exhausted. Although a carbon tax cannot set a fixed emission cap for the whole country (an advantage of an ETS), it can provide a clear price signal that promotes investment by the private sector in R&D in energy-saving technology. A carbon tax also reduces the current demand for energy and makes the price of renewable energy sources more competitive. The government is discussing the possible introduction of a carbon tax. According to the National Institute for Environmental Studies in Japan, the introduction of a carbon tax of 2 400 yen ($25) per tonne in 2009 would reduce $CO_2$ emissions by approximately 5% by 2020.[23]

### *The choice between an emissions trading scheme and a carbon tax*

Both a cap-and-trade ETS system and a carbon tax meet the efficiency criteria. Moreover, assuming that permits are auctioned, both give strong incentives for monitoring and enforcement by the authorities and generate revenues that can reduce taxes on labour, thereby increasing efficiency. A carbon tax has some advantages, as it is easy to adopt from a technical standpoint, has lower transaction costs and guarantees the maximum and minimum cost, although optimal carbon tax rates can change over time. Nevertheless, an ETS system is preferable for a number of reasons. *First*, an ETS creates the possibility of international linkages to cut emissions, which is very important in the case of Japan. *Second*, the participation of firms in the market for permits creates a strong constituency for maintaining the system.[24] *Third*, an ETS can secure a more targeted level of emissions reduction than a carbon tax. Indeed, it is less certain in advance how much emissions will fall with a certain level of tax, and thus may require more iteration to achieve the desired level of emissions. *Fourth*, unlike a carbon tax, a trading scheme does not need to be adjusted for inflation or growth. However, even a fairly comprehensive ETS may exclude specific sectors, notably households and offices, leaving scope for a carbon tax to co-exist with an ETS. It is important, though, to minimise overlap and complicated interactions with an ETS that would raise uncertainty about the overall impact (OECD, 2006).

As in other countries, a key obstacle to the implementation of an ETS and/or a carbon tax is concern about their impact on the international competitiveness of domestic industries.[25] An effective climate policy requires that some firms do not survive, either because demand for their products falls or because more GHG-efficient firms, either domestic or foreign, increase their market share. However, OECD analysis has found that

the effects of climate policies on competitiveness are likely to be small and limited to only a few energy-intensive industries, particularly if an ETS has broad international coverage (OECD, 2009a). Indeed, it is important to achieve wide coverage in the post-Kyoto framework. Otherwise, the emission cuts in some countries with an ETS and/or carbon tax are partly offset by increases elsewhere, a phenomenon referred to as carbon leakage. However, recent OECD research found that "Unless only a very few countries take action against climate change, leakage rates are found to be small, and they rapidly decrease as the group of participating countries taking action increases" (OECD, 2009b).

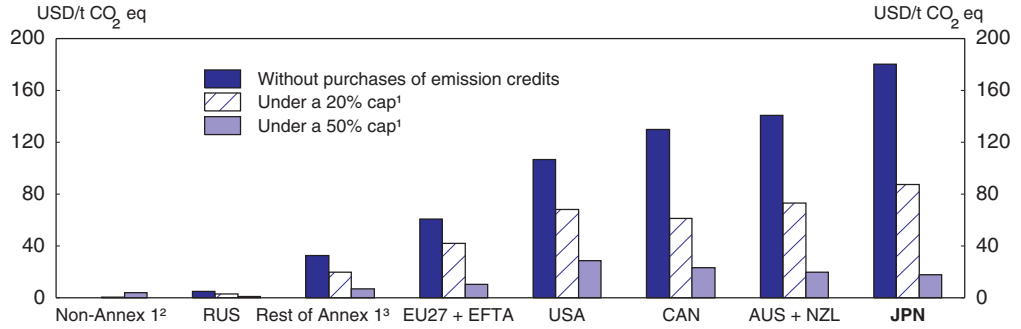
The negative political repercussions of firm bankruptcies could be addressed through allocation rules for permits in the case of an ETS. For a carbon tax, two remedies are possible (OECD, 2008d and Duval, 2008). *First*, the increase in revenues from a carbon tax could be offset by reductions in other business taxes, either at the sectoral level or for the corporate sector more generally. *Second,* the impact of a carbon tax on international competitiveness could be neutralised through sectoral exemptions and tax reductions that target the most exposed sectors. Indeed, the Japanese government is discussing relief measures for specific industries, such as exempting coal for manufacturing steel, to lessen the negative impact of a carbon tax. Moreover, the tax rate on large emitting businesses would be reduced by 80% on the condition that they achieve certain levels of reduction in $CO_2$ emissions. The drawback of sectoral exemptions is that they would create uneven abatement incentives across sectors and a loss of efficiency. To increase efficiency, such exemptions, therefore, should be transitional and partial in terms of grandfathering.

### *Reducing abatement costs by expanding the CDM and linking the ETS with other countries*

Japan would benefit more than any other country by expanding its use of the Kyoto Protocol mechanisms (Burniaux *et al.*, 2009). If Japan relied exclusively on domestic emission reductions to achieve a 50% cut by 2020 (relative to 1990), Japan would have to set the highest carbon price in the world (Figure 5.7). In other words, Japan would have the

Figure 5.7. **Carbon prices under a 50% emission cut by 2020**

US dollars per tonne of $CO_2$ equivalent




1. Assumes that purchases of emissions credits account for 20% or 50% of the country/region's required emission reductions. This simulation is based on a perfect crediting mechanism without the bottlenecks and additionality problems under the current CDM.
2. Annex 1 includes industrialised countries belonging to the OECD in 1992, plus economies in transition (such as those in Central and Eastern Europe, Russia and the Baltic States). Non-Annex 1 is thus primarily developing countries.
3. Annex 1 countries that are not shown individually in the figure.

*Source:* Burniaux *et al.* (2009).

StatLink http://dx.doi.org/10.1787/725680227687

highest marginal cost of abatement. Expanding the purchase of emission credits from other countries to account for 20% of the overall emission cuts would reduce the cost by more than half.

One method to increase purchases of emission credits, and thereby lower the marginal abatement cost in Japan, would be to expand its purchase of CDM credits from projects with developing countries, which have a vast low-cost abatement potential. However, scaling up the CDM in the short run is difficult given that its project-by-project approach creates bottlenecks and high transaction costs. Moreover, a sharp expansion of the CDM might strengthen existing concerns about its environmental integrity. A multilateral reform of the CDM mechanism is essential to address these concerns. Bottlenecks could be reduced by bundling projects and by the "programmes of activities" approach, which allows credits for a range of projects that differ in nature, timing and geographical location (Hinostroza *et al.*, 2007).[26] Transaction costs could be further reduced by introducing broader "policy" or "sectoral" CDM projects (Baron and Ellis, 2006 and Aldy and Stavins, 2008). Maintaining the environmental integrity of the CDM requires strengthening the additionality principle: planned reductions would not have occurred without the additional incentive provided by emission reduction credits. In addition to helping Japan, enlarging the scope of the CDM would put a price on carbon in developing countries and promote technology transfers to developing countries, thereby facilitating their participation in global efforts to cut emissions. Japan has developed a manual to help quantify the effectiveness of its CDM projects that achieve the dual objectives of reducing emissions and mitigating local environmental problems (so called co-benefits).

A second option to increase purchases of emission credits from other countries would be to link any future ETS in Japan to those in other countries, thereby allowing domestic emission reductions to be met by buying allowances in an international permit market. The wider the coverage of the ETS in terms of regions and industries, the greater the trading options and the cost efficiency. Moreover, linking national schemes would mitigate the impact of country-specific shocks and thereby reduce the amplitude of price fluctuations. Several ETSs are already, or soon will be, in place,[27] but none of them are directly linked. The European Union has a plan to create an OECD-wide carbon market by 2015 and extend it to advanced developing countries by 2020 (EC, 2009). In practice, however, creating an international market by linking national ETSs is complicated by large cross-country differences in their systems (Capoor and Ambrosi, 2006 and Ellis and Tirpak, 2006).[28] Governments should facilitate international linkages by harmonising the structure of their ETS, including the procedure for setting future emission caps, the choice of target (absolute or relative to GDP), the allocation rule for permits[29] and future adjustment procedures.

### *Using non-price instruments to address market imperfections*

Although price-based instruments are essential to achieve emission cuts at the lowest cost possible and to provide incentives for the development and diffusion of greener technologies, they need to be accompanied by other policy instruments to address market imperfections. Some markets are less responsive to price signals, particularly when a small number of large firms are dominant or there are information asymmetries. For example, in the rental housing market, landlords have better information than tenants concerning insulation of buildings but have little incentive to install the most energy-efficient equipment as they do not pay the energy bill. In addition, there are areas where

measurement and enforcement are difficult, reducing the effectiveness of price-based instruments. For instance, strict technical requirements may be needed to prevent leakage from gas pipelines. Therefore, command-and-control (CAC) regulatory instruments, which have traditionally been used to achieve environmental goals, still have a role to play in coping with market imperfections that cannot be adequately addressed by price-based mechanisms. Such regulation can be divided into technology standards, which force emitters to use specific abatement technologies, and performance standards, which set certain targets to be met without designating specific technologies. In the absence of detailed information about abatement costs, there is a risk that technology standards will be either too stringent or too lax. Moreover, technology standards, unlike those on performance, do not allow firms and consumers to choose among alternative abatement options. For Japan, it would be useful to strengthen performance standards on energy use in commercial and residential buildings in light of the rapid increase in their emissions.

In general, though, Japan needs to put more emphasis on price-based instruments rather than the traditional CAC approach, which does not lead to cost-effective solutions. As market approaches prove to be effective, CAC instruments, such as the Top Runner Programme, should be phased out, as having several policies to achieve the same target creates uncertainty for firms and is unlikely to be cost-effective.

Price signals alone do not ensure adequate R&D and innovation. This market failure is common to all types of R&D, but is magnified in the area of climate change by policy uncertainty and weak protection of intellectual property rights (IPR).[30] Specific policies, in addition to price-based instruments, are needed therefore to foster R&D and the development of renewable energy sources. In particular, the government should invest directly in basic R&D to share the risk of developing new technologies with the private sector in order to achieve the innovations necessary to meet the targeted reductions in emissions.

Japan's public R&D expenditure in energy-related areas was the second largest in the world in 2007 in absolute amounts after the United States and the largest as a share of GDP. The high level of investment has helped make Japan one of the leading countries in climate-related technological innovation, accounting for around 40% of world inventions in this area between 1998 and 2003 (Table 5.5). The development of new technology is essential, given that existing technology is not sufficient to achieve the ambitious emission reduction targets of 60% to 80% by 2050. Japan has announced a long-term strategy and

Table 5.5. **Top ten nations in inventing climate-related technologies, 1998-2003**

| | Share of world inventions (%) | Most important technology classes |
|---|---|---|
| Japan | 40.8 | All technologies |
| United States | 12.8 | Wind, solar, hydro, methane, buildings |
| Germany | 12.7 | Biomass, ocean, waste, CCS,[1] wind, solar |
| China | 5.8 | Cement, geothermal, solar, hydro, methane |
| Korea | 4.6 | Lighting, ocean, hydro, biomass, cement |
| Russia | 4.2 | Geothermal, cement, hydro, CCS,[1] ocean |
| France | 2.4 | Cement, CCS,[1] buildings, biomass, hydro |
| United Kingdom | 1.9 | Ocean, biomass, wind, methane |
| Canada | 1.5 | Hydro, wind, CCS,[1] ocean |
| Brazil | 1.1 | Ocean, building |

1. Carbon capture and storage.
*Source:* Dechezleprêtre *et al.*, 2008.

roadmap for innovation, including the 2008 Cool Earth Promotion Programme that targets $30 billion (0.6% of 2008 GDP) in public funding for R&D investment in this area over the next five years. The government expects that the accelerated development of climate-related technologies will contribute not only to large reductions in emissions but also to Japan's international competitiveness.

## Conclusion

Climate-change policy should minimise the overall economic cost of achieving emissions reduction targets by equalising marginal abatement costs across all emission sources. However, the wide range of policies in place will lead to large variations in marginal abatement costs. The priority is to establish instruments that achieve cost-effectiveness by putting a clear price on carbon, while fostering innovation and the diffusion of technologies in an uncertain environment. Specific policy recommendations to improve Japan's climate-change policy are provided in Box 5.2.

### Box 5.2. **Summary of recommendations to improve policies on 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.

**Price-based instruments**

- Shift policies from voluntary measures to market-based instruments to achieve GHG emission reduction targets in a cost-effective way by ensuring that abatement costs are equal at the margin across all options.
- Put a price on carbon emissions by introducing a mandatory and comprehensive cap-and-trade ETS as the first priority, drawing lessons from the experience of other countries and Japan's voluntary system, to provide a clear price signal that enables market participants to make appropriate investment decisions.
- Implement a carbon tax in areas not covered by the ETS and use the revenue, together with that from auctioning permits for the ETS, to improve the fiscal consolidation.
- Use auctions to allocate the ETS permits, which can be banked for the future and borrowed, and link Japan's ETS with those in other countries to achieve cost-effective abatement.
- Expand the number and amount of projects in a streamlined and upscaled CDM with a high level of environmental integrity to utilise the vast low-cost abatement potential in developing countries through technology transfer, while avoiding the diversion of ODA funds.

**Non-price instruments**

- Rely on performance-based regulation and, when necessary, technology-based standards, in areas where price instruments are ineffective.
- Improve energy efficiency policies, such as the Top Runner Programme, in the short run, while phasing them out as market-based instruments become effective.
- Continue to promote the innovation and diffusion of energy-saving and abatement technologies by supplementing private-sector R&D with public investment focused on infrastructure and basic research and by sharing the risk of creating new technologies with the private sector, particularly in large-scale projects.
- Use transparent and efficient instruments to support the development of renewable energy in the short run, while relying on the pricing of GHG emissions in the long run.

## *Notes*

1. Recent assessments show a permanent 14.4% loss in average world consumption per capita from both market and non-market impacts (Stern, 2007).
2. Compared to 1990 (2005) levels, the mid-term goals for the EU, the United States and Japan are for emission reductions of approximately 20% (13%), 4% (14%) and 8% (15%), respectively.
3. Energy intensity is affected by many non-energy factors such as climate, geography, travel distance, home size and manufacturing structure.
4. The priorities of environment and economic growth are balanced by having the ministers of the Environment and Economy, Trade and Industry as vice-chairs, along with the chief Cabinet Secretary.
5. *Australia's "Greenhouse Challenge Plus" programme*: An agreement between the government and an enterprise/industry association to reduce GHG emissions. *Netherlands Voluntary Agreement on Energy Efficiency*: A series of legally binding long-term agreements based on annual improvement targets and benchmarking covenants between 30 industrial sectors and the government to improve energy efficiency. *United States Climate Leaders*: This 2002 partnership encourages individual companies (188 at present) to develop corporation-wide GHG inventories, set aggressive reduction goals, report inventory data annually, document progress towards their goals and report annually to the US Environmental Protection Agency.
6. Such pressure prompted the steel and electricity industries to purchase Kyoto credits to meet their targets.
7. The budget to operate the JVETS is around 3 billion yen ($30 million) per year. With 150 firms participating, the average subsidy per firm is 200 million yen ($2 million).
8. As of 2005, at least 51 countries, including the EU's then 25 member states, had established Minimum Efficiency Performance Standards (MEPS) for household appliances and office equipment. Most of these countries are developed countries, although a number of less developed countries have established similar standards. An additional 26 countries are in the process of preparing MEPS (OECD, 2006).
9. According to the official energy balance of Japan, the ratio of total renewable in primary energy supply was 6.2% in 2006.
10. This would represent a three-fold increase from its 6.2% share in 2006 using the Japanese calculation method.
11. OECD (2008c). Electricity from wind and solar, whose share is near zero, is understated as the data only cover plants with capacity of at least 1 000 kW. The net generating capacity of photovoltaics was 3.3% in 2006.
12. However, it was above the OECD weighted average of 1.6%, which reflects the US figure of 0.9%.
13. The supplementary provision of the Tax Revision Act of FY 2009 included greening of the whole tax system as an element in the future reform of the tax system.
14. A carbon sink is a natural or manmade reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.
15. For example, Japan is currently supporting forest resource management in Indonesia by transferring monitoring technologies using satellite images. Japan also made a $10 million contribution to the Forest Carbon Partnership Facility, a fund for assisting forest conservation activities in developing countries.
16. Like the CDM, JI is a project-based mechanism that feeds the carbon market by enabling industrialised countries to carry out joint implementation projects with other developed countries.
17. The Board consists of ten members and ten alternates elected by the Conference of Parties.
18. The utilisation rate peaked at 84% in 1998.
19. The study is from the 4th assessment by the IPCC. Sulphur dioxides ($SO_2$) harm human health, contribute to acid deposition and may also harm crops and forests. Nitrogen oxides (NOx) emissions, which mainly stem from the burning of fossil fuels at high temperatures, play an important role in the production of photochemical oxidants and of smog, and contribute, together with SOx, to acid precipitation. Carbon monoxide (CO) can cause adverse health effects, in particular because it interferes with the absorption of oxygen by red blood cells. Volatile organic

compounds (VOC) are considered, along with NOx, to be the main precursors of photochemical air pollution (OECD Environmental Data, 2007).

20. Part of the reductions in $CO_2$ emissions and air pollutants by industry may be due to rising foreign direct investment abroad by Japanese firms. While industrial production rose by 12% between 1990 and 2006, industries that tend to be more polluting may have increased overseas production.

21. In the EU's ETS, for example, the spot price fell from over € 30 per ton of $CO_2$ to under € 1 between the spring of 2006 and the spring of 2007 in the absence of banking provisions, which were avoided in the pilot stage as they would have caused serious environmental damage.

22. A mandatory cap and trade system is scheduled to be introduced in Tokyo from FY 2010, covering around 40% of total emissions from the commercial and industrial sectors in Tokyo.

23. Total revenue from such a carbon tax is estimated at around 360 billion yen (0.1% of GDP) per year. The tax burden on an average household would be 2 000 yen ($21) a year, according to a government estimate.

24. An ETS that gives away permits for free is less costly for firms than a carbon tax. As noted above, however, such an approach is less efficient than auctioning permits.

25. Another concern is a potentially adverse impact on income distribution from a carbon tax, reflecting its regressive nature. While this problem can be addressed, at least in principle, *via* the tax-benefit system, this option is not always available in lower-income countries with weaker social policy settings (Duval, 2008).

26. The "programme of activities" approach has been eligible for CDM credits since 2005 (OECD, 2009b).

27. ETSs are already in place or are about to be implemented in the European Union, Australia, Canada, New Zealand, Norway and some states in the north-eastern part of the United States. A growing number of other countries are considering introducing an ETS (Burniaux *et al*., 2008).

28. Linking to other schemes may raise a number of other concerns: *i)* expectations of linking might induce national policy makers to engage in strategic behavior, *e.g.* by setting a less stringent emission cap; *ii)* design features that make the emission cap more flexible in one particular country would *de facto* become available to emitters in all other countries once schemes are linked; and *iii)* linking raises a communication challenge in those areas where local emission targets exist, as it implies a loss of sovereignty over both the quantity and the price of emissions (Duval, 2008).

29. Harmonising the allocation rules would encourage international integration by ensuring a level playing field across countries. Auctioned permits make firms' costs higher, weakening their competitiveness relative to firms in other countries where a grandfathering rule is applied.

30. Weak protection of IPR is likely to be particularly problematic in R&D related to climate change for two reasons. *First*, developing countries may consider access to the most efficient abatement technologies to be an important condition for their participation in emission abatement efforts. This weakens the credibility of IPR and thus reduces firms' incentive to innovate. *Second*, the value of R&D in climate change depends on the credibility of governments' abatement policies. If firms are uncertain that governments will follow through on their intended policies, their incentives to invest in such R&D are weakened (OECD 2008b).

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