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The Secretariat's draft report was prepared for the Committee by Randall S. Jones, Tadashi Yokoyama and Taesik Yoon under the supervision of Willi Leibfritz.

The previous Survey of Japan was issued in March 2005.

BASIC STATISTICS OF JAPAN

THE LAND

Area (1 000 sq. km), 2002	377.9
Cultivated agricultural land (1 000 sq. km), 2001	48.0
Forest (1 000 sq. km), 2001	251.1
Densely inhabited districts[1] (1 000 sq. km), 2000	12.5

Major cities, 2005 Population census (million inhabitants):	
Tokyo (23 wards)	8.5
Yokohama	3.6
Osaka	2.6
Nagoya	2.2
Sapporo	1.9
Kobe	1.5
Kyoto	1.5

THE PEOPLE

Population, October 2004 estimate (1 000)	127 687
Number of persons per sq. km in 2004	338
Percentage of population living in densely inhabited districts in 2000[1]	65.2
Net annual rate of population increase (2000-2005)	0.1

Labour force as per cent of total population, 2005	52.1
Percentage distribution of workers, 2005	
Agriculture and forestry	4.1
Manufacturing	18.0
Service	63.8
Other	14.1

PRODUCTION

Gross domestic product in 2005 (billion yen)	502 456
Growth of real GDP, 2005	2.6
Gross fixed investment in 2005 (per cent of GDP)	23.2
Growth of real gross fixed investment, 2005	3.3

Share of agriculture, forestry and fishery in gross domestic product, at producer prices in 2004 (per cent)	1.7
Net domestic product of agriculture, forestry and fishery, at producer prices, in 2004 (billion yen)	6 679
Growth of industrial production, per cent 2005	1.1

THE GOVERNMENT

Public consumption in 2004 (in per cent of GDP)	18.0
Current public revenue in 2004 (in per cent of GDP)	29.3
Government employees in per cent of total employment, 2004	9.0

	House of Representatives	House of Councillors
Composition of Parliament, June 2006:		
Liberal Democratic Party	292	111
Democratic Party	113	82
Peace and Reform (*Komei*)	31	24
Communist Party	9	9
Others	33	16
Vacancy	2	0
Total	480	242
Last elections	September 2005	July 2004

FOREIGN TRADE AND PAYMENTS

(2005, billion yen)

Commodity exports (fob)	62 548
Commodity imports (fob)	52 270
Services	–3 080
Investment income	11 339
Current balance	18 552
Exports of goods and services (in per cent of GDP)	14.3
Imports of goods and services (in per cent of GDP)	12.9

	Exports	Imports
By country		
USA	22.5	12.4
EU	14.7	11.4
Asia	48.4	44.4
Other	14.3	31.8
By commodity		
Foodstuffs	0.5	9.8
Mineral fuels	0.7	25.6
Machinery and transport equipment	65.6	26.6
Other	33.2	38.1

THE CURRENCY

Monetary unit: Yen

Currency unit per US$, average of daily figures	
Year 2005	110.1
May 2006	111.8

1. Areas whose population density exceeds 5 000 persons per sq. km.

Executive summary

The economic expansion, which began in 2002, has enabled Japan to finally overcome the negative legacy of the collapse of the asset price bubble in the early 1990s. The upturn is projected to continue through 2007, underpinned by improving labour market conditions and accelerating exports, with inflation positive. However, as Japan emerges from a decade of economic stagnation, it faces a new set of challenges to sustain robust growth over the medium term in the context of rapid population ageing.

Successfully implementing a new monetary policy framework

The Bank of Japan should be cautious in raising interest rates, given remaining deflationary pressure. Although the announcement of the Board members' understanding of price stability enhances the transparency of monetary policy, the choice of a 0 to 2% zone does not leave an adequate buffer against deflation. The lower bound of the inflation zone should thus be increased. Avoiding an early and significant rise in long-term interest rates would be beneficial to economic activity, the fiscal situation and the banking sector. The financial soundness of the banking sector should be promoted by scaling back the role of public financial institutions and moving ahead with the privatisation of Japan Post.

Achieving fiscal consolidation

With gross public debt now above 170% of GDP, reducing the still-large government budget deficit is urgent. Continued spending restraint should be the priority, in part by reforming the social security system and further reducing public investment. However, expenditure cuts alone are insufficient in the context of population ageing, making revenue increases necessary, by broadening the income tax base, while some increase in the consumption tax rate may also be inevitable. It is important to maintain confidence in the government's fiscal consolidation programme by making the Structural Reform and Medium-Term Economic and Fiscal Perspectives a more detailed and binding plan of spending and revenue measures to achieve a primary budget surplus at least large enough to stabilise the public debt ratio by the early 2010s.

Reducing income inequality and relative poverty

While population ageing is partly responsible for the rise in measured inequality and relative poverty, increased dualism in the labour market is another important factor. The growing use of non-regular workers should be reversed by a comprehensive approach, including reducing employment protection for regular workers. In addition, public social spending should be better targeted at vulnerable groups, such as single parents.

Upgrading the national innovation system to promote productivity growth

Raising productivity growth in the face of population ageing requires increasing the return on Japan's high level of investment in innovation by improving the R&D system and upgrading the

education system. Greater mobility of researchers is needed to enhance links between government and private research institutions. Strengthening competition, particularly in the service sector and network industries, is a key to promoting the creation and diffusion of technology. Government science and technology policy should limit the risk of government failure caused by picking priority sectors and avoid focusing too much on manufacturing, while improving framework conditions to encourage business-sector R&D.

Strengthening the integration of Japan in the world economy

Japan remains relatively isolated in terms of import penetration, the stock of inward foreign direct investment (FDI) and the inflow of foreign workers. Making fuller use of foreign goods and services, FDI and foreign workers is important to boost productivity growth, as well as to cope with labour shortages in some sectors. Achieving this objective requires reducing barriers to FDI and imports, particularly in agriculture, and relaxing controls on inflows of foreign workers.

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Assessment and recommendations

The post-bubble obstacles to growth have been largely overcome…

Japan has finally emerged from an extended period of economic stagnation following the collapse of the asset price bubble in the early 1990s. Factors that had weighed on activity – such as falling asset prices and declining bank lending – have been slowed or reversed, while corporate restructuring to reduce employment, capacity and debt has largely run its course. This has allowed the initial export-led upturn in 2002 to develop since early 2005 into a full-fledged expansion driven by domestic demand. The strength and duration of this upturn pushed some measures of inflation into positive territory in the first quarter of 2006 and business and household confidence have now reached their highest levels since the early 1990s. The government's reform measures have played an important role in laying the foundation for sustained and robust growth, in particular by strengthening the banking system. The positive trends in business investment and private consumption are expected to continue, making the current expansion the longest in Japan's post-war history, with output growing between 2 and 3% in 2006 and 2007.

… but achieving robust growth over the medium term requires addressing some difficult challenges

However, sustaining the upturn over the medium term requires meeting a number of challenges:

- *Achieving a definitive end to deflation and successfully implementing an effective monetary policy framework*. A significant rise in market interest rates that is too early or too large would pose important risks to both economic activity and the fiscal situation.
- *Ensuring fiscal sustainability in the context of exceptionally rapid population ageing*. With gross public debt having risen to over 170% of GDP, measures to reduce the large government budget deficit are urgent.
- *Addressing emerging concerns about income distribution and poverty while containing the growth of government spending*. Rising income inequality and the increasing proportion of the population in relative poverty threaten to weaken the consensus for further economic reforms.
- *Upgrading the innovation system to help boost productivity growth*. With population ageing slowing labour inputs, increasing the return on investment in innovation is essential to achieve the faster productivity gains needed to sustain the rise in living standards.

- *Strengthening the integration of Japan in the world economy to benefit more fully from globalisation*. Accelerating productivity growth also requires making fuller use of goods, services, capital, technology and human resources from abroad.

In sum, Japan needs to implement monetary and fiscal policies appropriate to its unique macroeconomic situation while advancing on a wide range of economic reforms necessary to sustain growth.

Setting appropriate macroeconomic policies

Policymakers face the challenge of managing a "double exit strategy", with monetary policy exiting from zero interest rates, while fiscal policy exits from unsustainably high budget deficits. Finding the appropriate pace and policy mix for this exit strategy is a difficult task and macroeconomic conditions have to be taken into account. Deflationary pressures are not fully overcome, although the real economy has strengthened considerably. Furthermore, medium-term inflation expectations have to be anchored at the desired level in order to prevent an excessive rise in long-term nominal interest rates.

The new monetary policy framework announced following the end of quantitative easing…

Inflation turned positive in the first quarter of 2006, with the core consumer price index (the OECD definition, which excludes food and energy) rising by 0.2% year-on-year. However, the continued decline in other price measures, notably the private consumption and GDP deflators, suggests that some deflationary pressures remain. In March 2006, the Bank of Japan ended the quantitative easing policy introduced in 2001, which had supported the economic expansion by keeping the short-term interest rate at zero and long-term rates at low levels, while forestalling financial-sector instability by providing enormous liquidity to banks. With the end of quantitative easing, the central bank unwound the run-up in reserves since 2001 and then started to move away from a zero short-term interest rate with a 0.25% hike in July 2006. The Bank plans to continue purchasing long-term government bonds at an unchanged rate, which is likely to help maintain financial-market stability. The Policy Board also announced that 0 to 2% is its understanding of what constitutes price stability in the medium to long term, the first time that it has specified an inflation range.

… should be revised to ensure a definitive end to deflation

The exit strategy from quantitative easing and zero interest rates is a special challenge for the Bank of Japan. While the announcement of the Board members' understanding of price stability enhances transparency, the fact that the inflation range will be reviewed each year makes it less useful as a guide for market expectations over the medium term. The framework announced in March also allowed considerable flexibility to the Bank in moving away from zero interest rates in order to limit long-term risks. Given uncertainty about the rate of potential growth and the size of the output gap as the economy emerges from deflation, the Bank should be cautious in raising interest rates. It needs to be sure that

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inflation is sufficiently positive to minimise the risk that a negative shock could push Japan back into deflation. Although the Bank ended the zero short-term interest rate in July, waiting until inflation moves further above zero – such as a 1% rate of increase in the core consumer price index – before raising interest rates further would also support the expansion. This suggests that the Bank should review the understanding of price stability and increase the lower end of the range to give an adequate buffer against deflation, as the zero floor is too close to deflation for comfort. Such an approach to monetary policy would reduce market expectations of interest rate hikes, which helped to drive up the long-term interest rate from 1.6% when the quantitative easing policy ended in March to 2% in May, accompanied by exchange rate appreciation. Avoiding a premature rise in long-term interest rates while the GDP deflator is still declining is also important for progress in fiscal consolidation.

Further reform of the banking sector is essential to a sustained economic expansion

Avoiding a substantial, premature rise in the long-term interest rate would also be beneficial to banks, whose holdings of long-term government bonds increased significantly during the quantitative easing period. Maintaining the improved financial health of banks is important to sustain the upward trend in bank lending, which recently turned positive for the first time since 1996. There has been considerable progress in reducing the non-performing loans of the major banks. The supervisory authorities should maintain pressure on the banking sector to strengthen its capital base and encourage the regional banks to continue reducing non-performing loans. While regional banks play an important role in lending to small and medium-sized enterprises, the government should avoid moral hazard that would create additional non-performing loans. In addition, the profitability of the banking sector would be improved by scaling back the role of public financial institutions. Perhaps the top priority is the privatisation of Japan Post, the largest financial institution in the world. The authorities should achieve a complete divestiture of the government's holdings in Postal Savings and Postal Life Insurance by 2017 at the latest. A level playing field with private financial institutions should be established before restrictions on the activities of Postal Savings and Postal Life Insurance are removed. The rationale for public financial institutions, whose lending amounts to almost one-fifth of that of private financial institutions, should be carefully examined and their activities should be reduced and subjected to clear budget constraints. Such an approach would reduce unfair competition with private financial institutions, while helping to cut wasteful government spending.

The progress in fiscal consolidation…

Limiting the growth of government spending is the priority in addressing the serious fiscal problem. The FY 2001 *Structural Reform and Medium-Term Economic and Fiscal Perspectives* set an objective of freezing public expenditure at 38% of GDP through FY 2006, and this target is likely to be achieved. Such spending restraint, which was achieved in part through cuts in public investment, aimed at the goal of a primary budget surplus for the combined central and local governments in the early 2010s. On a general government basis, the

primary budget deficit has fallen from 6.7% of GDP in 2002 to an estimated 4% in 2006, with about half of the decline due to structural factors, and the rest accounted for by the economic expansion.

… should be continued to achieve a primary budget surplus…

The *Reference Projection* for the FY 2005 *Reform and Perspectives* shows a primary budget balance for the combined central and local governments in 2011. However, a balance would not be adequate to stabilise the level of public debt relative to GDP in the long run if the nominal interest rate on government debt exceeds the growth rate of nominal output. While the economic expansion and an end to deflation may push the nominal growth rate above the interest rate in 2006, assuming that growth remains higher would not be prudent for setting a medium-term fiscal objective. Indeed, population ageing will tend to slow output growth while possibly increasing the interest rate. In sum, stabilising the public debt to GDP ratio is likely to require a primary budget surplus for the general government of between ½ and 1½ per cent of GDP. To achieve this target by the early 2010s would require that the pace of fiscal consolidation accelerate somewhat to around 1% of GDP per year. Achieving such a target would stabilise the public debt ratio sooner and at a lower level. Moreover, it would help maintain public confidence in the government's fiscal consolidation efforts, thereby limiting the possibility of a rise in the risk premium and preventing a substantial deterioration in the budget deficit.

… based on a more detailed medium-term plan

A credible medium-term plan is also important to sustain public confidence. A number of steps should be taken to improve the *Reform and Perspectives*:

- *Adopt a ceiling for the government expenditure level through the early 2010s in accordance with the latest Reference Projection. Set specific spending targets by category to show how the ceiling can be achieved.*
- *Make the spending targets more binding on the government's actual annual outlays and introduce a feedback mechanism that shows how the plan will evolve if outcomes diverge from those targets.*
- *Ensure the sustainability of the social security fund. The Reform and Perspectives' target for central and local governments should not be achieved through a deterioration in the social security account.*

Furthermore, continued efforts are needed to increase the transparency of the budgetary system, thereby enhancing fiscal discipline and achieving consolidation.

While there is some scope for further cuts in public investment and the size of the government…

Much of the spending restraint to date has been achieved by cutting public investment from 8.4% of GDP in 1996 to 5% in 2004. Given that it still remains significantly above the OECD average of around 3% of GDP, there appears to be scope for further reductions, which should be accompanied by a better allocation of investment to enhance its productivity. However, the rising cost of maintaining existing infrastructure is crowding out new

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growth-enhancing public investment. It is important therefore to develop a comprehensive plan, in the context of a declining population, to close less useful infrastructure. The government plans to reduce expenditure by cutting the number of central government employees over five years as a first step to halving their total compensation during the next decade. Given the inefficiency of across-the-board cuts, budget savings should instead be achieved by reducing low priority activities and using market testing to determine which tasks can be better performed by the private sector. In addition, increasing efficiency in the public sector, in part by relaxing the rigid employment system, could generate savings. The efforts to reduce spending should be extended to include local governments, public enterprises and government-affiliated organisations, which account for more than 80% of public-sector employment. In any case, the scope for expenditure cuts may be limited by the fact that public-sector employment per population in Japan is well below the level in other major OECD economies, suggesting the need to achieve spending reductions in other areas as well.

… public pension and healthcare spending are key to controlling government outlays

Population ageing raises pressure for increased outlays on pensions and healthcare. The FY 2004 reform is expected to keep pension payments constant at around 9% of GDP through the end of the decade by allowing the replacement rate to fall from 59 to 50%. Any slippage from this spending target should be met by a hike in the pension eligibility age, rather than by a further rise in the contribution rate, which is to be increased from 13.6% in FY 2004 to 18.3% by FY 2017. A rising contribution rate risks further boosting the evasion rate, which at 33% for those not part of the employee pension system, is already well above the level assumed in the government's projections. As for healthcare, a large cut in medical fees and the introduction of a new insurance scheme for those over the age of 75 is expected to help keep spending at around 5½ per cent of GDP through 2010. Much of the expected spending restraint, however, depends on reducing the demand for healthcare by preventing lifestyle-related diseases. Given the difficulty of achieving such savings, additional reforms are needed. The key to achieving higher quality and greater efficiency in healthcare, as well as in long-term nursing care, is to make greater use of the dynamism of the private sector, in part by allowing companies to manage hospitals and nursing homes.

Fiscal consolidation will require increased tax revenues

Even with these reforms, it will be difficult to reduce government spending as a share of GDP, in part due to rising interest payments. Consequently, achieving the necessary improvement in the government budget position – around 5% of GDP – will require additional revenue. Given that less than one-half of wage earnings are taxed and only one-third of corporations pay income tax, broadening tax bases is important to raise additional tax revenue, while enhancing economic efficiency and growth. In addition, measures to increase tax compliance, such as a taxpayer identification number, would enhance efficiency and fairness, while increasing tax revenue. A hike in the consumption tax rate may also be necessary to achieve fiscal consolidation.

Addressing the rise in inequality and relative poverty requires measures to reduce labour market dualism…

Reform of the tax system should take into account its potential impact on income distribution, which has become more unequal for the working-age population in recent years. Indeed, the Gini coefficient measure has risen significantly since the mid-1980s to slightly above the OECD average and the rate of relative poverty in Japan is now one of the highest in the OECD area. Population ageing is partly responsible for boosting inequality as it raises the proportion of the labour force in the 50 to 65 age group, which is characterised by greater wage variation. However, the key factor appears to be increasing dualism in the labour market. The proportion of non-regular workers has risen from 19% of employees a decade ago to over 30%. Part-time workers earn on average only 40% as much per hour as full-time workers, a gap which appears too large to be explained by productivity differences. Although the increase in non-regular workers has been partly caused by cyclical factors, there is a risk that labour market dualism will become entrenched, given that thus far only a small proportion of non-regular workers have become regular workers. One important key to reversing the rise in inequality and poverty is to reduce labour market dualism. This requires a comprehensive approach including reducing employment protection for regular workers and thereby weakening the incentives of firms to hire non-regular workers. In addition, it is important to increase the coverage of temporary workers by social insurance and to enhance the employment prospects of non-regular workers.

… and increase the share of social spending on low-income households

The serious fiscal problem limits the scope for boosting social spending to reduce relative poverty. It is necessary, therefore, to reallocate social spending to increase the share received by low-income households, while taking care to limit the creation of poverty traps and work disincentives. About three-quarters of social spending is allocated to the elderly. More than half of single working parents were in relative poverty in 2000, compared with an OECD average of around 20%. Moreover, Japan had a higher poverty rate for single parents who work than for those who are not employed. In 2002, the government reformed the single parent allowance to provide work incentives. Significant poverty among single parents is a factor boosting the child poverty rate to 14% in 2000, well above the OECD average. Given the relatively high proportion of education costs borne by the private sector, it is essential to ensure that children in low-income households have adequate access to high-quality education to prevent poverty from being passed to future generations. The increasing stratification in educational outcomes in Japan found by the PISA study should be addressed.

Boosting the return on investment in innovation requires upgrading the education system…

Improving the overall quality of the education system is essential to accelerate productivity growth through the generation and diffusion of innovation. In recent years, the performance of Japanese students on international standardised tests has declined

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despite increasing expenditures on private institutes for after-school tutoring. Giving more autonomy to local governments and individual schools in hiring teachers, setting wages and determining the curriculum could enhance competition and help reverse declining levels of performance. Reforming the entrance examination systems for secondary schools and universities would also encourage more diversity in the curriculum. Improving quality at the tertiary education level by strengthening competition is also essential. This could be accomplished by allowing more flexibility in the management of universities, enhancing transparency in evaluating performance and further reducing regulations, including those that prevent foreign universities from entering Japan, while ensuring high quality education.

… strengthening competition, particularly in the service sector…

One aspect of improving the return on investment in innovation is to promote the use of existing technology, particularly in the service sector, where average labour productivity fell from 88% of the US average in 1993 to 84% in 2003. One key to encouraging the diffusion of technology is regulatory reform to strengthen competition, particularly in network industries. In order to ensure pro-active *ex ante* regulation, a necessary condition for introducing competition in markets dominated by strong incumbents, the establishment of sectoral regulators independent of the government should be considered if the current approach through the government ministries does not work sufficiently well. The Special Zones for Structural Reform introduced in 2003 also have the potential to be effective in removing unnecessary regulations, which requires focusing on nation-wide reform rather than simply on regional development. This focus could be re-enforced by strengthening organisational links between the offices for special zones and regulatory reform. In addition, reforms allowed in the zones should be generalised nation-wide in a limited time period, avoiding unduly long periods of evaluation.

… increasing links between government, business and academic research through greater labour mobility…

In addition to education and regulatory reform, it is important to upgrade innovation-specific policies. One priority should be to strengthen links between research institutes in government, academia and business sectors. This requires greater mobility of researchers, given that the average number of job changes by researchers during their career is less than one in Japan. Increasing the portability of pensions and reforming the system of retirement allowances at public research institutes would reduce disincentives that discourage job changes. Moreover, expanding the use of open competition in hiring, performance-based pay, fair and transparent evaluation systems and fixed-term contracts, and providing more information on job opportunities, would also encourage mobility.

… and improving national R&D policy

The third Science and Technology Basic Plan, which covers the period FY 2006-10, contains a number of positive changes from the preceding plans. However, there remain a number

of areas for improvement as well as concerns about the programmes of the Ministry of Economy, Trade and Industry (METI) to promote new industries:

- *Focus on increasing efficiency in R&D spending rather than on meeting a specific spending level*, which risks encouraging wasteful investment. The third Basic Plan states that government R&D investment should be 1% of GDP each year between FY 2006 and FY 2010.
- *Avoid mixing national innovation policies with measures aimed at promoting balanced regional development.*
- *Increase further the share of competitive grants in the allocation of public R&D funds to enhance the efficiency of spending.* In FY 2005, competitive grants accounted for only 13% of the total.
- *Maintain flexibility in allocating public R&D funds, thereby limiting the risks of government failure inherent in concentrating R&D in the sectors identified as priority areas.* For example, the third Basic Plan identifies four priority areas and four promotion areas.
- *Attach greater importance to the non-manufacturing sector in the allocation of public R&D funds.*
- *Focus support for R&D on new start-ups rather than on existing companies as is now the case.*
- *Expand the work of the Council for Science and Technology Policy beyond purely scientific issues to include measures to improve framework conditions for innovation.*
- *Strengthen international links.* According to data on patents, foreign ownership of domestic inventions in Japan and domestic ownership of foreign inventions are both the lowest in the OECD area.

Another way to lift productivity growth is by greater integration in the world economy through inflows of FDI…

Along with innovation, strengthening Japan's links to the world economy is essential to boost productivity growth. Indeed, the stock of inward FDI, import penetration and the proportion of foreign workers in the labour force in Japan are each the lowest in the OECD area. Although the stock of inward FDI tripled between 1998 and 2002, the pace of inflows has slowed during the past few years. The government's recently announced target of doubling the stock of FDI as a share of GDP by 2010 should spur ministries and agencies to improve the environment for foreign investors. Most importantly, the market for mergers and acquisitions (M&As) should be fully opened to foreign firms by allowing them to use their own shares to finance mergers and granting them the same tax deferrals that are available in the case of domestic M&As. In addition, while most discriminatory regulations on FDI inflows have been removed, it is important to make further efforts to facilitate FDI inflows, particularly in the service sector and network industries, by accelerating regulatory reform in product markets, notably to reduce entry barriers to both domestic and foreign firms.

… increasing openness to trade…

Improving the environment for inflows of FDI may also help expand international trade. Despite the marked increase in trade with China during the past decade, import penetration is significantly below the expected level, even after taking account of factors

such as country size, transport costs and per capita income, although there may be other economic factors. It is important to further reduce tariff and non-tariff barriers, which appear to be higher than in other major trading regions in the OECD area, according to some measures. Trade liberalisation should be pursued through multilateral trade negotiations, the preferred approach to reducing barriers, and participation in WTO consistent regional trade agreements. Although Japan has been a latecomer to the worldwide surge in such agreements, it is now engaged in negotiations with a number of countries. However, the high level of agricultural protection appears to be an obstacle to both multilateral and regional trade agreements. It is important to reduce the level of protection for farmers in Japan, in part through a further opening of the rice market, which would provide significant economic benefits to Japanese consumers. Aspects of multifunctionality in agriculture, as well as income support for farmers, can be better dealt with through carefully targeted policy measures that minimise trade distortions.

… and liberalising inflows of foreign workers

Increasing the number of foreign workers is a major issue in regional trade agreements, given that some Asian countries wish to see improved opportunities for their nationals to work in Japan as part of such agreements. Currently, foreign workers, both legal and illegal, account for about 1% of employment in Japan, the lowest ratio in the OECD area. The number of sectors in which foreign workers are allowed should be expanded to include non-technical areas, such as caring for the elderly. In addition, the range of foreign qualifications that are valid in Japan should be expanded. Increasing immigration should help meeting emerging labour shortages, particularly for long-term nursing care, where demand is growing rapidly due to population ageing. In addition, a liberalisation of restrictions on the employment of skilled foreign workers would be positive for productivity.

Population ageing also requires raising female labour force participation

While increased inflows of foreign workers would be beneficial, they will not be large enough to offset the projected decline in Japan's working-age population by nearly one-fifth over the next 25 years. Removing disincentives for female labour force participation would be more effective in limiting the falling proportion of workers in the total population. While the relatively low participation rate of prime-age women reflects a number of private-sector practices, such as seniority-based wages, the government should reduce or eliminate aspects of the tax and social security system that discourage women from working full-time. In addition, it is essential to increase the availability of childcare facilities and to encourage the take-up of parental leaves and the creation of more family-friendly workplaces. Such policies would also be likely to boost the fertility rate from 1.3 children per women, one of the lowest rates in the OECD area.

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Chapter 1

Key challenges to sustaining Japan's improved economic performance

Japan has overcome many of the structural problems that hindered growth during the decade following the collapse of the asset price bubble in the early 1990s, helping it to achieve a sustained expansion led by domestic demand. Although robust economic growth is projected to continue through 2007, Japan must address a number of problems to sustain the expansion over the medium term. This chapter identifies five key challenges: i) *ensuring a definitive end to deflation under a new monetary policy framework;* ii) *achieving fiscal consolidation in the context of high public debt and rapid population ageing;* iii) *addressing rising income inequality and poverty while reducing government spending;* iv) *boosting productivity growth by upgrading the innovation system, focusing on the R&D framework, product market competition and the education system; and* v) *strengthening the integration of Japan in the world economy to benefit more fully from globalisation.*

The current economic expansion, which began in early 2002, is on track to become the longest in Japan's post-war era at the end of 2006. The strength and duration of this upturn has enabled Japan to largely overcome the negative aftermath of the collapse of the asset price bubble at the beginning of the 1990s. Japan now finds itself in transition, as it exits from the "lost decade" and persistent deflation to confront a new set of challenges in the context of rapid population ageing, which is putting downward pressure on economic growth and exacerbating the already serious fiscal situation. After a brief look at the current expansion and the prospects for continued growth, this chapter outlines the key challenges that Japan faces in the medium term.

Japan's recent economic performance and outlook

Although the expansion faltered at the end of 2002 and again in the second half of 2004, it has proven to be durable, with an average annual growth rate of 2.5% (Figure 1.1). The upturn was initially sparked by exports, notably to China. Indeed, net exports accounted for one-half of the rise in GDP between 2001 and 2004. In contrast to the two upturns during the 1990s, which faded before erasing the aftermath of the bubble collapse, this expansion has matured into a self-sustained recovery driven by domestic demand. In 2005, domestic demand accounted for more than 90% of economic growth, despite a significant negative contribution from the public sector due to cuts in public investment (Panel B). In contrast, public-sector demand made a positive contribution during previous upturns in the second half of the 1980s and the mid-1990s.

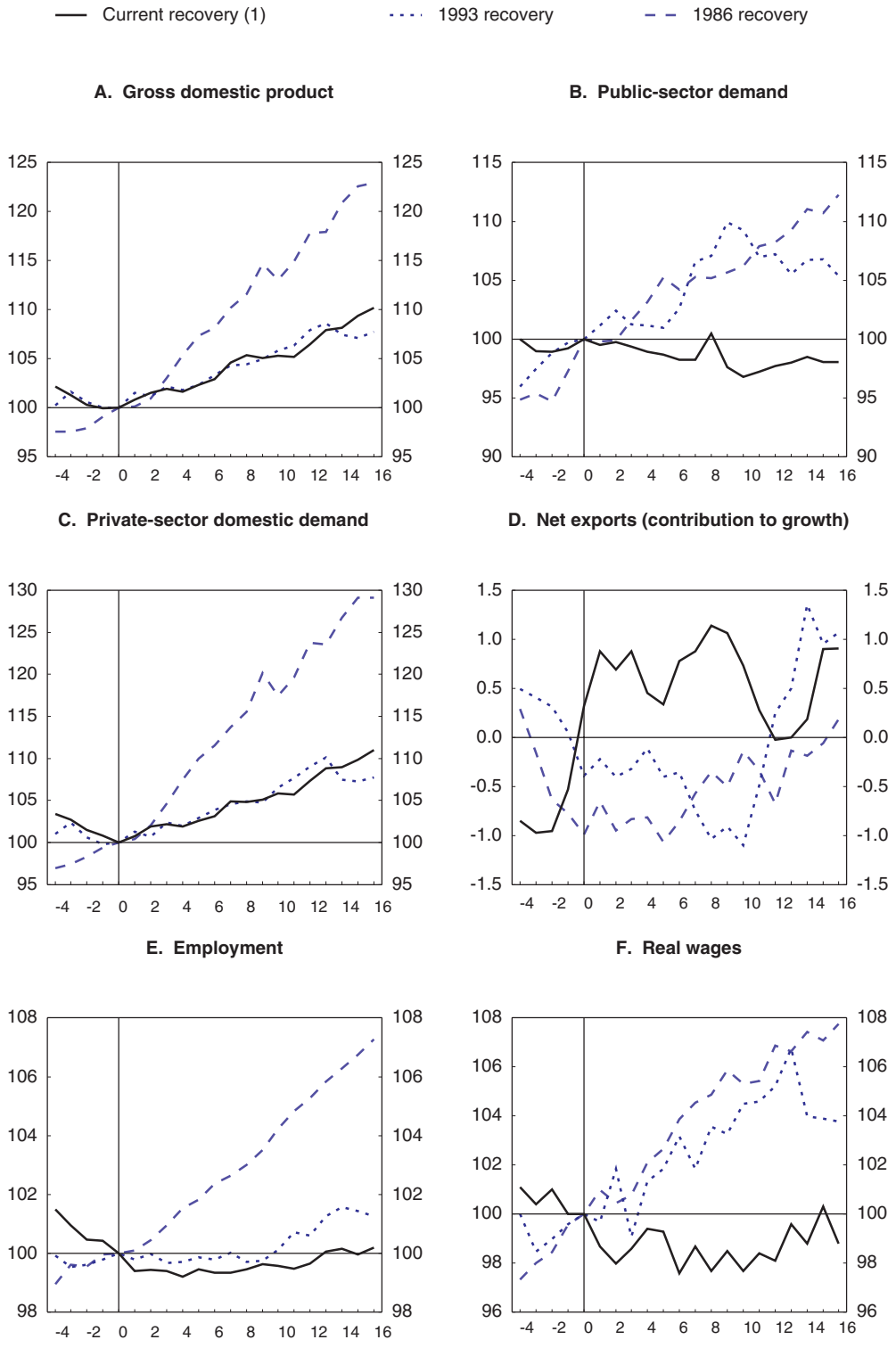
The current expansion has also had to overcome declining or stagnant employment (Panel E) and real wages (Panel F) during its first few years. Consequently, labour income declined significantly from 54% of GDP in 2001 to 51.5% in 2004, although the drop in the household saving rate mitigated the negative impact on private consumption. The resulting improvement in corporate profits paved the way for the strong rebound in business investment that began in 2003, followed by a resumption of employment growth (from 2004) and real wage growth (from 2005).

Overcoming the legacy of the collapse of the asset price bubble

The efforts by the corporate sector to overcome the excesses of the bubble period laid the foundation for a stronger and more durable upturn and launched a virtuous circle of restructuring and growth. The sustained economic expansion, in turn, helped to erase the negative forces that had hindered growth during the lost decade. Corporate restructuring reduced production capacity to its desired level in early 2006 and corporate debt declined to 7½ per cent of cash flow in 2004, down from 12½ per cent in 1998 (Figure 1.2). The business sector has also reduced its labour force; by 2005, the number of firms reporting that they had too few workers exceeded those with excess labour (Panel B). Consequently, the job-offer-to-applicant ratio has risen to unity for the first time since 1992. These positive developments have boosted business and consumer confidence to their highest levels since the early 1990s (Panel C).

Figure 1.1. **A comparison of the current recovery with past upturns**

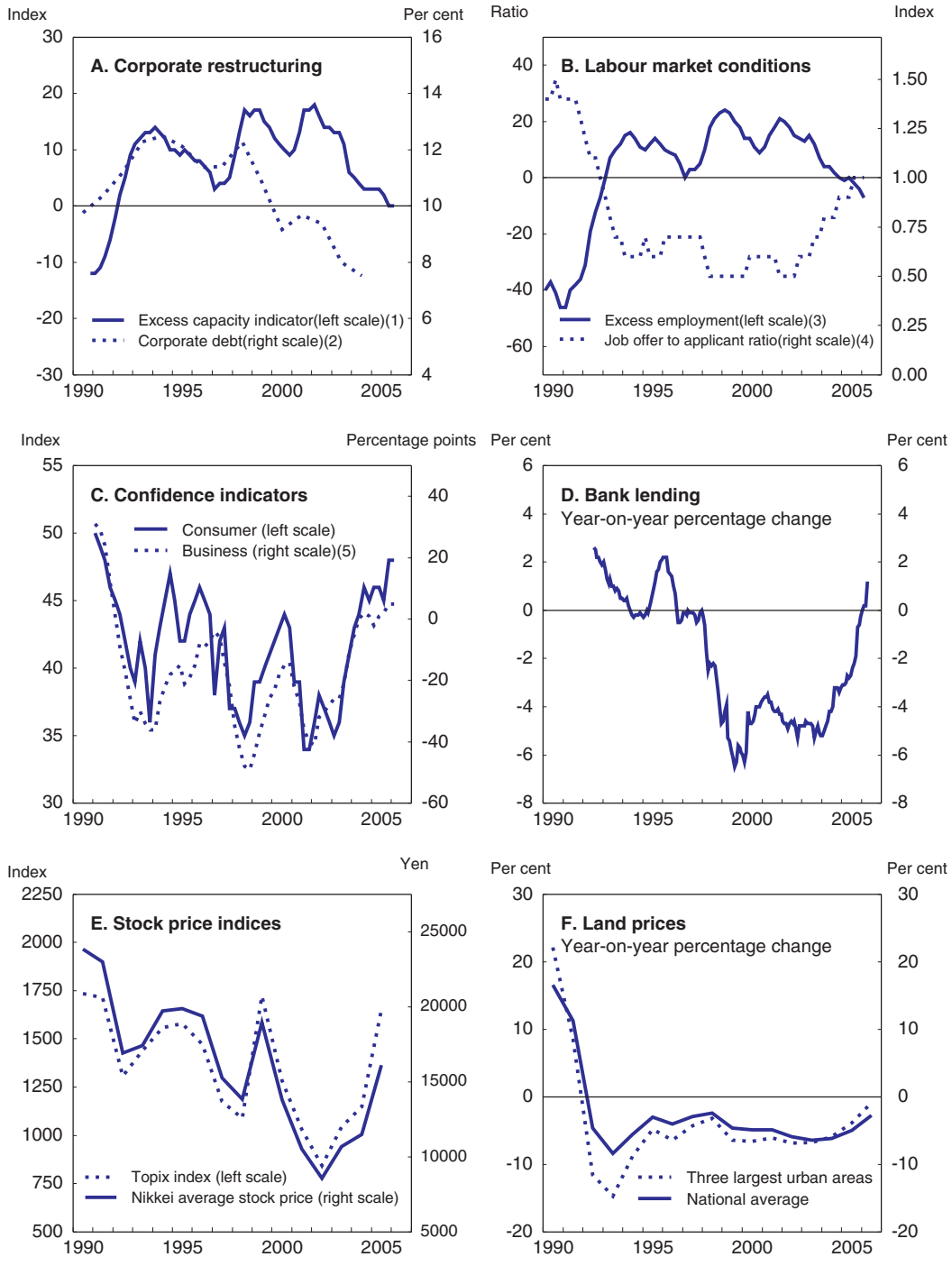
Change in the sixteen quarters following the trough



1. The beginning of the current recovery – time = 0 in the charts – is the first quarter of 2002.

Source: Ministry of Health, Labour and Welfare and OECD Economic Outlook 79 database.

Figure 1.2. **The end of the post-bubble period**



1. Diffusion index of firms responding "excessive capacity" minus those responding "insufficient capacity" for all industries.
2. Interest-bearing debt as a per cent of cash flow for all industries.
3. Diffusion index of firms responding "excessive employment" minus those responding "insufficient employment".
4. Quarterly average of seasonally adjusted monthly data. Including part-timers.
5. Tankan Survey for all industries.

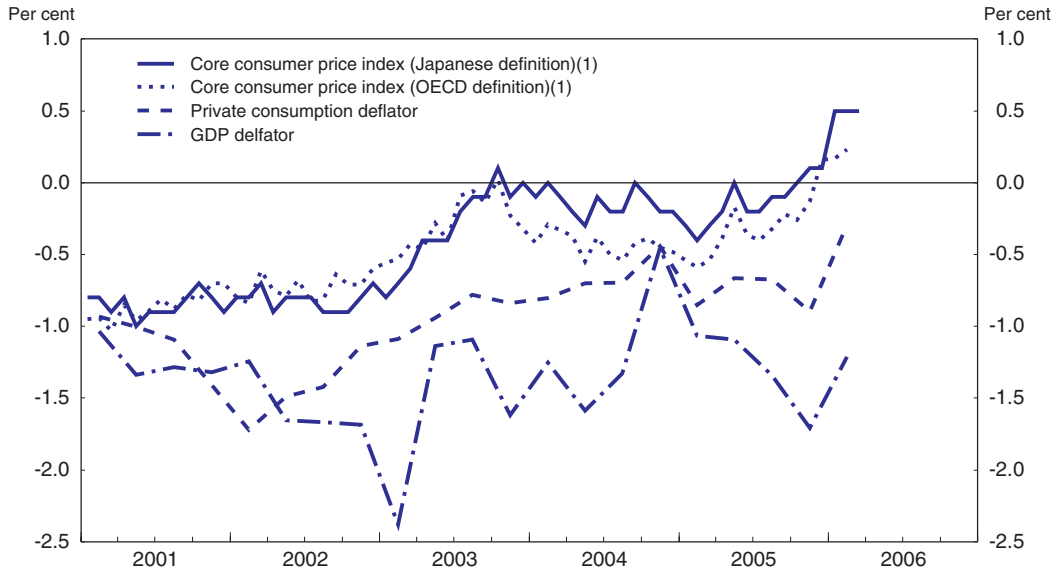
Source: Bank of Japan, Ministry of Land, Infrastructure and Transport, Ministry of Health, Labour and Welfare, Ministry of Finance and Cabinet Office.

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Sustained economic growth has also had a positive impact on the banking sector and asset markets. The steady decline in bank lending has been reversed (Panel D), thanks in part to government policies to force banks to reduce non-performing loans and strengthen capital. Increased optimism about Japan's growth prospects has helped to boost the equity market, resulting in more than a doubling of the Nikkei stock price index since its trough in 2003 (Panel E). Meanwhile, the long-term decline in land prices also appears to be coming to an end, particularly in the three largest urban areas (Panel F). Indeed, prices have begun to rise in parts of Tokyo. Finally, inflation, as measured by the core consumer price index (the OECD definition, which excludes food and energy), turned positive in the first quarter of 2006 (Figure 1.3).

Figure 1.3. **Deflation is coming to an end**

Year-on-year percentage change



1. Japanese core CPI excludes fresh food only, while the OECD core CPI excludes food and energy products.

Source: OECD Economic Outlook 79 database, Ministry of Internal Affairs and Communications and Cabinet Office.

The outlook through 2007

These positive trends (Figure 1.2) should sustain output growth through 2007 in the 2 to 2½ per cent range, with the large carryover from the final quarter of 2005 boosting the growth rate in 2006 to close to 3% (Table 1.1). Output growth in the first quarter of 2006 at a 3.1% seasonally-adjusted annual rate, led by a 3.3% rise in domestic demand, suggests that the self-sustained expansion remains on track. Improving labour market conditions are likely to raise wage gains, enabling private consumption to continue growing at around 1½ per cent. Strong corporate profits, combined with the reversal of the decline in bank lending, should help sustain business investment spending. In addition, the contribution from the external sector, which was practically nil in 2005, is likely to be significantly positive through 2007. Combined with the rising net inflows of investment income, the current account surplus is expected to surpass 5% of GDP by 2007.

There are a number of risks to the expansion that may be heightened during the transition away from the quantitative easing policy (see below). *First*, a significant further

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

	2004	2005	2006	2007	2005		2006		2007	
					1st half	2nd half	1st half	2nd half	1st half	2nd half
Demand and output (volumes)										
Consumption										
Private	1.9	2.1	1.7	1.6	3.0	2.6	1.4	1.5	1.7	1.7
Government	2.0	1.7	0.8	0.9	2.4	1.4	0.6	0.5	0.9	1.2
Gross fixed investment	1.1	3.3	2.3	1.3	5.4	3.9	1.5	2.5	1.1	0.6
Public[2]	–8.6	–6.0	–4.1	–4.0	–0.2	–1.2	–5.6	–4.0	–4.0	–4.0
Private residential	1.9	–0.7	3.4	0.7	–4.0	3.4	4.6	1.2	0.6	0.5
Private non-residential	4.9	7.7	4.1	3.1	10.0	5.7	3.0	4.9	2.7	2.0
Stockbuilding[3]	–0.2	0.1	0.0	0.0	0.5	–0.3	0.2	0.0	0.0	0.0
Total domestic demand	1.5	2.4	1.7	1.4	4.0	2.3	1.4	1.6	1.4	1.3
Exports of goods and services	13.9	7.0	12.3	9.0	4.2	13.8	13.0	9.5	9.0	8.7
Imports of goods and services	8.5	6.3	4.9	4.2	4.5	7.9	4.0	3.7	4.4	4.5
Net exports[3]	0.8	0.2	1.1	0.9	0.0	0.9	1.4	1.0	0.8	0.8
GDP	2.3	2.6	2.8	2.2	3.9	3.2	2.7	2.5	2.2	2.1
Inflation and capacity utilisation										
GDP deflator	–1.2	–1.3	–0.6	0.5	–1.7	–1.3	–0.8	0.4	0.5	0.7
Private consumption deflator	–0.7	–0.8	–0.1	0.7	–1.1	–0.5	–0.1	0.5	0.7	0.8
CPI[4]	0.0	–0.3	0.7	0.8	–0.1	–0.4	1.2	0.6	0.8	1.0
Core CPI[4]	–0.4	–0.3	0.4	0.8	–0.5	0.1	0.3	0.6	0.8	1.0
Unemployment rate	4.7	4.4	4.0	3.5	4.4	4.4	4.2	3.9	3.6	3.3
Output gap	–1.9	–0.8	0.5	1.2	–1.2	–0.4	0.2	0.7	1.1	1.4
Memorandum items:										
Net government lending[5]	–6.3	–5.2	–5.2	–4.7						
Net primary balance[5]	–4.9	–3.9	–3.7	–3.0						
Gross debt[5]	168.1	172.1	175.2	177.3						
Net debt[5]	82.2	86.3	89.7	92.0						
Current account[5]	3.7	3.6	4.3	5.5						

1. Assuming an exchange rate of 113.5 yen to the dollar – the level on 4 May 2006 – and the price of Brent oil at $70. All growth rates are at an annual rate 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.

Source: OECD, *OECD Economic Outlook*, No. 79 (May 2006).

appreciation of the yen, which rose about 4% relative to the US dollar between the end of quantitative easing on 9 March 2006 and the end of May, would tend to slow export growth.[1] *Second*, there is a risk of a marked increase in long-term interest rates in the context of Japan's high and rising level of public debt and market expectations of the future course of monetary policy.

Economic developments also depend on the macroeconomic policy mix. In ending its quantitative easing policy, the Bank of Japan announced that it would keep short-term interest rates at zero for the time being (see below). As of the end of May 2006, the financial market expected the Bank to raise short-term interest rates several times in both 2006 and 2007. Meanwhile, the fiscal consolidation process is continuing. Based on announced policy, the OECD projects that the government budget deficit on a cyclically-adjusted basis will narrow slightly from 5¾ per cent in 2005 to 5½ per cent in 2006 (excluding a one-off

factor). The projection assumed, in contrast to the financial market, that the zero short-term interest rate would continue into 2007. Continuing the relaxed stance of monetary policy would help ensure the definitive end of deflation and facilitate more rapid fiscal consolidation, which would stabilise the public debt ratio sooner and at a lower level. Moreover, it would help maintain confidence in the government's fiscal position, thereby reducing the possibility of a rise in the risk premium. In contrast, a policy mix that puts monetary tightening first would not provide such advantages, while tending to boost interest rates, which would have an adverse impact on both economic activity and the fiscal situation.

Ensuring a definitive end to deflation under a new monetary policy framework

With the core consumer price index (the OECD measure, which excludes food and energy) turned positive in the first quarter of 2006,[2] the Bank of Japan ended the quantitative easing policy that it had introduced in 2001 to fight deflation. This was followed by a hike in the short-term interest rate by 0.25% in July 2006. The new monetary policy framework faces a number of challenges. The most immediate task is to unwind the build-up in the monetary base, which increased from 8% of GDP in 2001 to 22% in 2006 while maintaining stability in financial markets. A second challenge is to increase transparency about the direction of monetary policy as it shifts from the objective of ending deflation to maintaining price stability in the long run. The announcement of the 0 to 2% range as the Policy Board's understanding of price stability was a step in that direction. However, the Bank stressed that this range is not a target, as there is no obligation to keep inflation in this zone. Moreover, the inflation range is to be reviewed each year, making it less useful as a guide for price expectations over the medium term.

The Bank also faces a high degree of uncertainty about the appropriate timing and pace of monetary tightening.[3] On the one hand, waiting too long to exit from zero interest rates could have stoked inflationary pressures and an asset price bubble. Indeed, the real short-term rate turned negative as inflation entered positive territory. Such monetary stimulus is becoming less appropriate as the economy enters the fifth year of an expansion with signs of capacity constraints emerging in some sectors. In addition, rising real estate prices in central Tokyo have kindled concern about an asset price bubble, as occurred when monetary policy was too slow to tighten in the latter half of the 1980s. On the other hand, there is remaining deflationary pressure in Japan. Although the Japanese core measure, which excludes only fresh food, rose 0.5% year-on-year in the first quarter of 2006, much of the increase was due to oil prices. The OECD measure of core, which excludes energy as well as food, posted a rise of only 0.2% in the first quarter of 2006. In addition, the GDP deflator declined by 1.2% (year-on-year) in the first quarter of 2006, while the private consumption deflator fell by 0.2%.[4] Avoiding a recurrence of deflation is crucial, given its negative impact on Japan's economy over the past decade.

The timing and speed of interest rate hikes have important implications for long-term rates as well. As noted above, at the end of May, the financial market expected an end to zero short-term interest rates during the summer of 2006, followed by a number of hikes in 2006 and 2007. These expectations have influenced long-term rates, as the yield on ten-year government bonds rose from 1.6 to 2% in May. This marked the first time in six years that the yield reached the 2% level, although it subsequently declined somewhat in the context of falling equity prices. While a further increase in the long-term interest rate is

likely in the future, a marked run-up while the GDP deflator is still declining would have negative implications for the fiscal situation and the real economy.

Rising interest rates also affect the banking sector, which plays a crucial role in Japan's bank-centred financial system. As noted above, bank lending has begun to increase after nine years of decline, thus sustaining the expansion. Higher interest rates have both positive and negative implications for the banks. On the negative side, the fall in bond prices as interest rates increase poses a risk of capital losses for banks, although it may be at least partially offset by capital gains in the stock market. On the positive side, rising long-term rates tend to widen interest-rate margins, at least temporarily. However, lending margins remain small in Japan, making it difficult for banks to make money on their lending activities. One reason for low margins is competition with public financial institutions, whose lending amounts to one-fifth of that by private financial institutions. Finally, although the overall soundness of the banking sector has improved, there is a marked difference between the major banks and regional banks.

Chapter 2 examines monetary policy and the soundness of the banking sector, focusing on the following issues:

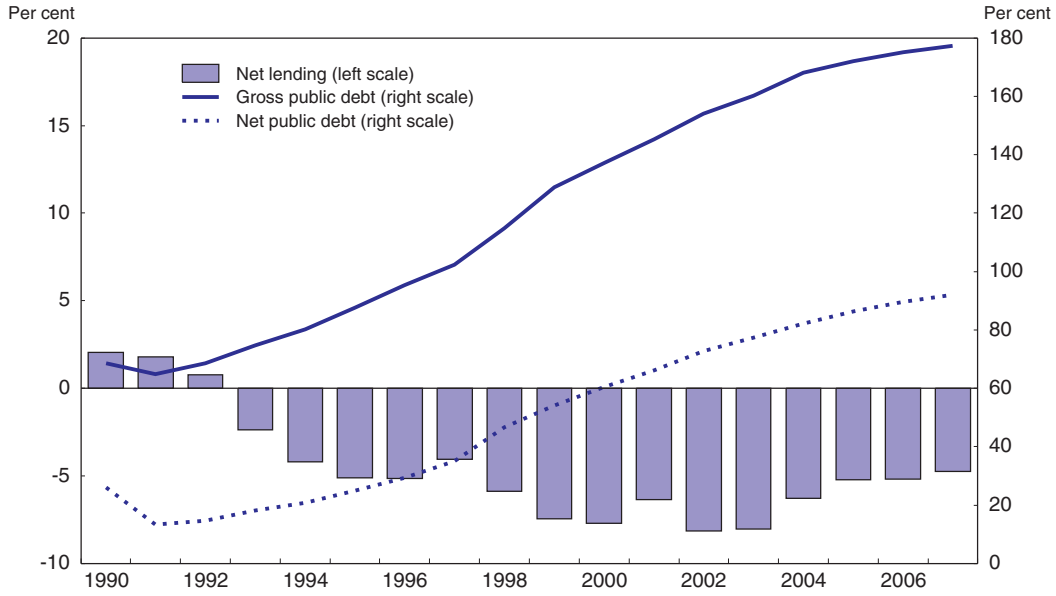
- How should the central bank ensure adequate transparency in managing monetary policy?
- What is the appropriate pace of interest rate hikes?
- What policies would limit the risk of a premature run-up in long-term interest rates?
- What measures would promote the financial soundness of the banking sector and the rebound in bank lending?

Achieving progress in fiscal consolidation over the medium term

Progress in fiscal consolidation has become increasingly urgent as gross public debt has risen to over 170% of GDP (Figure 1.4), the highest ever recorded in the OECD area. Public spending restraint helped to reduce the general government deficit from a peak of 8.2% of GDP in 2002 to an estimated 5½ per cent in 2006 (excluding a one-off factor[5]). However, about half of the decline was due to cyclical factors, implying that fiscal consolidation could be at risk in a future economic downturn. Moreover, the impact of higher debt has been masked thus far by low long-term interest rates, which have reduced government interest payments in absolute terms over the past 15 years.[6] The exceptional factors keeping long-term interest rates low – such as the Bank of Japan's quantitative easing policy and the zero short-term interest rate, the risk aversion of investors and persistent deflationary expectations – are ending. In addition, the possibility of a higher risk premium on government debt becomes stronger as the debt ratio rises even further into uncharted territory.

The FY 2002 *Structural Reform and Medium-Term Economic and Fiscal Perspectives* set a target of a primary budget surplus in the early 2010s.[7] The *Reform and Perspectives'* initial goal of freezing government spending as a share of GDP through FY 2006 has been realised, thanks in part to significant declines in public investment. Indeed, spending has been reduced from 39% of GDP in CY 2002 to an estimated 37% in CY 2006. However, achieving a further decline in spending as a share of GDP will become increasingly challenging in coming years. *First*, population ageing is putting upward pressure on pension and healthcare spending. *Second*, public investment as a share of GDP has fallen closer to the OECD average. Given the need to maintain the existing infrastructure, as well as to invest

Figure 1.4. **The fiscal situation in Japan**
For general government, as per cent of GDP[1]



1. OECD estimates for 2005, 2006 and 2007.
Source: OECD Economic Outlook 79 database.

in growth-enhancing projects, the scope for further cuts in public investment is diminishing. *Third*, potential savings from the administration's objective of creating a "small and efficient government" may be limited by the fact that the level of public employment is already quite small by international standards.

Given the pressures for increased spending, expenditure cuts alone are unlikely to achieve the necessary improvement in the budget balance. Consequently, measures to boost government revenue are also necessary. However, the tax bases for personal and corporate income taxes are relatively narrow and the statutory rate for corporations is among the highest in the OECD area. The consumption tax rate – at 5% – is low relative to other OECD countries, but a significant hike may tend to have negative implications for income inequality, which has widened significantly over the past two decades.

Chapter 3 analyses the fiscal challenge, emphasising the following issues:

- What size of primary budget surplus is necessary to stabilise the public debt ratio and how quickly should it be achieved?
- How can the government maintain confidence in its fiscal consolidation programme and avoid a rise in the risk premium as public debt continues to rise?
- How can spending be controlled in the face of population ageing to reduce the budget deficit and limit the need for tax increases?
- What is the best strategy for raising government revenues?

Addressing rising income inequality and poverty

Social equality has been a core value of Japan's post-war economic development. The perception that income and wealth are fairly and evenly distributed has contributed to

social cohesion. Indeed, about three-quarters of the Japanese consider themselves to be middle class. However, there has been an increasing trend in inequality and poverty in recent years. Since the mid-1980s, the Gini coefficient, a broad measure of income inequality, has risen by more than 11% according to Japan's *Survey on the Redistribution of Income*. An OECD study that provides an international comparison of income distribution using national data sources (Förster and Mira d'Ercole, 2005) found that the Gini coefficient for the working-age population in Japan has risen since the mid-1980s to slightly above the OECD average in 2000. Other indicators, such as the rise in the ratio of the top and bottom income quintiles, show similar results. Given that these trends are often blamed on the introduction of market-based reforms,[8] rising income inequality threatens to weaken public support for reform.

The rise in inequality reflects shrinking incomes at the low end of the distribution, resulting in a marked increase in poverty. The OECD study found that Japan was the only member country to experience a rise in absolute poverty between the mid-1980s and 2000. Meanwhile, the rate of relative poverty – defined as an income of less than half of the median level – has increased significantly to the fifth highest level in the OECD area (Figure 1.5). Moreover, the income of those in relative poverty is low; the amount of income transfers that would be needed to raise all of those in poverty up to the 50% threshold in Japan is the third largest among OECD countries (Panel B). In particular, more than half of single parents are in relative poverty, regardless of whether they work, contributing to a high level of child poverty, at 14.3%, compared to an OECD average of 12.2%. There is a risk that poverty will be passed between generations, particularly as a high share of education costs is paid by the private sector. Indeed, the PISA study of educational achievement reports a rising level of stratification of student performance in Japan.

Rising inequality and poverty have been accompanied – and probably driven by – increased labour market dualism. Indeed, the share of non-regular workers has risen from 19 to 30% of employees during the past decade. In addition to lower wages, such workers face precarious employment and less coverage by the social safety net. Moreover, they receive less enterprise-based training, with negative implications for their own human capital development and Japan's growth potential.

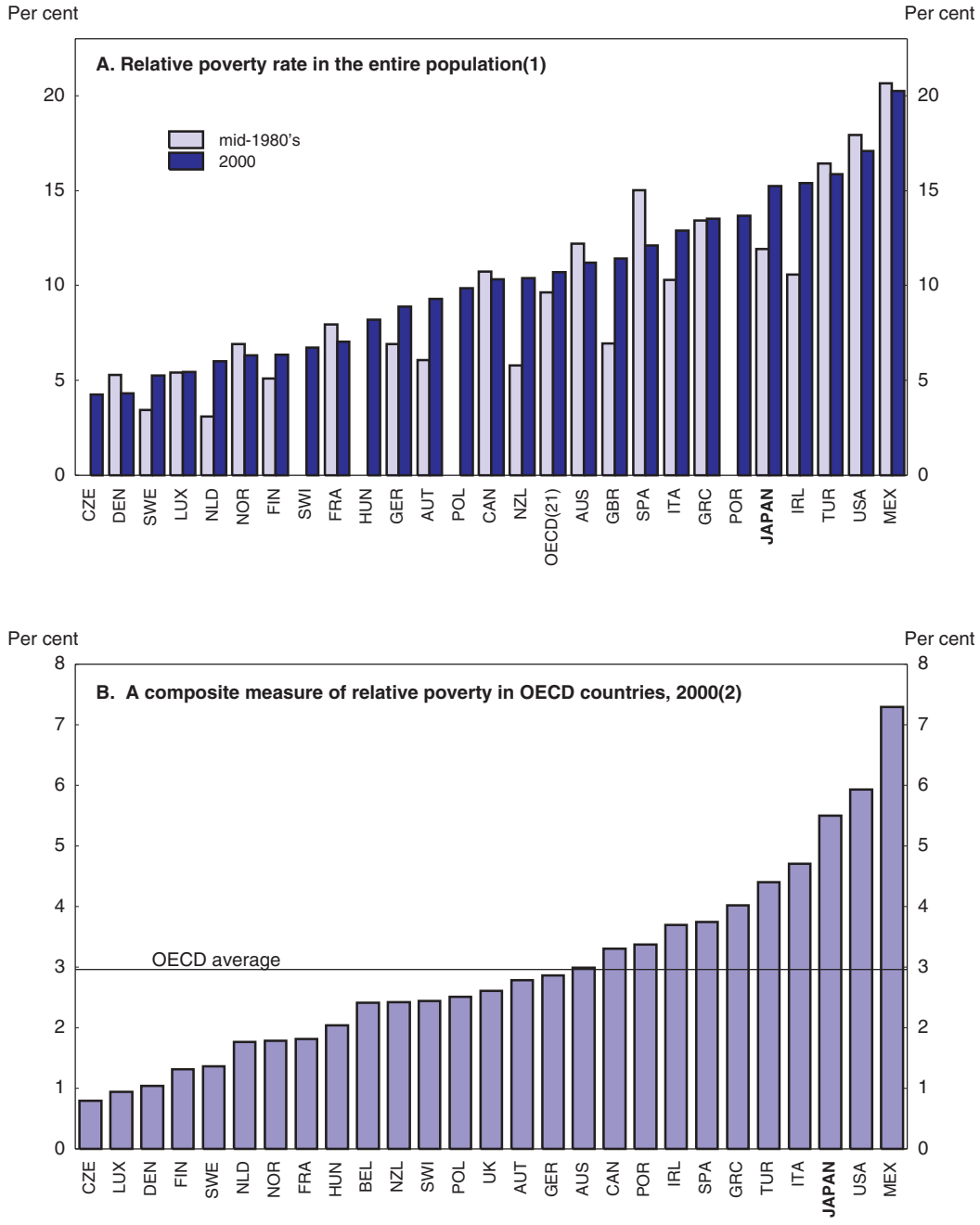
Chapter 4 reviews the debate on income distribution and relative poverty, focusing on the following issues:

- What factors are responsible for the rise in income inequality and poverty in recent years?
- How directly is inequality linked to labour market trends and how could the increasing proportion of non-regular workers be reversed?
- How can public social spending better reduce income inequality and poverty?

Boosting productivity growth by upgrading the innovation system

Successfully addressing the fiscal situation and the widening income disparity would be facilitated by strong economic growth. Part of Japan's lost decade was due to the fall in its potential growth rate from 4% in the late 1980s to around 1½ per cent since the mid-1990s. The most recent OECD estimate shows the rate remaining around that level during the period 2003 to 2012 (Table 1.2). It should be noted that weak demand tends to bias estimates of trend labour productivity, and consequently potential output, in a downward

Figure 1.5. **Relative poverty rates in OECD countries**



1. Poverty rates are defined as the share of individuals with equalized disposable income less than 50% of the median for the entire population.
2. The composite measure of relative poverty is the poverty rate multiplied by the poverty gap. It measures the size of the income transfer that would be required to raise all those in poverty up to the poverty threshold of 50% of median equalized disposable income. This figure is shown as a share of total household disposable income.

Source: Forster and Mira d'Ercole (2005), "Income Distribution and Poverty in OECD Countries in the Second Half of the 1990s", OECD Social, Employment and Migration Working Papers No. 22.

Table 1.2. **Potential economic growth in OECD countries**

Annual averages, percentage points for the total economy

	Potential GDP growth		Potential labour productivity growth (output per employee)		Potential employment growth		Components of potential employment growth[1]					
							Trend participation rate		Working-age population		Structural unemployment[2]	
	2003-2007	2008-2012	2003-2007	2008-2012	2003-2007	2008-2012	2003-2007	2008-2012	2003-2007	2008-2012	2003-2007	2008-2012
Australia	3.4	2.9	1.7	2.1	1.6	0.8	0.1	0.0	1.3	0.8	0.2	0.0
Austria	2.3	2.0	1.6	1.7	0.7	0.3	0.1	0.1	0.6	0.2	0.0	0.0
Belgium	1.9	1.8	1.3	1.7	0.6	0.1	0.3	0.0	0.4	0.1	0.0	0.0
Canada	3.0	2.5	1.4	1.9	1.6	0.6	0.3	0.0	1.2	0.7	0.1	0.0
Denmark	1.7	1.4	1.7	1.6	0.0	–0.2	–0.1	–0.1	0.1	–0.1	0.0	0.0
Finland	2.5	1.7	2.2	2.3	0.3	–0.6	0.0	–0.3	0.2	–0.3	0.2	0.0
France	2.0	1.8	1.4	1.8	0.6	0.0	0.0	0.0	0.5	0.0	0.1	0.0
Germany	1.5	1.7	1.2	1.6	0.2	0.1	0.5	0.2	–0.3	–0.1	0.0	0.0
Greece	3.9	3.3	3.0	2.9	0.8	0.3	0.6	0.4	0.2	–0.1	0.1	0.0
Iceland	3.6	2.6	2.7	1.8	0.9	0.8	0.0	0.0	0.9	0.8	0.0	0.0
Ireland	5.3	3.7	2.2	2.0	3.0	1.6	0.7	0.4	2.0	1.2	0.2	0.0
Italy	1.3	1.1	0.8	1.3	0.4	–0.2	0.4	0.2	–0.1	–0.4	0.2	0.0
Japan	**1.5**	**1.4**	**1.8**	**2.2**	**–0.3**	**–0.7**	**0.2**	**0.2**	**–0.5**	**–0.9**	**0.0**	**0.0**
Netherlands	1.8	1.8	1.2	1.5	0.6	0.3	0.2	0.2	0.4	0.1	0.0	0.0
New Zealand	3.2	2.4	1.1	1.7	2.0	0.7	0.3	0.0	1.4	0.6	0.3	0.0
Norway[3]	2.9	2.6	2.1	2.1	0.9	0.4	0.0	0.0	0.9	0.4	0.0	0.0
Spain	3.2	2.5	0.4	1.2	2.8	1.3	0.8	0.2	1.7	1.0	0.4	0.1
Sweden	2.5	2.2	2.2	2.2	0.3	0.0	–0.1	–0.1	0.6	0.0	–0.1	0.0
Switzerland	1.5	1.7	0.7	1.4	0.8	0.3	0.1	0.2	0.7	0.0	0.0	0.0
United Kingdom	2.7	2.4	1.9	2.1	0.8	0.3	0.0	0.0	0.7	0.3	0.0	0.0
United States	3.0	3.1	2.3	2.1	0.7	1.0	–0.5	–0.1	1.2	1.1	0.0	0.0
Euro area	1.9	1.8	1.2	1.6	0.8	0.1	0.6	0.2	0.3	0.1	0.1	0.0
Total OECD	2.4	2.4	1.7	1.9	0.7	0.4	0.1	0.0	0.8	0.6	0.0	0.0

1. Percentage-point contributions to potential employment growth.
2. Estimates of the structural rate of unemployment are based on the concepts and methods described in "Revised OECD measures of Structural Unemployment", *OECD Economic Outlook*, No. 68, 2000.
3. Excluding the oil sector.

Source: OECD Economic Outlook 79 database.

direction. Nevertheless, potential labour productivity growth in the period 2003-07 in Japan – at 1.8% – is slightly above the OECD average. Moreover, the OECD projects that it will accelerate to 2.2% during the period 2008-12, thanks to increased capital accumulation during the current expansion.

Despite the positive outlook for labour productivity, Japan's demographic trends put a low ceiling on its potential growth. Indeed, a large and growing negative contribution from potential employment growth over the period 2003-12, notwithstanding a projected rise in the labour force participation rate, reduces the estimated potential growth rate for Japan to 1½ per cent over this period, substantially below the OECD average of 2½ per cent. The key factor is the accelerated decline in the working-age population, which reduces potential growth by nearly one percentage point annually in the period 2008-2012.

The OECD's estimate of a 1.4% potential growth over the period 2008-12 is below the real GDP growth rate of 1¾ per cent shown in the *Reference Projection* of the *Reform and Perspectives* discussed above.[9] There appears to be scope for faster labour productivity

gains, given the large gap that has developed in recent years between Japan and the highest-income countries. In particular, Japan's per capita income relative to the United States has fallen from a peak of 85% when the bubble collapsed in the early 1990s to 74% in 2004 (Figure 1.6). Given that Japan is one of the few countries with a higher rate of labour utilisation than the United States, the income gap is completely explained by differences in labour productivity. Indeed, labour productivity per hour is 31% below the US level, the widest gap of any of the major industrial countries, suggesting that there is considerable scope for faster productivity growth to narrow the difference. At the same time, there is potential to increase labour force participation, particularly by women, thus raising output growth and narrowing the income gap (see Chapter 6).[10]

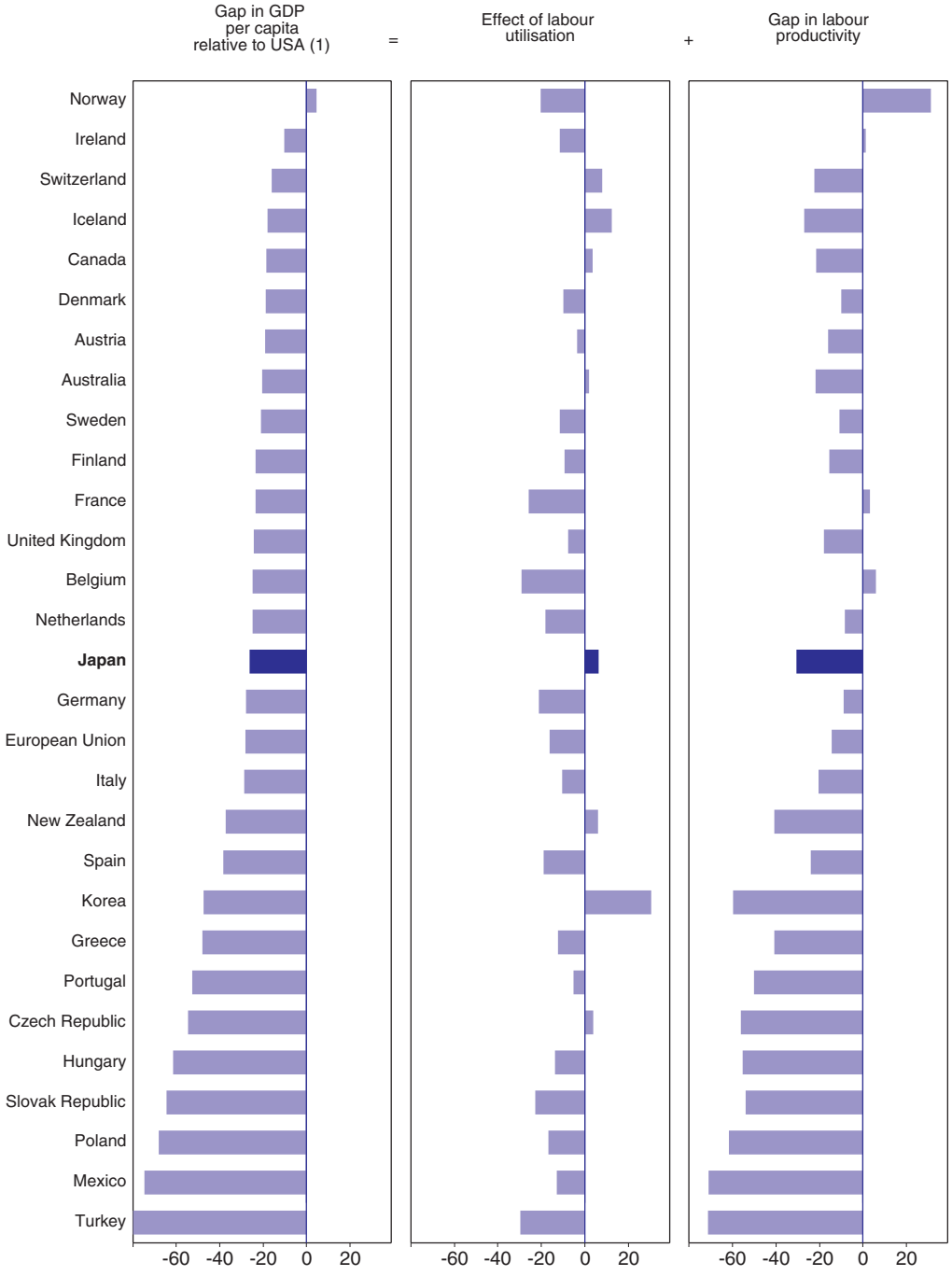
Further accelerating the pace of labour productivity gains will depend in part on increasing the return on investment in innovation. Indeed, new and improved products – and new and more efficient ways of producing them – have long been the driving force of economic growth. Investment in knowledge increased significantly in Japan during the 1990s, despite economic stagnation, placing it near the top of OECD countries in a number of indicators. However, the efficiency of R&D spending has declined according to a number of studies. The failure to fully benefit from the large and growing investment in knowledge reflects the difficulty of the transition from a "catch-up" approach to innovation to a more creative one. In addition, there are serious weaknesses in framework conditions that have a negative impact on innovation. In an econometric study of factors explaining the change in business-sector R&D intensity during the 1990s, framework conditions in Japan made a large negative contribution (Figure 1.7). In addition to reducing R&D intensity, problems in framework conditions lowered the quality of such investments.

Chapter 5 analyses how the national innovation system can be improved, focusing on some key issues in the framework conditions, as well as on R&D policy:

- How can the links between the business sector and public research organisations be strengthened? For example, the business sector funded only 1% of university research in 2002. Moreover, there is little labour mobility; only 0.3% of the researchers in universities moved to business or government research institutes in 2003.
- How can international co-operation in R&D be enhanced? Patent statistics rank Japan last in the OECD area in terms of the foreign ownership of domestic inventions and domestic ownership of foreign inventions.
- What policies would improve the performance of the education system? The ranking of Japanese students in standardised international tests has been declining.
- How can risk-taking activities be encouraged? Venture capital investment as a share of GDP is the second lowest in the OECD area, and the share of such investment that takes place at the start-up stage is small. Moreover, the proportion of venture capital investment in high-technology sectors is well below the OECD average.
- What needs to be done to improve product market regulation? The OECD indicator ranks Japan in the middle of member countries, thus reducing competitive pressures for the creation and diffusion of knowledge.
- How can the service sector's share of R&D be increased? Services account for only 8% of business-sector R&D, the lowest share in the OECD area. The government also tends to favour the manufacturing sector.

Figure 1.6. **Explaining differences in income**

Percentage-point differences in GDP per person in US dollars (PPP exchange rates) relative to the United States in 2004



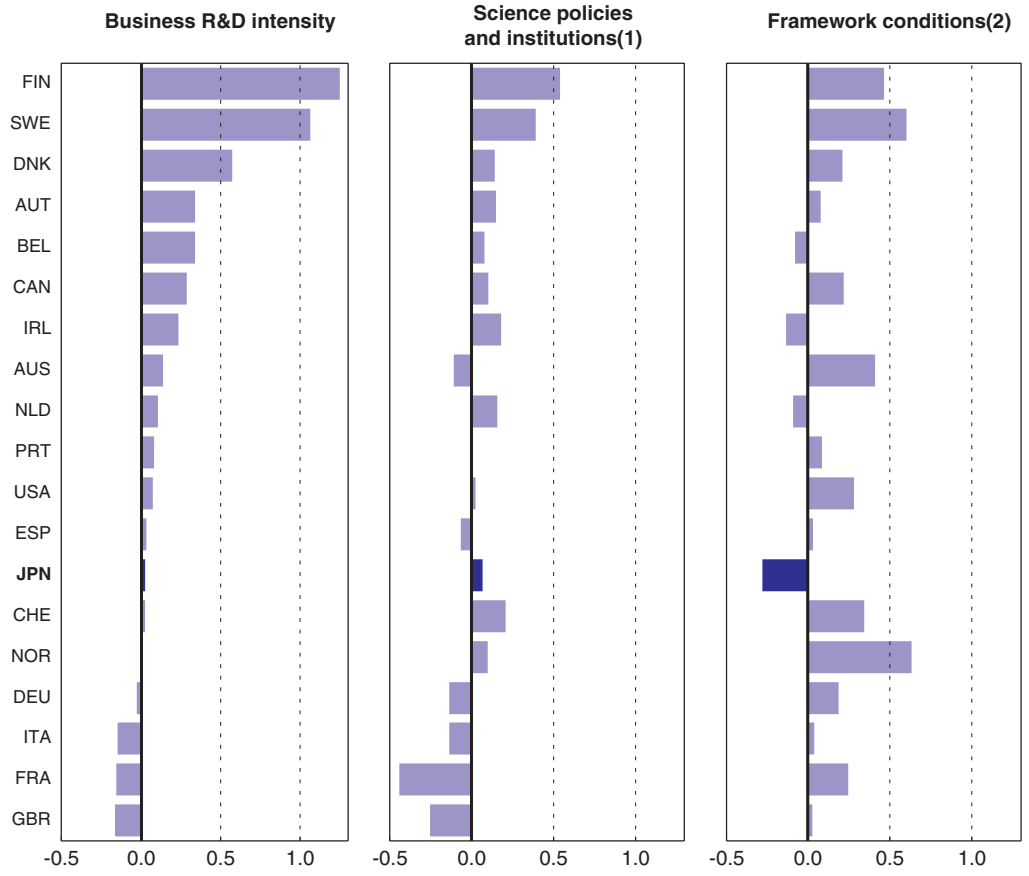
1. The gap in GDP per capita is equal to the sum of the two components shown. The effect of labour utilisation is based on total hours worked per capita. Productivity is measured on a per-hour basis.

Source: OECD (2006), *Economic Policy Reforms: Going for Growth*.

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Figure 1.7. **The impact of science policies and framework conditions on R&D spending**

Percentage point deviation of R&D intensity between 1991 and 2000



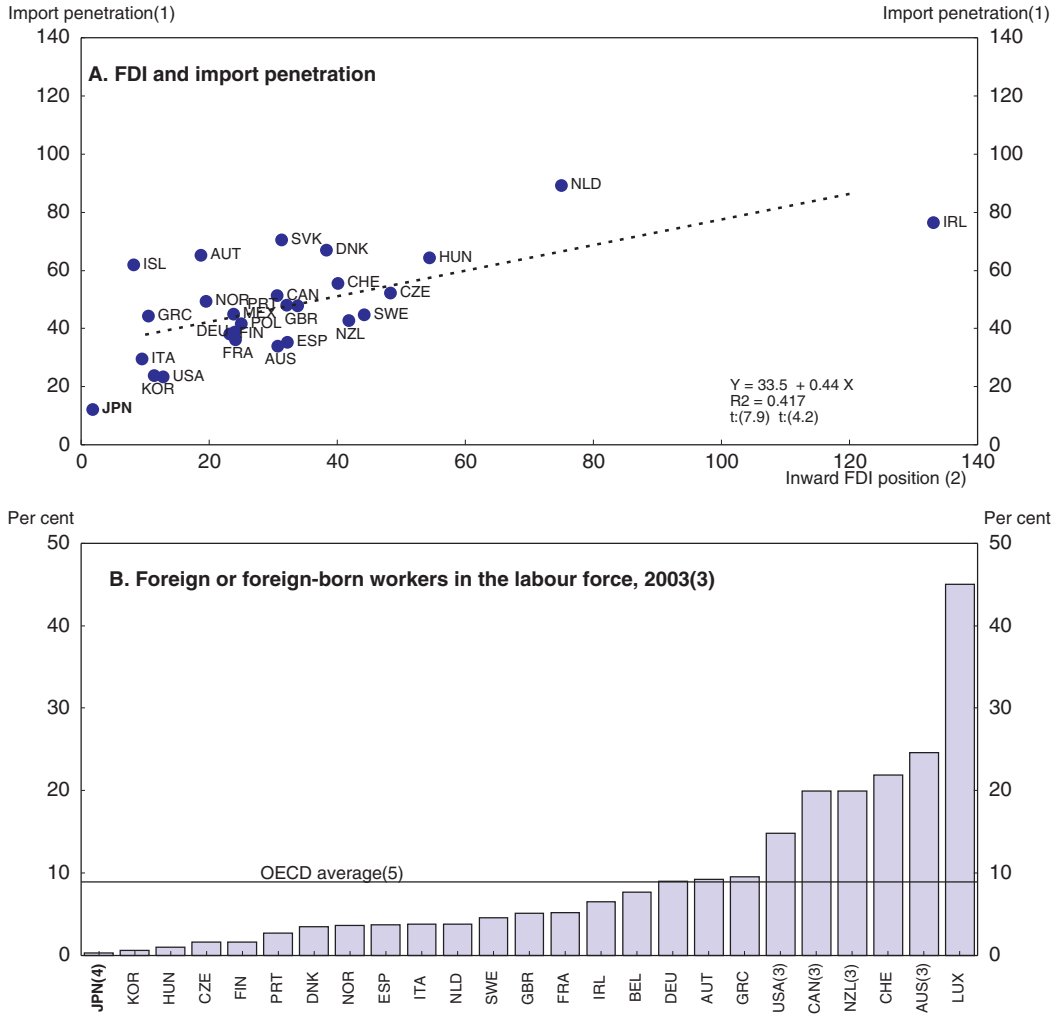
1. Science policies include R&D tax incentives, subsidies for private R&D, business funding of non-business R&D, non-business R&D intensity, intellectual property rights and absorptive capacity (capacity to understand and make use of foreign knowledge).
2. Framework conditions include financial factors, real interest rates, real exchange rates, foreign exposure (foreign R&D stock and openness), import penetration, product market regulation, employment protection legislation, human capital and the domestic economy-wide average wage.

Source: Jaumotte and Pain (2005), *Innovation in the Business Sector*.

Strengthening the integration of Japan in the world economy to benefit more fully from globalisation

Another potential driver of higher potential growth is to strengthen Japan's links to the global economy by increasing inflows of goods and services, foreign direct investment (FDI), foreign labour and technology from abroad. Japan has become more integrated in the world economy in recent years, reflecting in part progress in reducing barriers, both explicit and implicit, to trade and inflows of FDI. In addition, China's emergence in the world economy is having a significantly positive impact on Japan's integration in the world economy. Nevertheless, Japan remains relatively isolated, with the lowest level of import penetration in the OECD area (Figure 1.8). Indeed, the level of imports is surprisingly low, even after controlling for country size, transport costs and per capita income, although there may be other economic factors. In addition, the stock of inward FDI – at 2% of GDP –

Figure 1.8. **Indicators of Japan's integration in the world economy**



1. Imports of manufactures as per cent of domestic demand in 2003.
2. Stock of inward FDI as per cent of GDP in 2002.
3. Data for Australia, Canada, New Zealand and the United States are for foreign-born labour force. The data source is the Labour Force Survey or census in all countries except Hungary, Italy, Japan and Korea, where the source is work permits.
4. Foreign residents with permission of employment. Excludes permanent and long-term residents, whose labour activity is unrestricted.
5. Unweighted average of the 25 countries shown in this figure.

Source: OECD (2005a), *Economic Globalisation Indicators* and OECD (2004), *Trends in International Migration: SOPEMI-2004 Edition*.

is the lowest among OECD countries. The small stock of inward FDI, in turn, limits the amount of intra-firm trade.

The share of foreign workers in total employment is also the lowest in the OECD area (Panel B). Limits on the inflow of foreign workers with skills demanded by multinational enterprises, in turn, may be a factor discouraging FDI inflows.[11] In addition, the low level of foreign workers is problematic given the rapid pace of decline in the working-age population, contributing to labour shortages in some sectors, such as nursing and long-term care for the elderly.

Chapter 6 considers policies to promote Japan's further integration in the world economy by examining the following questions:

- How can Japan's openness to imports be increased?
- What measures would make Japan a more attractive location for FDI?
- Are greater inflows of foreign labour necessary, given the declining working-age population in Japan?

Conclusion

Japan has made significant progress from the days when financial-market distress and falling prices made a deflationary spiral a serious risk. The turnaround is attributable to a favourable world environment, led by China's emerging economic strength, and restructuring efforts in the corporate and financial sectors. Structural policy reforms by the government, which are summarised in Annex 1.A1, have also contributed. However, Japan still faces a number of challenges that it must address successfully in order to sustain the economic expansion over the medium term and achieve rising living standards. The following chapters analyse the challenges outlined in this chapter and develop specific policy recommendations to meet them.

Notes

1. At that point, the exchange rate – at 112.7 yen per dollar – was still within 1% of the rate of 113.5 yen per dollar that is assumed in the projection.
2. The Japanese measure of core inflation, which excludes only fresh foods, rose 0.1% year-on-year in the fourth quarter of 2005.
3. Prior to July 2006, the last time the Bank of Japan had raised interest rates was in August 2000 when it ended the zero interest rate policy introduced in 1999. This move was reversed six months later as the economy slowed abruptly in the latter part of 2000.
4. See the 2005 *OECD Economic Survey of Japan* for a discussion of different indicators of inflation. It should be noted that the decline in the GDP deflator is influenced by the rise in oil prices.
5. This factor, *Daiko Henjo*, resulted from the transfer of part of the corporate pension funds in the employees' pension scheme back to the government. It reduced the size of the deficit by 0.1% of GDP in 2003, 1.2% in 2004 and 0.4% in the first quarter of 2005 on an SNA basis. In the government budget, the impact is estimated at 0.7% in FY 2005 and 0.1% in FY 2006.
6. Government interest payments in both 2004 and 2005 were about 20% below their level in 1992 in nominal terms, when the public debt ratio was only half as large.
7. The target is for the primary budget (*i.e.* excluding net interest payments) of the central and local government. The *Reference Projection*, which is published at the same time as the *Reform and Perspectives* by the Cabinet Office, provides a mechanical calculation of a path of fiscal consolidation. In the 2006 revision of the *Reference Projection* showed a zero primary budget balance in FY 2011, its final year.
8. For example, see the *Nihon Keizai Shimbun's* interview with Professor Tachibanaki, published 10 February 2006.
9. This is the average rate between FY 2006 and FY 2011 (when the primary budget reaches balance) in the "Base Case" of the *Reference Projection*.
10. The labour force participation rate and employment rate for men in the 55 to 64 age group in Japan are the second highest in the OECD area and have remained relatively steady compared to other member countries (see the 2005 *OECD Economic Survey of Japan*). Moreover, the participation rate was the fourth highest for the 65 to 74 age group. One factor is that the public pension system does not provide very large incentives to retire compared to other OECD countries. However, the existence of an earnings test to qualify for pension benefits for those in the 60 to 69 age group may encourage part-time work, since employees who work less than three-quarters of regular working

hours or working days are not subject to the earnings test. According to a 2000 survey, one-fifth of persons in the 60 to 64 age group chose not to work or reduced their working hours in order to avoid a suspension of pension benefits.

11. The government's "Strategy in the Globalizing Economy", which is discussed in Chapter 6, mentions the need to "improve (the) immigration control system in preparation of increase in acceptance of highly-qualified human resources".

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ANNEX 1.A1

Taking stock of structural reforms

This annex reviews actions taken on structural policy recommendations in the 2005 *OECD Economic Survey of Japan*. Recommendations made in this *Survey* are shown in the boxes at the end of each chapter.

Recommendations in the 2005 *Survey*	Actions taken or proposed by the authorities
A. Strengthening the banking sector	
The supervisory authorities should maintain the pressure on the banking sector to cut non-performing loans (NPLs) and strengthen capital.	The NPLs to total credit ratio for the major banks fell from 8.4% in March 2002 to 1.8% in March 2006. An adjusted capital adequacy ratio calculated by the OECD Secretariat, which excludes deferred tax assets and public funds, increased from 6.7 to 9.7% since March 2003.
The guidelines for lending to SMEs should be removed. The authorities should also establish specific measures for reducing NPLs, similar to those for major banks, and use caution in implementing the new scheme for public fund injections into regional banks to avoid moral hazard problems and large budgetary costs.	No action taken regarding the guidelines on SMEs. The new scheme for public fund injections into regional banks has not been implemented so far.
B. Getting the most out of the public sector decentralisation	
Improve local governments' ability and incentives to manage local public services efficiently	
Pursue and diversify measures to enable local governments to exploit scale economies. Co-operative arrangements across local governments should be encouraged. This would require reforming further the grant (LAT) system and possibly providing legal and accounting assistance to local governments.	Merger of municipalities has been promoted mainly through fiscal support. As a result, the number of municipalities has decreased from 3 100 in 2004 to 1 820 in April 2006. The government will continue fiscal support under the New Merger Law that came into effect on 1 April 2006.
Reassess the need for strict standards and regulations imposed on the delivery of local public services. For those sectors where national objectives are of concern, rely on norms defined in terms of outcomes/outputs rather than on regulations on inputs and operational management. Standards on local government employee salaries should also be reviewed, allowing regional variations in wage levels.	The government established the New Local Administrative Reform Principle in 2005, which requests local governments to revise their salary structure to reflect private-sector wages in each region. A study group under the Minister for Internal Affairs and Communications is examining how this can be accomplished.
Clarify the actual norms imposed by the central government and the responsibilities of both prefectures and municipalities so as to allow local governments to exercise their autonomy and become more accountable to local citizens.	No action taken.
Improve transparency in local public procurement contracts, with clear dispute and settlement facilities.	No action taken.
Contain the costs and adverse effects of the grant system	
Reliance on earmarked grants should be reduced, the objectives reviewed so as to avoid potential conflicts and old grant programmes reviewed in the light of new objectives and financial constraints.	The government has cut 4.7 trillion yen of earmarked grants to local governments while transferring 3 trillion yen of tax resources since FY 2004.
End the reliance of equalisation grants (LAT) on volatile national revenues in order to reduce their asymmetrical behaviour over the business cycle.	No action taken.

Recommendations in the 2005 *Survey*	Actions taken or proposed by the authorities
Reassess the coverage of local public services to be included in equalisation schemes. Adjust the grant formula so as to reflect objective needs rather than from actual spending or infrastructure endowments.	A discussion group under the Minister for Internal Affairs and Communications recommended in May 2006 to introduce a new LAT based on a simplified formula.
Remove the incentives embodied in the grant system that favour debt financing by ending the practice of including debt repayment costs in the calculation of grant entitlements for new bond issues.	A discussion group under the Minister for Internal Affairs and Communications recommended in May 2006 to introduce a new LAT based on a simplified formula.
Limit discretionary elements (including the special LAT), which could create moral hazard problems, and improve the transparency of the adjustment factors accounted for in the LAT formula.	A discussion group under the Minister for Internal Affairs and Communications recommended in May 2006 to introduce a new LAT based on a simplified formula.
Increase local government tax autonomy while keeping the tax system as simple and neutral as possible	
Barriers to the effective use of existing powers to set local tax rates should be removed. In particular, central government permission for local bond issuance should no longer be made conditional on local governments' setting local tax rates at, or above, the standard levels defined by the central government.	The approval system for local bonds has shifted to a consultation system in FY 2006. Local governments that set local tax rates below the standard rate are allowed to issue bonds with the permission of the central government.
Local business and property taxes should no longer be deductible from central government tax bases.	No action taken.
In raising local government tax revenues, priority should be given to base-broadening measures for existing taxes (in particular the personal income tax) as opposed to the introduction of new taxes.	The fixed-rate tax cut in local inhabitant tax is being abolished between 2006 and 2007.
Local governments' right to introduce specific tax rebates to attract companies should be limited since it does not promote healthy tax competition.	No action taken.
Raising property values for tax purpose closer to the market value would also be desirable.	No action taken.
If new tax resources are to be transferred to local governments, give priority to taxes which are less volatile, have no significant adverse effects on the potential growth rate and cannot be easily exported.	From FY 2007, the number of personal income tax brackets will be increased from four to six, while the three rates in the local personal inhabitant tax will be merged into one, thus transferring about 3 trillion yen of tax revenue to local governments.
Harden fiscal rules and strengthen the role of financial markets to ensure fiscal discipline	
The "net revenue" rule should be transformed into a balanced operating budget rule while the coverage of the rule on debt servicing costs should be broadened to include all bonds and interest payments.	No action taken.
To enhance local government incentives to comply with fiscal rules, sanction mechanisms may be needed. At a minimum, the existing financial support for local governments facing financial difficulties (*e.g.* subsidies for bond issues, access to preferential borrowing conditions) should be eliminated so as to avoid moral hazard problems.	A discussion group under the Minister of Internal Affairs and Communications recommended in May 2006 measures to strengthen fiscal rules to discipline local government fiscal behaviour.
Fiscal rules should be re-designed so as to prevent new debt from raising grant entitlements and thus enabling local governments to accumulate even more debt.	A discussion group under the Minister of Internal Affairs and Communications recommended in May 2006 measures to strengthen fiscal rules to discipline local government fiscal behaviour.
Financial markets should be given a role in disciplining local government fiscal behaviour. This will require reducing further the share of local bond issues underwritten by public bodies, removing central government *de facto* guarantees (grant entitlements being adjusted to cover bond repayment costs) and by stating consistently that the central government will not act as a lender of last resort.	A discussion group under the Minister of Internal Affairs and Communications recommended in May 2006 measures to strengthen fiscal rules to discipline local government fiscal behaviour.
Improve transparency of local government contingent liabilities (including the unfunded liabilities stemming from retirement allowances and pension commitments for local public employees, deficits and liabilities of local public enterprises and public-private partnerships).	The government decided the New Local Administrative Reform Principle in 2005, which requests local governments to fully review the necessity of local public enterprises and third-sector companies.
Clarify risk-sharing arrangements when local public enterprises or third-sector enterprises are providing public services on the behalf of one or several local governments.	The government decided the New Local Administrative Reform Principle in 2005, which requests local governments to fully review the necessity of local public enterprises and third-sector companies.

Recommendations in the 2005 *Survey*	Actions taken or proposed by the authorities
C. Removing obstacles to faster growth	
Special zones	
Make the Special Zones initiative an effective tool for advancing nation-wide reform rather than simply a policy for regional development. This distinction could be re-enforced by separating the responsibility for regional policy from the office in charge of special zones. There should be a top-down aspect to the programme to identify districts that are suitable for certain regulatory changes.	No action taken.
Reforms in the zones should be applied on a national basis as quickly as possible, avoiding extended evaluation periods.	Thus far, 64 of the reforms have been accepted on a nation-wide basis based on recommendations by the Evaluation Committee.
Regulatory reform	
The new regulatory reform framework, which allows proposals to be discussed by all ministries, including those favouring change, should be used effectively to overcome vested interests opposed to reform.	The Regulatory Reform Promotion Headquarters has been accepting requests on regulatory reform from the business sector and local governments twice a year since 2004 and taking necessary measures.
The government should make the reform of "government-driven markets", concentrated in social welfare areas such as medical services and nursing care, a priority given rapid population ageing.	The government has revised the three-year regulatory reform plan in March 2005 and March 2006, both of which focused on the reform of the government-driven markets.
"Market testing" should be used effectively to benefit consumers, promote fiscal consolidation and provide new opportunities to the business sector.	Prior to the full implementation of the market testing in 2006, eight pilot projects in three areas were implemented in FY 2005.
A priority is to upgrade competition policy by increasing surcharges on violations of the Anti-Monopoly Act. In addition, a whistleblower programme to counter widespread anti-competitive collusion should be implemented to protect individuals.	The revised Anti-Monopoly Act which came into force in January 2006 raised the level of surcharges imposed on violations of the law and established a leniency programme. Furthermore, the Whistleblower Protection Act came into force in April 2006.
The regulatory policy framework for network industries still needs to be improved. The vertical unbundling of activities should be considered for further enhancement of competition.	No action taken.
Consider the establishment of sectoral regulators independent of the government as part of active *ex ante* regulation to secure non-discriminatory third-party access, if the current approach through the government ministries does not work sufficiently well.	No action taken.
Openness to trade and investment	
Regulatory tools, particularly the No-Action Letter system and the Public Comment Procedure, should be improved to enhance transparency and encourage greater foreign participation in the Japanese economy.	The coverage of the No-Action Letter system was expanded to all activities by private sector entities in March 2004. The Public Comment Procedure was given legal status in 2005 with wider coverage and increased transparency.
The mergers and acquisition market should be activated by removing discriminatory provisions governing the acquisition of Japanese firms by foreign investors.	The new Corporation Law enacted in 2005 allows a Japanese subsidiary to use its parent company's stock to acquire a Japanese company. However, the implementation of the relevant provisions has been delayed until 2007 and a few details (*e.g.* tax deferral) remain unclear.
Barriers to trade should be reduced through multilateral trade negotiations, as well as Japan's inclusion in regional free trade agreements. Aspects of multifunctionality in agriculture, such as protecting the environment, should be dealt with by adopting well-targeted policy measures that minimise trade distortions.	A bilateral agreement with Mexico was signed in 2004 and took effect in 2005. An agreement with Malaysia took effect in 2006.
The privatisation of Japan Post	
There should be a level playing field between Postal Savings and Postal Life Insurance and private institutions, including equal treatment under the regulatory framework.	The laws related to the Privatisation of the Postal Services passed the Diet in October 2005. Postal Saving and Postal Life Insurance will be treated as private financial institutions when fully privatised in October 2017 at the latest.
Postal Savings and Postal Life Insurance should not be allowed to offer new products before the establishment of equal treatment.	The Postal Services Privatisation Committee monitors the privatisation process and makes recommendations during the transition process.
The privatisation, which is to be finished by 2017 at the latest, should aim at a complete divestiture of the government's holdings in financial services.	The law requires complete divestiture of the government's holdings of financial service companies by the end of September 2017.
The management of Postal Savings and Postal life Insurance should have the same independence as private institutions in formulating their business plans once a level playing field is achieved.	Postal Saving and Postal Life Insurance will be treated as privatised financial institutions when fully privatised in October 2017 at the latest.

Recommendations in the 2005 *Survey*	Actions taken or proposed by the authorities
D. Labour market	
Stopping the trend towards increased dualism requires a comprehensive approach. This should include reducing employment protection for regular workers, increasing the coverage of temporary workers by social security insurance and other policies, such as training programmes, to enhance the employment prospects of non-regular workers.	No action has been taken regarding the employment protection on regular workers.
The government should reduce or eliminate aspects of the tax and social security system that discourage women from working full-time.	Special exemption on the personal income tax has been partially eliminated.
The high participation rate of older workers should be maintained by further reforming the pension system to reduce incentives to retire between the ages of 60 and 64.	A law to extend the mandatory retirement age step by step to 65 between 2006 and 2013 has been implemented.

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Chapter 2

Ensuring a definitive end to deflation and sustaining the soundness of the banking sector

With the end of quantitative easing, the Bank of Japan has introduced a new monetary policy framework that includes an understanding of price stability as 0 to 2% inflation. Given remaining deflationary pressures, the Bank should be cautious in raising short-term interest rates and should increase the lower bound of the inflation zone to reduce the risk of deflation in the future. It is also important to avoid a rapid run-up in long-term interest rates in order to help sustain the economic expansion. Maintaining the soundness of the banking sector is also essential. While the major banks have achieved significant progress, the regional banks have lagged behind. Scaling back the role of public financial institutions would be beneficial for the entire banking sector. In addition, following through on the privatisation of Japan Post is essential to shift the flow of funds from the public to the private sector.

The end of the quantitative easing policy in March 2006 marked the beginning of a new monetary policy framework in Japan. The unorthodox monetary policy based on targeting reserves played a positive role in stabilising the banking sector and achieving a sustained recovery, accompanied by positive inflation, according to some measures, by the first quarter of 2006. The transition from a policy aimed at ending deflation to one aimed at maintaining price stability in the long run faces a number of challenges, including the risk of a substantial rise in long-term interest rates from their exceptionally low levels in recent years. After a brief review of the transition from quantitative easing, this chapter discusses the new monetary policy framework. The following section looks at the soundness of the banking sector, which is essential to the effectiveness of monetary policy.

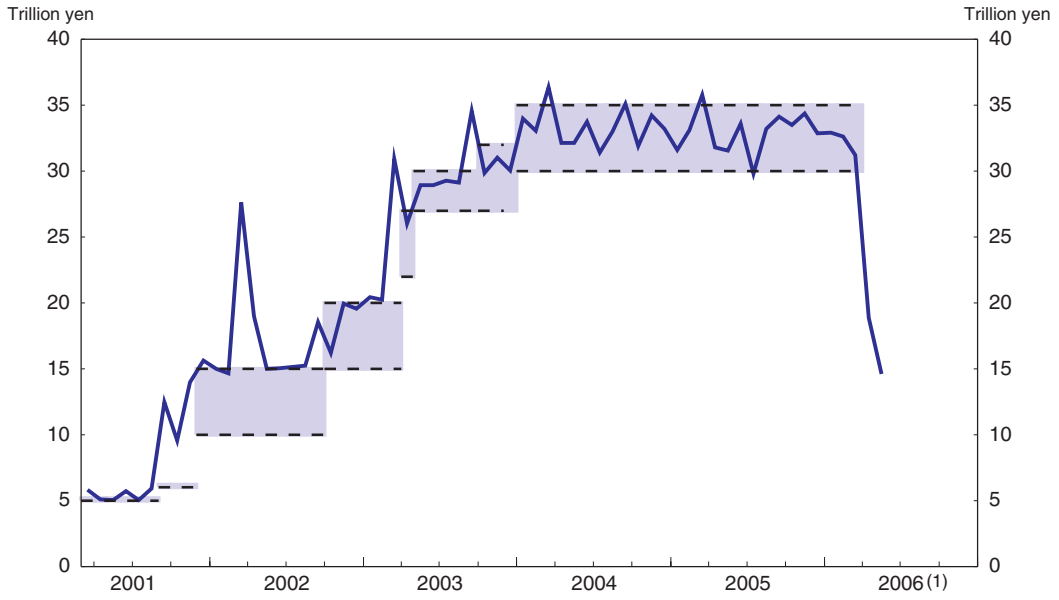
The chapter concludes with a number of recommendations, which are presented in Box 2.1. Given the remaining deflationary pressures, the Bank of Japan should be cautious in raising short-term interest rates, as it may be accompanied by a run-up in long-term bond yields and an appreciation of the currency. An increase in long-term interest rates that is too early or too large would weaken economic activity, and have adverse implications for the fiscal situation. The appropriate pace of monetary tightening will be determined in part by the impact of fiscal consolidation on the economy. In sum, the Bank should focus on achieving a definitive end to deflation. In addition, the new monetary policy framework should be improved. In particular, the understanding of price stability should be revised to raise the lower bound above zero in order to provide an adequate buffer to limit the risk of renewed deflation. The plan to review the inflation zone annually makes it less appropriate as a guide to expectations over the medium and long term. Instead, a fixed definition of price stability would provide more transparency for monetary policy.

There has been significant progress in reducing the non-performing loans (NPLs) of the major banks. The priority for them now is to improve their profitability and establish sound risk management, while continuing to strengthen their capital base. The Financial Services Agency should encourage the regional banks to further reduce their NPLs, which remain higher than in the major banks. While regional banks play an important role in lending to small and medium-sized enterprises, prudential supervision should be vigilant to avoid moral hazard and to prevent future NPL problems. It is also important to scale back the role of public financial institutions in order to reduce unfair competition with the banking sector and to limit the burden on taxpayers. The government's plan to merge a number of public financial institutions should be accompanied by measures to improve the efficiency of the new institution to reduce its losses. In addition, the plan to privatise Japan Post should be implemented as part of the programme to reduce the size of the public sector. It is essential to achieve a level playing field between Postal Savings and Postal Life Insurance and private financial institutions before allowing them to expand their range of business and to reduce the government's holdings to zero by 2017 at the latest.

The exit from quantitative easing

The quantitative easing policy, which was introduced in March 2001, targeted reserves – banks' current account balances at the central bank – while keeping short-term interest rates at zero. From early 2004, the target was kept at 30 to 35 trillion yen (6 to 7% of GDP), well above the 6 trillion yen in deposits mandated by the reserve requirement (Figure 2.1). The quantitative easing policy had a positive impact on the economy by promoting financial-sector stability through the provision of ample liquidity to banks.[1] In addition, the commitment to maintain the policy until prices started to rise helped to keep long-term interest rates at a low level (the so-called "policy duration effect").[2] Indeed, the yield on ten-year government bonds averaged 1.3% during the five years of quantitative easing, despite large government budget deficits and rising debt. Quantitative easing also pumped up the monetary base to an exceptionally high level of 22% of GDP, compared to a long-run average of about 8% (Figure 2.2).

Figure 2.1. **Outstanding current account balances at the Bank of Japan**



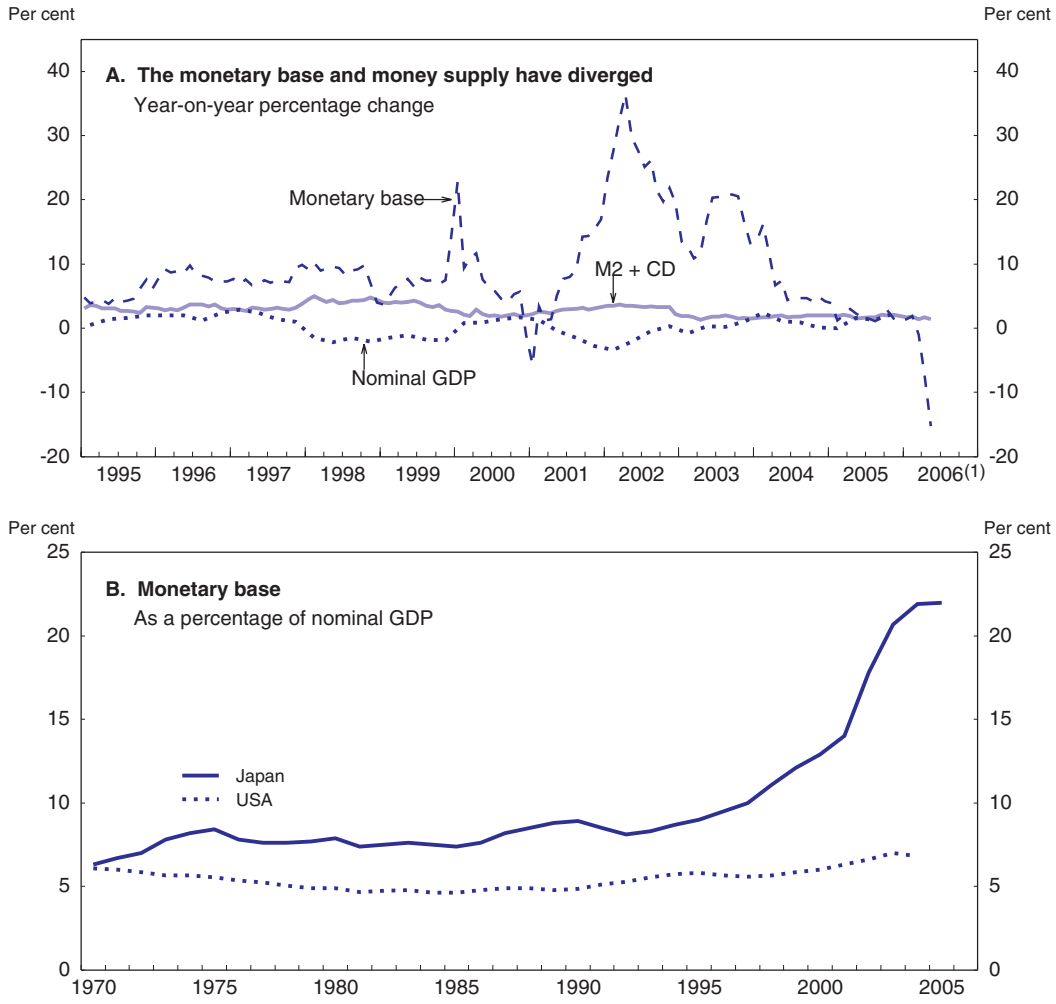
Note: Dotted lines show the Bank of Japan's target.
1. The figure shown for the second quarter of 2006 is the level at the end of May.
Source: Bank of Japan.

Quantitative easing ended once the two conditions set by the central bank in 2003 were met:

- Inflation, as measured by the core CPI, must be zero or above for a few months.
- "Many" members of the Policy Board must project that the core CPI will be above zero during the forecast period.

The second condition for ending quantitative easing was fulfilled in October 2005 when the Policy Board projected that the core CPI would rise by 0.1% in FY 2005, which turned out to be the case. The first condition was met when it was announced in March 2006 that the January core CPI had increased for the third straight month on a year-on-year basis. While

Figure 2.2. **The monetary base, money supply and nominal output**



1. The latest figure for the monetary base in 2006 is for May.

Source: Bank of Japan and the Federal Reserve Board.

the central bank had made it clear that these were necessary, rather than sufficient conditions, it moved promptly in March 2006 to end quantitative easing.

With the return to the orthodox approach of targeting short-term interest rates, the Bank of Japan announced that it would unwind the build-up in the current account balance over the following months, reducing it towards a level in line with the reserve requirement. In normal circumstances, the huge accumulation of monetary reserves, which was largely accomplished through central bank purchases of government securities, would have resulted in a rapid increase in inflation and would have risked creating a large asset price bubble. However, the non-performing loan problems in the banking system, combined with weak loan demand, virtually closed the credit channel of monetary policy (see the 2005 *OECD Economic Survey of Japan*).

The Bank of Japan moved quickly to mop up excess liquidity, while taking account of conditions in the short-term money market. By the end of May 2006, the banks' current

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account balance had fallen to 14.6 trillion yen, down 55% from its level at the end of February (Figure 2.1). This resulted in a 15% fall in the monetary base in May from the year-earlier level, the largest decline ever recorded. The central bank reduced liquidity by not rolling over short-term bills as they matured. At the same time, the central bank continues to purchase long-term government bonds at an unchanged rate of 1.2 trillion yen per month, an amount equal to 40% of new issuance by the government.[3] Nevertheless, the ten-year government bond yield reached 2% in May for the first time since 1999, although some of this increase was reversed in June.

The new monetary policy framework

With the end of quantitative easing, the monetary authorities introduced a new framework to ensure transparency in its conduct of monetary policy and limit the risk of instability in financial markets. The quantitative easing policy had been aimed at two goals – achieving price stability and maintaining financial-sector stability. By flooding the financial system with liquidity, the Bank of Japan had addressed both of these objectives, which were complementary in a deflationary environment. With the end of deflation, the central bank faces the usual trade-offs, as injecting liquidity to stabilise the financial system risks compromising its primary objective of price stability. The elements of the Bank's new framework are:

1. A statement of what price stability means to members of the Policy Board.
2. In deciding the conduct of monetary policy, the Bank of Japan will examine economic activity and prices from two perspectives. *First*, it will consider whether the outlook deemed most likely by the Bank one to two years in the future is consistent with a path of sustainable growth under price stability. *Second*, it will examine, from a longer-term perspective, risk factors that may significantly impact economic activity and prices.
3. The Bank of Japan will periodically outline its view on monetary policy in the *Outlook for Economic Activity and Prices*.

By taking the first chance to exit from quantitative easing and announcing a new monetary policy framework, the Bank has asserted its independence from the government that was granted in 1998.

The 0 to 2% inflation range

The Policy Board stated that 0 to 2% is its "members' understanding of medium to long-term price stability", the first time that it has announced an inflation range.[4] This range represents the diversity of views within the Board. Indeed, the minutes of the 8-9 March meeting indicate that there was support for a number of options, including a 1 to 2% zone, a range on either side of 1%, below 1% and a rate close to zero. The median was around 1%.[5] The adoption of a numerical range as the Board members' understanding of price stability is a step toward transparency in the conduct of monetary policy.[6] However, the Bank of Japan stressed that the 0 to 2% range, which is for the overall consumer price index, is neither an inflation target nor an inflation objective, because it is not binding. In addition, although the range refers to the medium to long term, it will be re-considered each year and could be adjusted if necessary. Such an approach gives the Bank of Japan considerable flexibility in setting monetary policy but also increases uncertainty among market participants about future policy steps.

An inflation zone including zero is rare. Of the approximately 25 central banks that have introduced an inflation target, only one included zero in its objective (Table 2.1). There are several reasons why most inflation targets do not include zero. *First*, measurement error in the consumer price index overstates the rate of inflation, in part due to the failure to adequately account for quality improvements in goods and services. Consequently, a rate close to zero may actually imply that the correctly-measured price level is declining. *Second*, many economists suggest that a rate of around 2% is needed to allow relative prices to adjust smoothly. *Third*, and most importantly, it is important to have a cushion to ensure that demand shocks do not result in deflation. For example, the European Central Bank, which initially focused on a 0 to 2% zone, added "close to 2%" to their definition in May 2003. This change "underlines the ECB's commitment to provide a sufficient safety margin against the risks of deflation".[7]

Table 2.1. **International comparison of inflation targets**

	Date of introduction	Current target zone	Price index			Set by		
			Overall CPI	Core CPI	Others	Government	Central bank	By consultation
OECD countries								
New Zealand	1990	1-3%	X					X
Canada	1991	2 ±1%	X					X
United Kingdom	1992	2 ±1%	X			X		
Sweden	1993	2 ±1%		X			X	
Finland	1993	Approx.2%					X	
Australia	1994	2-3%	X					X
Czech Republic	1998	1-3%	X				X	
Korea	1998	2.5-3.5%		X			X	
Poland	1998	2.5 ±1	X				X	
Mexico	1999	3%	X				X	
Switzerland	2000	Below 2%	X				X	
Iceland	2001	2.5 ±1.5%	X					X
Norway	2001	2.5%		X		X		
Hungary	2002	3 ±1%	X					X
Turkey	2003	8%	X					X
Slovakia	2005	Below 2.5%	X				X	
Non-OECD countries								
Chile	1991	2-4%	X				X	
Israel	1992	1-3%	X			X		
Peru	1994	2.5 ±1%	X					
Brazil	1999	2.5 ±1%			X			X
Columbia	1999	6%	X					X
Indonesia	2000	5.5 ±1%	X			X		
Thailand	2000	0-3.5%		X			X	
South Africa	2000	3-6%		X			X	
Philippines	2002	4-5%	X				X	

Source: The information is taken from several sources, including Ito and Hayashi (2006) and Takeuchi (2004).

The appropriate safety margin – to ensure a buffer against deflation – depends on a number of factors.[8] The size of the buffer against deflation should be larger:

i) *The lower the flexibility of wages*. Wage flexibility allows firms to adjust labour costs in response to disinflation and deflation. Japan has a relatively high degree of wage flexibility, given that bonus payments, which are sensitive to developments in

individual firms, account for a quarter of employee compensation (Kuroda and Yamamoto, 2003a, 2003b and 2005).

ii) *The weaker the financial system*. The negative impact of deflation, which tends to boost non-performing loans, is more serious when financial institutions are not in good shape to begin with. Although there has been significant progress in the major banks, the long period of deflation may have left weaknesses in Japan's financial system.

iii) *The lower the rate of potential growth*. If potential growth is low, the economy is more vulnerable to falling into recession and deflation after external shocks. Japan's potential growth rate is low relative to other OECD countries (see Chapter 1), making it less resilient to shocks.

iv) *The smaller the scope for fiscal stimulus*. Having room for manoeuvre in fiscal policy allows a country to offset negative demand shocks more easily. With less scope for a fiscal policy response, the burden to stimulate demand falls on monetary policy, which is less effective during periods of deflation. With the largest public debt to GDP ratio in the OECD and one of the largest government budget deficits, Japan has little room for manoeuvre in fiscal policy (see Chapter 3).

In sum, while wage flexibility is high in Japan, and financial-sector weakness is no longer a major concern, the low rate of potential growth and the small scope for fiscal stimulus argue for a relatively large margin above zero in Japan's inflation objective compared to other countries.

The Bank of Japan justified its relatively low range on the grounds that "Japan experienced a prolonged period of low rates of inflation since the 1990s". Indeed, the annual average growth rate of the CPI index since 1990 is 0.4% in Japan compared to 2.0% in Germany and 2.7% in the United States. As economic decision-making in Japan has been based on very low inflation expectations, the Bank argues that setting an inflation target that is significantly higher than recent experience could have a negative impact on the economy. However, the relatively low inflation rate since 1990 includes the period of deflation, which followed the collapse of the asset bubble. Hence, the relatively low rate of inflation in recent years is not a good rationale for a definition of price stability that includes zero. Instead, it suggests the need for a significantly higher inflation zone, in line with the 2.1% average inflation rate during the 1980s,[9] as a commitment not to risk a recurrence of deflation. In sum, a low definition of inflation that includes zero increases the risk that negative demand shocks will push the economy into deflation.

The pace of interest rate hikes

The new framework allows the Bank of Japan considerable flexibility to limit long-term risks in setting monetary policy. For example, it has the scope to respond to a rise in asset prices even if consumer price inflation remains low.[10] The short-term policy interest rate was set at zero between 1999 and July 2006, except for an ill-timed hike in August 2000 that was reversed seven months later with the introduction of the quantitative easing policy. In ending that policy, the Bank stated that "There will be a period in which the overnight call rate is effectively at zero per cent, followed by a gradual adjustment in the light of developments in economic activity and prices".[11]

At the end of April, the Bank of Japan presented its semi-annual *Outlook for Economic Activity and Prices*. Although it raised its estimate of potential growth from 1% to between 1.5 and 2%, the Bank believes that the output gap has been closed. It projects that output

growth will exceed potential growth in FY 2006 before slowing to the top of the potential growth zone in FY 2007 (Table 2.2). The *Outlook* also expects the environment for prices to change gradually due to higher resource utilisation, a reversal of the falling trend in unit labour costs and higher inflation expectations. Nevertheless, the core inflation rate (excluding fresh foods only) is projected to pick up only gradually, from 0.6% in FY 2006 to 0.8% in FY 2007.

Table 2.2. **The Bank of Japan's *Outlook for Economic Activity and Prices***
Percentage change, medium value shown in parentheses

	Real GDP	Domestic Corporate Goods Price Index	Core Consumer Price Index[1]
FY 2006			
October 2005 Outlook	+ 1.6 to + 2.2	+ 0.5 to + 0.8	+ 0.4 to + 0.6
	(+ 1.8)	(+ 0.6)	(+ 0.5)
April 2006 Outlook	+ 2.1 to + 3.0	+ 1.4 to + 1.8	+ 0.6 to + 0.6
	(+ 2.4)	(+ 1.5)	(+ 0.6)
FY 2007			
April 2006 Outlook	+ 1.8 to + 2.4	+ 0.8 to + 1.1	+ 0.7 to + 0.9
	(+ 2.0)	(+ 1.0)	(+ 0.8)

1. Excludes fresh food only.
Source: Bank of Japan.

The Bank of Japan stated that their projection incorporates the view of market participants regarding the future course of the short-term policy interest rate. Interest rate futures at the end of May suggested that the market expects two hikes in the short-term interest rate in 2006, followed by three hikes in 2007. A 125 basis-point rise in the overnight rate would raise the real short-term interest rate from around negative ½ per cent at present to a positive ½ per cent based on the central bank's outlook of 0.8% inflation in FY 2007.[12] The fact that the Bank of Japan expects inflation to creep up near the midpoint of its understanding of price stability, even assuming that interest rates rise significantly over the next 18 months, suggested that it was comfortable with a relatively early start to raising the interest rate.

However, the Bank of Japan should be cautious in raising interest rates too fast, given the remaining deflationary pressures. Indeed, the government believes that the end of deflation should be determined based on a number of indicators.

i) *The consumer price index*. The OECD measure of core CPI (which excludes energy and food) rose by only 0.2% in the first quarter of 2006. Inflation may be reduced by between 0.1 and 0.3 percentage points according to some experts by the revision of the CPI in August.[13]

ii) *The GDP deflator*. This measure fell 1.2% in the first quarter of 2006, only slightly less than the 1.6% drop in the fourth quarter of 2005.[14] However, the private consumption deflator fell by only 0.2% year-on-year in the first quarter.

iii) *The output gap*. The Cabinet Office estimates that the gap turned positive in the fourth quarter of 2005, an assessment that matches that of the OECD Secretariat. However, standard estimates of potential growth – including those by the Cabinet Office and the OECD Secretariat – may be biased downwards after an extended period of economic

weakness. If so, this would artificially shrink the size of the negative output gap, or raise the size of a positive gap, creating undue concern that faster growth will foster inflation.

iv) *Unit labour costs*. This indicator, which is estimated to have declined by 1.4% in 2005, is projected to continue falling in 2006.

Thus, only two of the four indicators suggest that deflation has been overcome.

There are additional factors that suggest caution in raising short-term interest rates too quickly. *First*, deflation has displayed considerable inertia, remaining between 0.2 and 1% on a year-on-year basis during the past six years, despite significant fluctuations in the real economy. This indicates that the rate of price change is relatively insensitive to economic activity at rates of inflation close to zero.[15] The fact that the output gap may still be negative and inflation is characterised by a high degree of inertia suggests prudence in raising interest rates. *Second*, an appreciating exchange rate may put downward pressure on inflation, reducing the need for higher short-term rates. Indeed, the yen increased by around 4% between the end of quantitative easing in March and the end of May. Nevertheless, the yen is far from the corporate sector's break-even point of 104.5 yen to the dollar, according to the Cabinet Office. It estimates that a 10% appreciation of the yen would reduce real GDP by 0.4 percentage points and CPI inflation by 0.2 percentage points in the first year. Waiting until inflation moves further above zero – such as a 1% rate of increase in the core consumer price index – before raising interest rates further would help sustain the expansion. Although there are risks to exceeding the optimal level of inflation, given that the cost of falling back into deflation would be greater than temporarily overshooting the optimal level of inflation, it would be better to be too slow in raising interest rates than too fast.

The rise in the long-term interest rate

With the end of quantitative easing and the commitment to keep the short-term policy rate at zero per cent, long-term interest rates started to rise. As noted above, the ten-year government bond yield reached 2% in May for the first time in seven years, before falling back somewhat.[16] The upward trend in long-term rates reflected expectations that the Bank of Japan will boost short-term rates, as well as more optimism about future growth and the anticipation that the central bank will reduce its purchases of long-term government bonds. There is clearly considerable scope for an increase in long-term rates. However, a rapid rise in long-term rates prior to a complete end to deflation, including the GDP deflator, would be problematic for a number of reasons. *First*, higher borrowing costs would impose a headwind on economic activity. *Second*, it would aggravate the fiscal situation, given that government debt exceeds 170% of GDP (see Chapter 3).

A significant rise in interest rates would also affect the banking sector. While it may help widen lending margins, at least initially, the decline in bond prices would have a negative impact, as banks had increased their holdings of bonds during the period of quantitative easing. Indeed, bonds now account for about 15% of the total assets of banks. In FY 2004, the banks' capital gains from bonds amounted to nearly 1 trillion yen (Table 2.3), despite a rise in the ten-year bond yield from 113 basis points in FY 2003 to 150 basis points in FY 2004. According to the Bank of Japan (2005), a 100 basis-point rise in the yield on ten-year bonds would reduce the tier I capital of major banks by about 6%. The potential size of losses has been limited by the reduction in the average maturity of bonds held by the major banks. Moreover, to the extent that higher interest rates are accompanied

Table 2.3. **Capital gains in the banking sector**

Trillion yen

Fiscal Year	1999	2000	2001	2002	2003	2004
A. Major banks						
Net realised bond-related gains/losses	0.0	0.3	0.3	0.7	0.3	0.1
Net unrealised bond-related gains/losses	–0.3	0.6	–0.3	0.4	–1.0	0.4
Total bond-related gains/losses	**–0.2**	**0.9**	**0.0**	**1.1**	**–0.7**	**0.5**
Net realised stock-related gains/losses	3.8	1.6	–1.7	–3.3	0.7	–0.1
Net unrealised stock-related gains/losses	5.0	–7.9	–1.0	0.1	4.8	0.3
Total stock-related gains/losses	**8.8**	**–6.3**	**–2.8**	**–3.2**	**5.4**	**0.2**
Fiscal Year	1999	2000	2001	2002	2003	2004
B. Regional Banks						
Net realised bond-related gains/losses	–0.1	0.1	0.1	0.1	0.0	0.0
Net unrealised bond-related gains/losses	–0.3	0.7	–0.5	0.1	–0.7	0.4
Total bond-related gains/losses	**–0.4**	**0.8**	**–0.4**	**0.3**	**–0.7**	**0.4**
Net realised stock-related gains/losses	0.3	0.1	–0.7	–0.6	0.1	0.1
Net unrealised stock-related gains/losses	1.3	–1.7	–0.4	–0.6	1.8	0.2
Total stock-related gains/losses	**1.6**	**–1.6**	**–1.0**	**–1.2**	**2.0**	**0.3**

Source: Bank of Japan.

by faster output growth, the losses on bonds would be offset by capital gains on equities as was the case in FY 2003-04. However, the regional banks are more likely to be adversely affected by a rise in interest rates, as they hold fewer equities and their bond holdings have a longer maturity.

Sustaining the financial soundness of the banking sector

There has been a marked improvement in the banking sector during the past few years, thanks to upgraded supervision and the strength of the economic expansion. The government had set a target for the major banks to reduce their non-performing loan (NPL) ratio, which had reached a peak of 8.4% of total credit in March 2002, by about half by March 2005 (Table 2.4). In the event, the ratio fell to 2.9% by the target date, and further to 1.8% in March 2006. In absolute terms, the major banks reduced their stock of NPLs by three-quarters through disposal of existing bad loans and a reduction in the amount of new problem loans thanks to better economic conditions.[17] Looking ahead, the Financial Services Agency expects the major banks to keep the ratio below its March 2005 level of 2.9%.

Banks' loan losses have also fallen thanks to progress in reducing NPLs, as well as higher prices for problem loans in secondary markets. After accumulating 83 trillion yen in losses between FY 1995 and FY 2002 (17% of 2002 GDP), loan losses fell significantly in FY 2003-04 (Table 2.5). This helped the banks record an operating profit in FY 2003 for the first time in a decade and the profit increased further in FY 2004 to its highest level since the 1980s. Although data for FY 2005 is not available, profits appear to have remained at around the same level.[18]

The positive trends in NPLs and profits have helped to strengthen the capital base in the banking sector. The overall capital adequacy ratio has remained around 11½ per cent for several years, well above the 8% BIS standard (Table 2.6). At the same time, the quality of capital has improved with a substantial decline in "deferred tax assets". These assets – future tax deductions which banks are allowed to count as capital – have fallen from nearly

Table 2.4. **Non-performing loans in the banking sector**
In trillion yen and as a per cent of total credit

	March 2002	Sept. 2002	March 2003	Sept. 2003	March 2004	Sept. 2004	March 2005	Sept. 2005	Percentage change[1]
Major banks[2]									
Total credit	317.9	296.2	279.9	270.5	262.9	259.5	253.1	256.6	–19.3
Amount	26.8	23.9	20.2	17.5	13.6	12.1	7.4	6.1	–77.2
Ratio	8.4	8.1	7.2	6.5	5.2	4.7	2.9	2.4	
Regional banks									
Total lending	185.1	181.6	187.2	184.9	186.1	183.6	186.8	186.8	0.9
Amount	14.8	15.0	14.7	13.9	12.8	11.6	10.4	9.7	–34.5
Ratio	8.0	8.3	7.8	7.5	6.9	6.3	5.5	5.2	
All banks									
Total lending	512.1	485.6	474.6	462.4	455.5	449.5	446.1	450.0	–12.1
Amount	43.2	40.1	35.3	31.6	26.6	23.8	17.9	15.9	–63.1
Ratio	8.4	8.3	7.4	6.8	5.8	5.3	4.0	3.5	

1. Between March 2002 and September 2005.
2. For the 11 major banks as of September 2005.
Source: Financial Services Agency.

Table 2.5. **The balance sheet of the Japanese banking sector**[1]
Trillion yen

Financial year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Net interest income (A)	8.9	9.8	9.2	9.7	10.8	10.7	10.0	9.6	9.7	9.4	9.8	9.4	9.0	8.7
Other revenue (B)[2]	2.2	2.5	2.8	2.1	3.3	3.7	3.6	3.1	2.5	3.0	3.1	3.8	4.3	4.6
Operating costs (C)	7.5	7.7	7.7	7.8	7.8	8.0	8.0	7.5	7.3	7.1	7.0	7.0	6.7	6.4
Salaries and wages	3.9	4.0	4.0	4.0	4.0	4.0	4.0	3.6	3.5	3.4	3.2	2.8	3.1	2.8
Gross operating profit (D) = (A) + (B) – (C)	3.5	4.5	4.3	4.0	6.3	6.4	5.6	5.2	4.9	5.3	5.9	6.2	6.6	6.9
Loan loss (E)	1.0	2.0	4.6	6.2	13.3	7.3	13.5	13.5	6.3	6.6	9.4	7.0	6.1	4.2
Net operating profit (F) = (D) – (E)	2.5	2.5	–0.4	–2.2	–7.0	–1.0	–7.9	–8.3	–1.4	–1.3	–3.5	–0.8	0.5	2.7
Realised capital gains (G)[3]	0.7	0.0	2.0	3.2	4.4	1.2	3.6	1.4	3.8	1.4	–2.4	–4.1	0.6	–0.1
Net profit (F) + (G)	3.3	2.5	1.7	1.0	–2.6	0.2	–4.2	–6.9	2.3	0.1	–5.9	–4.9	1.0	2.6
Assets	914.4	859.5	849.8	845.0	848.2	856.0	848.0	759.7	737.2	804.3	772	722	747	748
Outstanding loans	445.8	460.3	472.3	477.8	482.7	482.3	477.9	472.6	463.4	456.9	456	440	423	414

1. All commercial banks.
2. Other revenue includes all other profits such as dealing profits and fees, but excludes realised capital gains on equities and real estate.
3. Realised capital gains include gains from equities and real estate.
Source: Bank of Japan.

half of the tier I capital of internationally-active banks in March 2003 to only 15% in September 2005. As a result, an adjusted capital adequacy ratio calculated by the OECD – excluding deferred tax assets and public funds – has increased sharply from 6.7 to 9.7% since March 2003. To prevent excessive reliance on deferred tax assets in the future, the FSA will not permit them to exceed 40% of the tier 1 capital of major banks in FY 2007, 30% in FY 2008 and 20% in FY 2009.

With the improvement in bank balance sheets and the sustained economic expansion, the decline in bank lending that started in 1996 was reversed in 2006. Adjusted for loan write-offs, securitisation of loans and exchange rate changes, the growth of lending reached 2% year-on-year in April 2006 (Figure 1.2). Lending to households, primarily for mortgages, was responsible for the increase.[19] In contrast, lending to enterprises continues

Table 2.6. **Capital of the banking sector**[1]

Trillion yen

	March 2003	Sept. 2003	March 2004	Sept. 2004	March 2005	Sept. 2005	Percentage change in year from Sept. 2004 to Sept. 2005
Tier I (A)	13.5	14.8	14.2	15.2	16.0	16.1	5.9
Tier II[2] (B)	10.9	12.0	11.8	10.9	11.4	12.2	11.9
Total capital (A + B = C)	24.5	26.8	26.0	26.1	27.4	28.2	8.0
Risk-weighted assets (D)	232.7	229.5	228.8	228.6	232.0	242.1	5.9
Loans	220.3	213.8	209.1	209.0	205.9	210.4	0.7
Equities	14.4	16.3	17.0	15.6	16.2	17.4	11.5
Capital adequacy ratio (C/D)	10.5	11.7	11.4	11.4	11.8	11.7	
Components of capital							
Public funds[3] (F)	2.6	2.5	2.5	2.3	2.3	2.3	0.0
Proportion of tier I (F/A)	19.2	16.9	17.6	15.1	14.4	14.3	
Deferred tax assets (G)	6.3	5.3	4.4	4.2	3.5	2.4	–42.9
Proportion of tier I (G/A)	46.4	35.6	30.6	27.5	21.7	14.9	
Adjusted capital (C – F – G = H)	15.6	19.0	19.1	19.6	21.6	23.6	20.4
Adjusted capital adequacy ratio (H/D)	6.7	8.3	8.4	8.6	9.3	9.7	

1. The figures are made up of the sum of internationally-active banks, 16 in total at the end of September 2005.
2. "Tier II" is calculated by (C) – (A).
3. Public funds include only preferred stocks, excluding subordinated bonds and subordinated loans. Furthermore, it does not include Mizuho Corporate Bank.

Source: Bank of Japan.

to fall at about a 2% rate, with the decline more marked among large enterprises. However, the on-going decline should not be attributed to banks' attitude toward lending, which has become increasingly accommodative, according to the Bank of Japan's survey of firms.[20] Instead, falling lending reflects the fact that investment is increasingly financed through retained profits.

The focus of the supervisory authorities is now shifting from the stability of the financial system to enhancing its vitality through private-sector efforts. There are several concerns. *First*, progress in the regional banks lags significantly behind that of the major banks. *Second*, while the banks have reversed the losses of the 1990s, profitability remains low (Hoshi and Kashyap, 2005). Indeed, interest income in FY 2004 was the lowest since the 1980s, leaving the banks vulnerable to capital losses and other shocks. While a steepening of the yield curve would increase banks' lending margins, interest income may remain depressed unless structural issues are addressed. Perhaps the most important task for the government in this regard is to scale back the role of public financial institutions. The following sections discuss these issues.

Strengthening the regional banks

Compared with the major banks, regional banks are characterised by lower profits and capital adequacy ratios and higher levels of non-performing loans (Table 2.7). Although regional banks accounted for a third of the stock of NPLs of all banks in March 2002, they were not included in the government's target to reduce NPL ratios by 2005. Thus, while the major banks cut their NPLs by 83% between March 2002 and March 2006, the reduction by regional banks was a much more modest 41%. Another striking difference is that total credit by regional banks has risen slightly since March 2002, while that by major banks fell by one-fifth.

Table 2.7. **Comparison of major banks and regional banks**

September 2005, trillion yen

	Total credit	Non-performing loans (NPLs)	NPL ratio[1] (per cent)	Losses on NPL disposal	Operating profits[2]	Capital adequacy ratio (per cent)
Major banks	259.1	4.6	1.8	–0.2	3.7	12.2
Regional banks	191.2	8.7	4.5	0.6	2.0	9.8

1. As a share of total credit.
2. From core business.

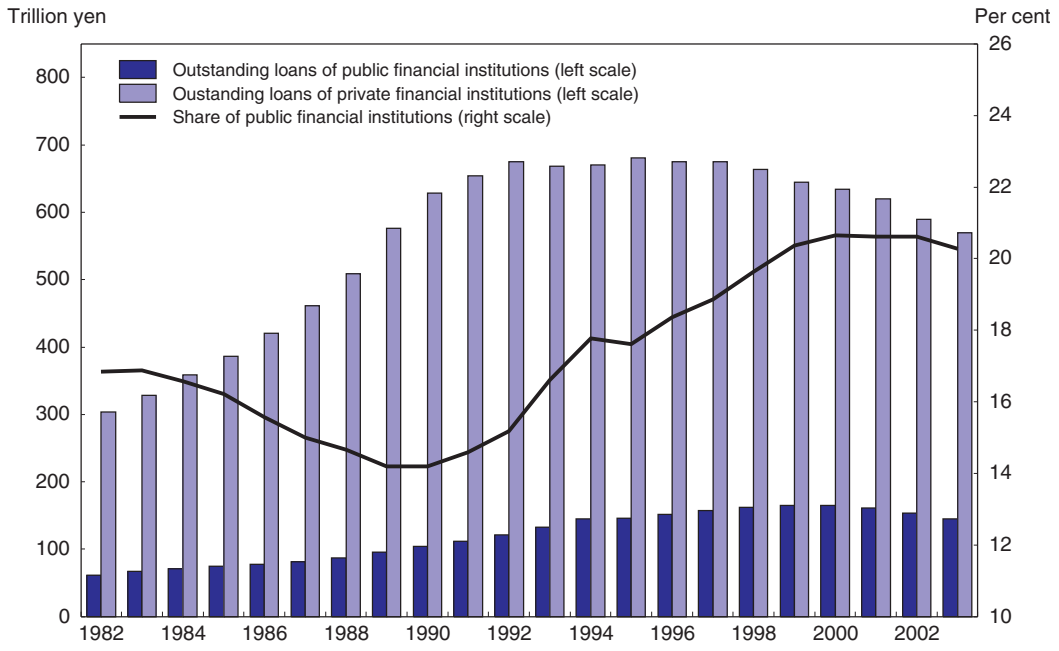
Source: Financial Services Agency.

One reason for the diverging performance of major and regional banks is the different supervisory approach, which reflects the priority given to sustaining lending by regional banks to small and medium-sized enterprises (SMEs). One of the key objectives of the Financial Services Agency (FSA) is the re-vitalisation of regional economies by facilitating lending to SMEs, while assisting the SMEs' efforts toward corporate restructuring (FSA 2005). The FSA expects each regional bank to respond to the various financial needs of SMEs in their region and this was encouraged by the revision to the financial inspection manual regarding the classification of credit to SMEs. Moreover, the FSA requires financial institutions to ensure accountability to their customers regarding credit transactions. However, the government should avoid moral hazard, which would create additional NPLs.

Scaling back the role of public financial institutions

Lending by public financial institutions increased from 100 trillion yen to 170 trillion yen during the 1990s, while loans by private financial institutions stagnated (Figure 2.3). As a result, the share of public financial institutions increased from 14% of total lending to

Figure 2.3. **Outstanding loans of private and public financial institutions**



Source: Bank of Japan.

more than 20% during that decade. Public lending institutions may have had a strong rationale in the past when Japan's financial system was un-developed and segmented. However, with the development of the private financial sector, government intermediation has become largely redundant and competes unfairly with private-sector financial institutions. Public lenders raise funds at low costs, with 86% of their funding coming from FILP agencies in FY 2003 (Table 2.8),[21] and the remainder provided by government-guaranteed borrowing. These funds are then lent to preferred borrowers at low rates. In general, the money collected by the public sector remains in the public sector, thus hindering the development of the capital market to supply risk money (see Chapter 5). In addition to crowding out private firms, public financial institutions impose burdens on taxpayers when they receive government financial support to cover their losses and capital. The policy cost of the nine public financial institutions amounted to 1.3 trillion yen (0.3% of GDP) in FY 2003 (Table 2.8).

Table 2.8. **Cost of public financial institutions**

In billion yen at the end of FY 2003

	Loans	Total borrowing	Borrowing from FILP	Policy costs[1]
Japan Bank for International Cooperation (JBIC)	19 043	119 541	11 457	692
Development Bank of Japan (DBJ)	143 906	13 184	12 242	107
Okinawa Development Finance Corp. (ODFC)	1 431	1 417	1 367	12
National Life Finance Corp. (NLFC)	9 647	9 768	9 000	4
Japan Finance Corp. for Small and Medium Enterprises (JFS)	7 212	7 141	6 732	273
Government Housing Loan Corp. (GHLC)	60 594	62 359	58 098	–543
Shoko Chukin Bank (SBC)	9 390	8 311	168	22
Agriculture, Forestry and Fisheries Finance Corp. (AFC)	3 391	3 069	2 907	300
Japan Finance Corp. for Municipal Enterprises	24 888	22 632	17 284	8
Total	150 380	139 241	119 984	1 337

1. Policy costs (subsidy costs) are the total present value (discounted present value) of subsidies and other expenditures to be invested by the central government in the future in conjunction with the implementation of projects using FILP funding. Policy costs are estimated by individual FILP agencies. A negative value means payments to the national treasury.

Source: Doi, 2005.

Reform of public financial institutions has been a top priority of the current government. It has decided to close the Japan Finance Corp. for Municipal Enterprises and privatise the Development Bank of Japan and the Shoko Chukin Bank. Privatisation does not resolve the over-capacity problem, though it should force public institutions to compete on equal grounds. In addition, the government plans to integrate the remaining five institutions and the international finance operations of the Japan Bank for International Cooperation into a new institution that will have over 31.5 trillion yen (6% of GDP). However, the new institution will be required to stop lending to certain types of borrowers in order to avoid competition with private players, reducing the amount of its total loans by a quarter (Fukao, 2006).

However, the integration of the five public financial institutions is insufficient to resolve its problems. During the past five years, the five institutions combined were able to record a small profit thanks to 137 billion yen in government subsidies a year on average. Without this support, they would have reported an average loss of 114 billion yen. Requiring the new institution to cut back on profitable lending will increase its loss significantly, forcing additional subsidies from the government. According to one estimate,

reducing the government subsidy by 50% would require the new institution to cut losses from non-performing loans by 20% and shrink operating costs by half (Fukao, 2006). Such gains in efficiency would require a major overhaul of the new institution and an effective system of corporate governance based on enhanced public oversight of the institution.

As noted above, the public financial institutions finance their lending in part through funds borrowed from a special account that receives money from postal saving, postal life insurance and public pensions. The privatisation of Japan Post – the largest financial institution in the world given the large assets of the postal savings and postal life insurance systems – is thus part of the strategy for scaling back the role of public financial institutions (see the 2005 *OECD Economic Survey of Japan*). The requirement that Japan Post purchase FILP bonds, which channelled household savings to public financial institutions, will be lifted at the end of FY 2007, shortly after Postal Savings and Postal Life Insurance are spun off from Japan Post. During the ten-year transition period to 2017, the share of their assets in the government and public corporations should thus decline from the current level of 85%, while the government's ownership position in these two institutions is to be reduced from 100% to zero. The rebalancing of its assets in favour of the private sector should promote the dynamism of the Japanese economy. A level playing field should be established

Box 2.1. **Summary of recommendations for monetary policy and the banking sector**

Implementing the new monetary policy framework

- Be cautious in raising short-term interest rates, given the remaining deflationary pressures.
- Avoid a significant rise in market interest rates that is too early or too large as it would have a negative impact on economic activity and the fiscal situation.
- Revise the understanding of price stability to exclude zero to ensure an appropriate buffer to avoid a recurrence of deflation.
- Avoid annual changes in the understanding of price stability so as to provide a useful guide to inflation expectations over the medium and long term.

Maintaining the financial soundness of the banking system

- Continue strong prudential supervision over the banks by requiring them to keep non-performing loans at low levels and further strengthen their capital.
- Encourage the regional banks to further reduce their NPL ratios, which remain higher than in the major banks, and to strengthen their capital base.
- Avoid moral hazard in government supervision of regional banks which would create additional non-performing loans.
- Scale back the role of public financial institutions, preferably by closing them, and subject them to clear budget constraints to reduce the amount of government funding.
- Ensure that the new institution to be created by the merger of five public financial institutions operates efficiently to limit the need for government subsidies.
- Follow through on the privatisation of Japan Post in order to shift the flow of funds away from the public sector. Reduce the government's ownership share to zero by the end of the transition period in 2017 and prevent Postal Savings and Postal Life Insurance from expanding their activities until a level playing field with private-sector financial institutions is established.

between private financial institutions and Postal Savings and Postal Life Insurance before lifting current restrictions on the activities of Postal Savings and Postal Life Insurance. The Postal Services Privatization Committee, which consists of private-sector experts, will assess progress in this regard.

Conclusion

A smooth exit from quantitative easing and the development of an appropriate monetary policy framework is key to sustaining the expansion. The remaining deflationary pressures suggest a need for caution in determining the pace of monetary policy tightening, which also depends on the impact of fiscal consolidation on economic activity. Maintaining the financial soundness of the banking sector is also essential to support the economic expansion.

Notes

1. One study found that a weighted portfolio of the overall banking system reported positive excess returns when the Bank of Japan increased its purchases of government bonds (Kobayashi *et al.*, 2006).
2. According to the Bank of Japan's October 2005 *Outlook for Economic Activity and Prices*, "Longer-term interest rates have stably remained at low levels because the commitment by the Bank has led the market to expect that short-term interest rates will remain at zero percent."
3. Continued large-scale purchases of long-term government bonds would at some point conflict with the Bank's monetary policy objectives. In addition, the Bank faces a self-imposed constraint, made when it introduced quantitative easing in 2001, to keep its holdings of long-term government bonds below the outstanding balance of bank notes. At present, the Bank holds about 60 trillion yen of long-term government bonds, while bank notes amount to 76 trillion yen, suggesting that the 2001 rule imposes little constraint on the Bank's bond purchases at present. Moreover, given that about 17.5 trillion yen of the Bank's long-term bonds expire by the end of FY 2006, with approximately 18 trillion yen more during the following two years (Mitsubishi UFJ Securities), the central bank could maintain the 1.2 trillion yen pace of monthly long-term bond purchases over the next few years without substantially increasing its total holdings.
4. See the 9 March press release (*www.boj.or.jp/en/type/release/zuiji_new/k060309b.htm*) and for more details *www.boj.or.jp/en/type/release/zuiji_new/mpo0603a.htm*.
5. In addition, the Bank has stated: "If there is a risk of falling into a vicious cycle of declining prices and deteriorating economic activity, depending on the weight attached to the risk, the accommodation of slight inflation may be deemed consistent with an understanding of price stability, in the conduct of monetary policy" (Bank of Japan, *The Bank's Thinking on Price Stability*, 10 March 2006, *www/boj.or.jp/en/type/release/zuiji_new/data/mpo0603a1.pdf*).
6. Article 3 of the Bank of Japan Law requires the Bank to "endeavour to clarify to the public the content of its decisions, as well as its decision-making process".
7. From the ECB's press release. It also cited the possibility of a measurement bias in measuring inflation and the implications of inflation differentials between euro countries.
8. The following draws on an article in the Bank of Japan's *Quarterly Bulletin* of February 2006 by Toshiro Muto, Deputy Governor of the Bank of Japan.
9. The rate of inflation during the 1980s was influenced by a number of factors. First, the nominal exchange rate appreciated 90% in effective terms between 1983 and 1990, according to the OECD Secretariat's measure, which is based on chain-linked weights. This put downward pressure on prices. On the other hand, the rate of inflation was boosted by the second oil shock in 1979 and by the introduction of a 3% general consumption tax in 1989. The average increase in the CPI between 1983 and 1990 was lower at 1.6%. The core consumer price index (according to the OECD measure, which excludes energy and food) was 2.5% between 1980 and 1990 and 2.2% between 1983 and 1990.

10. The pace of decline in land prices has been slowing in recent years. Indeed, the average price of commercial land in the three major metropolitan areas increased in 2005 for the first time in 15 years.

11. This statement was essentially repeated by the BOJ governor in his press conference following the release of the semi-annual *Outlook for Economic Activity and Prices* in April 2006.

12. This is an approximation that combines the market expectations of the short-term interest rate at the end of CY 2007 and the Bank of Japan's outlook for the average inflation rate in FY 2007.

13. The revision includes: *i)* a change in the base year from 2000 to 2005; *ii)* the weights will be revised in line with the 2005 Family Income and Expenditure Survey; and *iii)* 34 items are to be added to the CPI and 48 items are to be dropped. For an analysis of the size of the measurement bias in the Japanese CPI, see Shiratsuka (1999) and Shiratsuka (2005).

14. It should be noted that the decline in the GDP deflator has been influenced by the rise in oil prices.

15. In other words, the Philips curve, which shows the trade-off between inflation and output gains, is relatively flat at rates of inflation close to zero. According to one study, the Philips curve for Japan becomes flat when the inflation rate falls below ½ per cent, on a quarter-on-quarter non-annualised rate (Mourougane and Ibaragi, 2004).

16. On 12 April, the governor of the Bank of Japan stated that the hike in the long-term interest rate before the end of zero interest rates is "a matter of serious concern" for the central bank.

17. The amount of new NPLs fell from 17.5 trillion yen in 2001 to 0.6 trillion yen in 2004 for the major banks and from 5.5 trillion yen to 0.7 trillion yen for the regional banks. Write-offs of existing loans remained substantial over that period. Major banks wrote-off 35.3 trillion yen between 2001-04, while regional banks wrote off 8.4 trillion yen.

18. According to the FSA, the operating profit of major banks in September 2005 was similar to the year-earlier level.

19. Lending to households accounts for about one-third of bank lending. Of the lending to enterprises, SMEs account for almost two-thirds.

20. In the Bank of Japan's Tankan Survey, the diffusion index – the number of firms describing the lending attitude of financial institutions as accommodative minus those describing it as restrictive – rose from zero at the end of 2003 to 16 in the first quarter of 2006.

21. The Fiscal Investment and Loan Program (FILP) is a second budget used to undertake projects not included in the general account budget. As of 2004, the FILP disbursed funds to almost all local governments and 54 other entities, including nine government lending institutions.

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Chapter 3

A strategy for fiscal consolidation

With gross debt exceeding 170% of GDP, measures to reduce Japan's large government budget deficit have become increasingly urgent. The government's Reform and Perspectives should be improved to sustain confidence in the consolidation process and prevent a rise in the risk premium. The medium-term target should be a primary budget surplus large enough to stabilise the public debt ratio by the early 2010s. The first priority in achieving this objective is to reduce spending, although this will become increasingly difficult in the context of rapid population ageing. The Reform and Perspectives should provide a more detailed and binding schedule of expenditure reductions, in part through further declines in public investment. As spending cuts alone are unlikely to achieve the fiscal target, additional revenues will be necessary. This should be accomplished through broadening the bases of personal and corporate income taxes, as well as some increase in the consumption tax.

Thirteen consecutive years of large budget deficits and weak nominal GDP growth have boosted Japan's public debt to GDP ratio to the highest level ever recorded in the OECD area. Although spending cuts and the strong economic expansion have reduced the government budget deficit as a share of GDP from its peak in 2002, it remains one of the largest in the OECD area. As the special factors reducing the amount of government interest payments are beginning to wane, the fiscal situation has risen to the top of the policy agenda. This chapter discusses the fiscal consolidation strategy over the medium term. The first section reviews the progress made since 2002, followed by an assessment of the government's *Medium-Term Reform and Perspectives*. The following sections discuss major spending and tax issues, before presenting a number of policy options.

The chapter concludes with a number of recommendations, which are presented in Box 3.7. In particular, Japan needs a more detailed, binding and ambitious medium-term plan that shows how it can achieve a primary budget surplus large enough to stabilise the public debt ratio by the early 2010s. It is clear that Japan needs to cut expenditures further to match the relatively low level of government revenue or raise revenue closer to OECD norms. The first priority is to cut spending, focusing on public investment and limiting the growth of social security spending. However, the experience of other OECD countries that have achieved large reductions in budget deficits[1] suggests that some combination of spending cuts and revenues increases are needed and this is especially true for Japan. Measures to boost revenue should be part of a general tax reform that focuses on broadening the base of direct taxes, which are unusually narrow at present, although some increase in the consumption tax rate may also be needed.

How much progress has Japan made in addressing its fiscal problem?

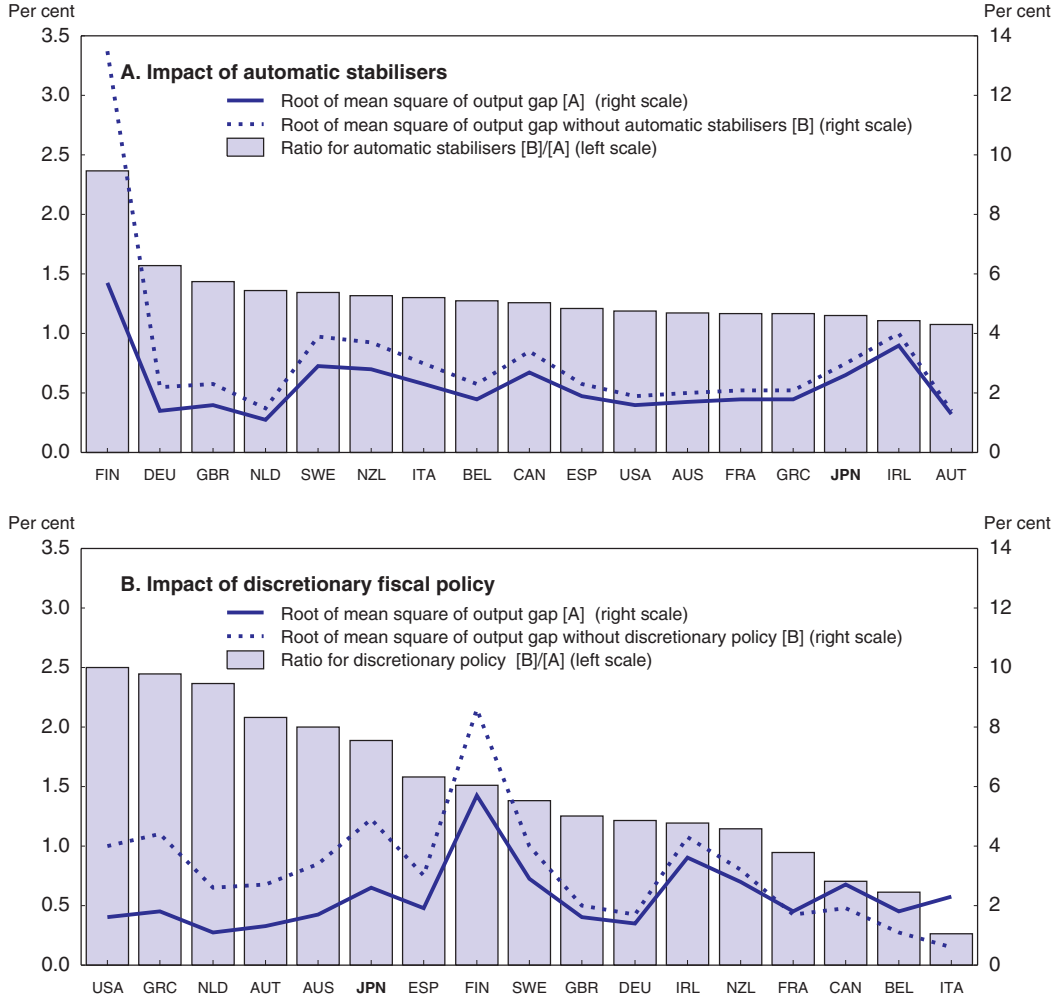
Although the deficit has fallen from its peak in 2002…

The collapse of the bubble economy in the early 1990s resulted in a decade of economic stagnation and a significant deterioration of the fiscal situation. The government's budget balance went from a surplus of 0.8% of GDP in 1992 to a deficit of 8.2% in 2002 (Table 3.1), when the government announced the *Reform and Perspectives FY 2001*. The deterioration in the balance between 1992 and 2002 was largely due to a rise in spending – 6.5% of GDP – resulting mainly from increased social expenditure. Meanwhile, revenues declined by 2.5% of GDP because of tax cuts and weak economic growth. Discretionary fiscal policy was successful in supporting domestic demand during the 1990s, thereby reducing the output gap (Figure 3.1), but could not prevent a decade of economic stagnation.

The *Reform and Perspectives FY 2001* set an objective of freezing government expenditures, including interest payments, at 38% of GDP through FY 2006. This target is likely to be achieved, as spending had fallen to an estimated 37% in CY 2005 (Table 3.2), thanks primarily to cuts in public investment and the government wage bill. Although government revenue remained almost unchanged as a share of GDP,[2] spending restraint

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Figure 3.1. **The role of fiscal policy in smoothing cyclical fluctuations**
1991 to 2000



Source: Van den Noord (2002).

was adequate to reduce the budget deficit from 8.2% of GDP in 2002 to an estimated 6.2% in 2005, excluding a one-off factor that is explained in Table 3.2.

Spending restraint has resulted in some progress toward the target set in the *Reform and Perspectives FY 2002* of achieving a primary budget surplus for the combined central and local governments in the early 2010s. With a primary budget deficit of 6.7% of GDP in 2002, the fiscal target required a reduction of about ¾ percentage point each year for a decade. By 2005, the primary deficit had fallen to around 5%, excluding the one-off factor (Table 3.2). Thus, the speed of deficit reduction between 2002 and 2005 – at about 0.6 percentage point per year – was almost in line with the pace implied in the *Reference Projection*, which, however, excludes the social security fund. Almost two-thirds of the 1.8 percentage point decline in the primary deficit between 2002 and 2005 was due to fiscal consolidation efforts, with the remainder resulting from the economic expansion that began that year. This implies that the deficit reduction target could be at risk in a future economic downturn.

Table 3.1. **Changes in government revenue and expenditure since 1992**

	Per cent of GDP		Change[1]	Per cent of GDP	Change[1]
	1992	2002	1992-2002	2005[2]	2002-2005[2]
Revenue items					
Direct taxes on households	7.8	5.2	–2.6	5.1	–0.1
Direct taxes on business	4.7	2.9	–1.8	3.2	0.3
Social security contributions received by government	8.5	10.6	2.1	10.6	0.0
Indirect taxes	7.8	8.5	0.7	8.5	0.1
Interest receipts	2.4	1.6	–0.7	1.4	–0.3
Others	2.2	2.2	–0.1	1.9	–0.2
Total revenue	33.3	30.9	–2.5	30.7	–0.2
Expenditure items					
Government consumption on wages	5.9	6.8	0.9	6.1	–0.6
Government consumption on social benefits[3]	4.0	6.0	2.0	6.2	0.1
Other government consumption	3.5	5.2	1.7	5.6	0.4
Social security benefits paid by government	7.2	11.1	3.9	11.4	0.2
Government fixed capital formation	5.4	4.8	–0.7	3.6	–1.1
Interest payments	3.5	3.1	–0.4	2.7	–0.4
Other expenditures[4]	3.0	2.0	–1.0	1.3	–0.8
Total expenditure	32.6	39.0	6.5	36.9	–2.1
Budget balance	0.8	–8.2	–8.9	–6.2	1.9
Primary budget balance[5]	1.9	–6.7	–8.6	–4.9	1.8

1. Difference in percentage points.
2. OECD estimate for 2005, excluding the impact of Daiko Henjo. See Table 3.2 for an explanation for this one-off factor.
3. Mainly medical and long-term nursing care. Estimated by applying the share of social benefit expenditure in government consumption to total government consumption in each year.
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 of 2005* and OECD Economic Outlook 79 database.

Table 3.2. **The fiscal situation in Japan**

Per cent of GDP[1]

	2002	2003	2004	2005	Change 2002-05	2006	2007	Change 2005-07
A. Total								
Net lending	–8.2	–8.0	–6.3	–5.2	–2.9	–5.2	–4.7	–0.5
Net primary balance	–6.7	–6.6	–4.9	–3.9	–2.8	–3.7	–3.0	–0.9
Cyclically-adjusted net lending	–7.0	–7.0	–5.6	–4.9	–2.2	–5.3	–5.2	0.3
Cyclically-adjusted net primary balance	–5.6	–5.6	–4.3	–3.5	–2.1	–3.7	–3.4	–0.2
B. Excluding Daiko Henjo[2]								
Net lending	–8.2	–8.1	–7.5	–6.2	–2.0	–5.4	–4.7	–1.5
Net primary balance	–6.7	–6.7	–6.2	–4.9	–1.8	–3.9	–3.0	–1.9
Cyclically-adjusted net lending	–7.0	–7.1	–6.8	–5.8	–1.2	–5.5	–5.2	–0.7
Cyclically-adjusted net primary balance	–5.6	–5.7	–5.5	–4.5	–1.1	–4.0	–3.4	–1.2
C. Spending and expenditure levels								
General government expenditure	39.0	38.5	37.3	36.9	–2.1	36.7	36.5	–0.4
General government revenue[3]	30.8	30.4	29.8	30.7	–0.1	31.3	31.8	1.1

1. OECD estimate for 2005 and projections for 2006-07.
2. The transfer of part of the corporate pension funds in the employees' pension scheme back to the government reduced the size of the deficit by 0.1% of GDP in 2003, 1.2% in 2004 and 0.4% in the first quarter of 2005 on a SNA basis. The government budget estimates the impact at 0.7% in FY 2005 and 0.1% in FY 2006.
3. Excluding Daiko Henjo.

Source: OECD Economic Outlook 79 database.

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... the situation is not sustainable

Gross government debt has risen from 69% of GDP in 1992 to over 170% in 2005. Of the other four countries that have experienced debt to GDP ratios of more than 100%, all except Italy have been able to achieve a primary budget surplus large enough to put the debt ratio on a downward trend (Figure 3.2). Stopping the upward trend in the debt ratio requires that nominal GDP grow at least as fast as the stock of government debt. However, since 1992, government debt in Japan has risen at a 7.3% annual rate, far outstripping the weak 0.5% annual increase in nominal GDP. Japan's situation is not sustainable because, under current trends and policies, there will be a sustained rise in public debt.

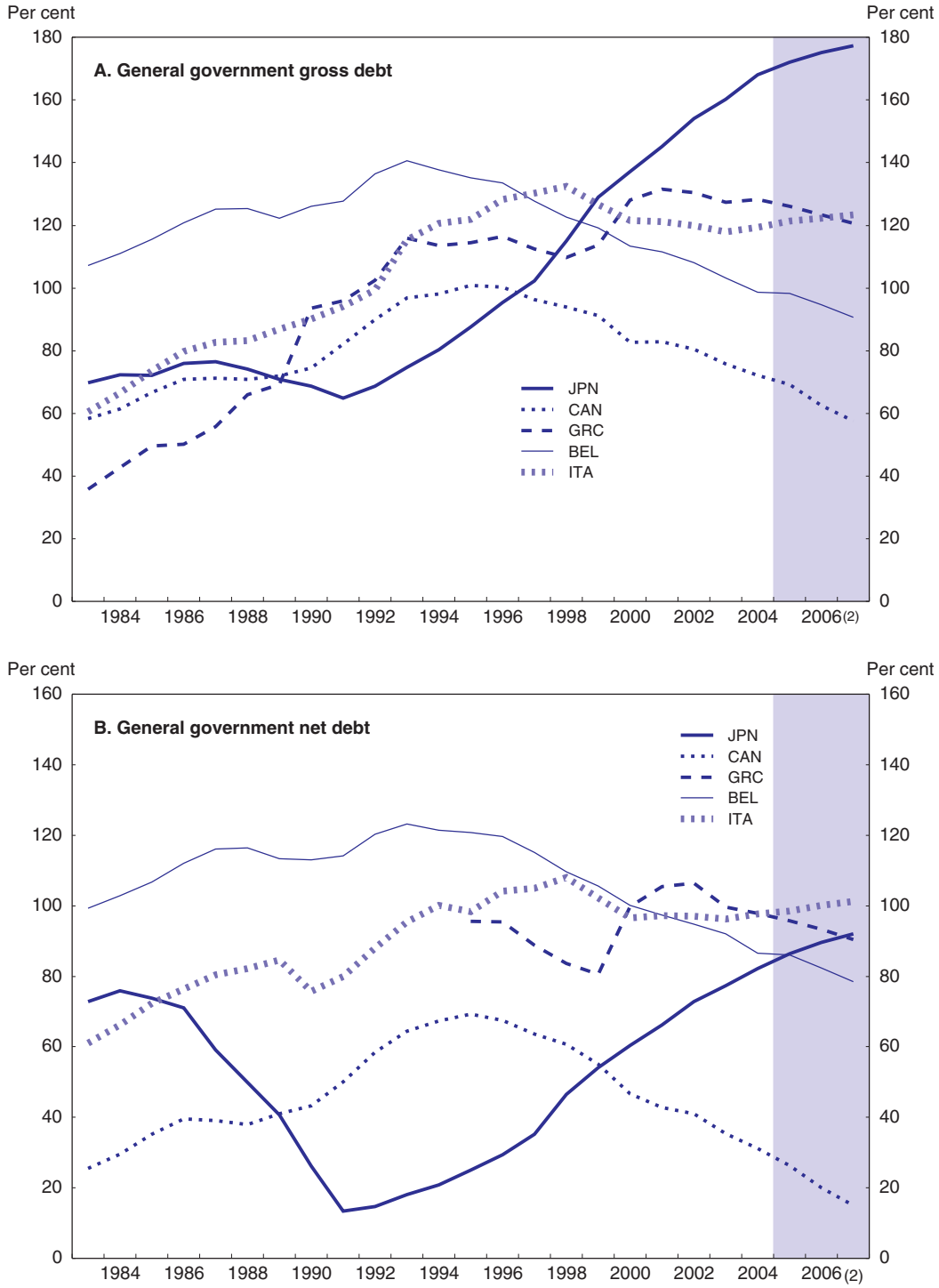
Despite the rapid rise in public debt, the yield on long-term government bonds has averaged only 1½ per cent between 1997 and 2005. The effective government interest rate (measured as net interest payments divided by net debt) has also fallen to 1½ per cent (Figure 3.3), masking the seriousness of the fiscal situation. However, the long-term interest rate has been kept low by a number of exceptional factors, including the Bank of Japan's quantitative easing policy, the persistence of deflationary expectations and the risk aversion of investors and banks, which were saddled with high levels of non-performing loans. Consequently, government interest payments are lower than a decade ago, both as a share of GDP and in absolute terms, despite the much higher level of public debt. These special factors, however, have begun to wane with the strong economic recovery, as well as with the end of the quantitative easing policy.

There are arguments that the level of government debt in Japan is less serious than it appears on the surface. *First*, the government holds a significant amount of financial assets, amounting to about half of its financial liabilities. However, even including these assets, the Japanese government is the fourth most indebted in the OECD area, with a net debt of 86% of GDP, and it is growing very rapidly (Figure 3.2, Panel B).[3] *Second*, the central bank has accumulated a significant stock of assets as a result of the quantitative easing policy. However, even a consolidated measure of net public debt that includes the Bank of Japan does not change the conclusion that debt has been increasing very rapidly in recent years (see the 2005 *OECD Economic Survey of Japan*). *Third*, tax revenue as a share of GDP is low compared to other OECD countries, suggesting that Japan has considerable scope to increase revenues. However, significant tax hikes would have a negative impact on the potential growth rate of the economy, which is already low and is expected to fall further due to population ageing (see Chapter 1). In sum, public debt is large and growing rapidly by any measure. It is important therefore that the government's fiscal management maintain public credibility in order to avoid a rise in the real interest rate due to a higher risk premium, which would have adverse impacts on economic growth and lead to a snowballing of debt.

... making the continued fiscal consolidation in 2006-07 welcome

On a cyclically-adjusted basis, the budget deficit is projected to decline by around 1% of GDP, on both an overall and primary basis, between 2005 and 2007, excluding the one-off factor (Table 3.2). Spending restraint is due in part to a 6% real decline in public investment, while cuts in fees for medical services and expenditures on long-term nursing care will slow the growth of social security outlays. On the revenue side, the abolition of the temporary cut in the personal income tax and the local inhabitant tax in 2006-07 is projected to boost direct taxes on households from 5% of GDP in 2005 to 5¾ per cent in 2007.[4]

Figure 3.2. **OECD countries with a large public debt ratio**
As a share of GDP[1]

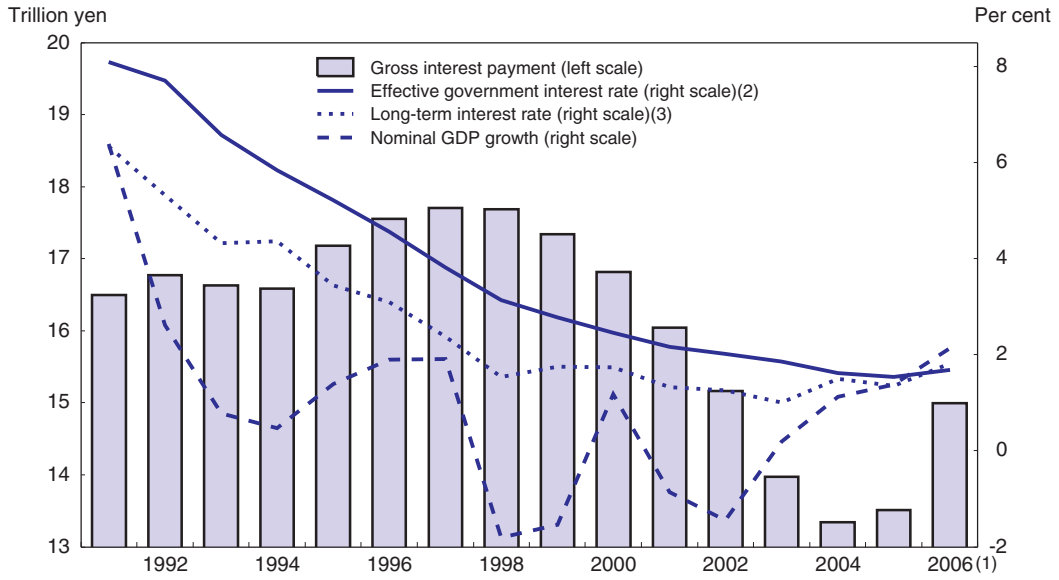


1. Countries which have recorded a gross debt to GDP ratio of more than 100%.
2. OECD estimates for 2005, 2006 and 2007.

Source: OECD Economic Outlook 79 database.

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Figure 3.3. **Interest payments by the government**



1. OECD estimates for interest payments in 2005 and 2006 and for nominal GDP in 2006.
2. Defined as interest payments minus interest receipts divided by net government debt.
3. Ten-year government bonds. The rate in 2006 is the average of the first four months of the year.

Source: Cabinet Office and OECD estimates.

Looking ahead: the government's medium-term fiscal plan

The *Reference Projection* for the *Reform and Perspectives* FY 2005 in January 2006 contained some important changes in the economic conditions and policy assumptions (Table 3.3). In particular, the nominal long-term interest rate is now expected to surpass the nominal GDP growth rate in 2009 rather than in 2011. The relationship between the interest rate and the growth rate over the medium term has provoked an intense debate among policymakers, as it determines the primary budget balance that is necessary to stabilise public debt as a share of GDP (see Box 3.1). In addition, the pace of expenditure cuts shown in the *Reference Projection* has been accelerated and the year in which a primary balance surplus is achieved has been advanced from FY 2012 to FY 2011. The FY 2011 target for the primary budget surplus was incorporated into the *Integrated Expenditure and Revenue Reform* announced in July 2006 (see Annex 3.A1).

Although the *Reform and Perspectives* has been successful in containing spending increases, and the economic indicators in the *Reference Projection* are now more realistic, many of the weaknesses pointed out in the 2005 *OECD Economic Survey of Japan* still remain. Perhaps most importantly, the balanced primary budget shown in 2011, the final year in the *Reference Projection* (Table 3.3), is not sufficiently ambitious. Based on the nominal growth rate (3.2%) and long-term interest rate (3.9%) shown in the *Reference Projection* in 2011, the debt to GDP ratio would continue to rise if the primary budget were in balance, according to OECD projections. Instead, a primary budget surplus of ½ per cent of GDP would be required to stabilise the debt ratio (Table 3.4). In contrast, if the nominal growth rate was 2.5%, stopping the rise in the debt ratio would require a primary surplus of around 1½ per cent of GDP.[5] Moreover, it is important to realise a primary budget surplus that is large enough to reduce – not merely stabilise – the public debt to GDP ratio in order to

Table 3.3. **Comparison of the *Reference Projection* in the 2005 and 2006 *Reform and Perspectives***[1]

Fiscal year		2005	2006	2007	2008	2009	2010	2011	2012
Real GDP (percentage change from previous year)	2005	1.6	1.5	1.5	1.6	1.5	1.6	1.6	1.5
	2006	**2.7**	**1.9**	**1.8**	**1.8**	**1.7**	**1.7**	**1.7**	
Nominal GDP (percentage change from previous year)	2005	1.3	2.0	2.6	3.4	3.8	3.9	4.0	3.9
	2006	**1.6**	**2.0**	**2.5**	**2.9**	**3.1**	**3.1**	**3.2**	
GDP deflator (percentage change from previous year)	2005	–0.3	0.5	1.1	1.8	2.2	2.3	2.4	2.4
	2006	**–1.1**	**0.1**	**0.7**	**1.1**	**1.3**	**1.4**	**1.5**	
CPI (percentage change from previous year)	2005	0.1	0.9	1.4	2.0	2.3	2.5	2.7	2.7
	2006	**0.1**	**0.5**	**1.1**	**1.6**	**1.9**	**2.1**	**2.2**	
Nominal long-term interest rate (per cent)	2005	1.6	1.9	2.3	2.9	3.4	3.9	4.3	4.6
	2006	**1.4**	**1.7**	**2.4**	**2.9**	**3.3**	**3.7**	**3.9**	
General government fiscal balance (per cent of GDP)	2005	–7.0	–6.1	–5.6	–5.3	–4.8	–4.5	–4.4	–4.2
	2006	**–5.4**	**–5.0**	**–4.0**	**–3.7**	**–3.4**	**–2.9**	**–2.8**	
Central government (per cent of GDP)	2005	–6.2	–5.4	–5.0	–4.9	–4.7	–4.6	–4.8	–4.9
	2006	**–5.0**	**–4.5**	**–3.4**	**–3.2**	**–3.3**	**–3.2**	**–3.4**	
Local government (per cent of GDP)	2005	–0.2	–0.0	–0.1	0.0	0.2	0.3	0.6	0.8
	2006	**–0.4**	**–0.2**	**–0.4**	**–0.3**	**–0.2**	**–0.1**	**0.1**	
Social security fund (per cent of GDP)[2]	2005	–0.7	–0.6	–0.5	–0.4	–0.3	–0.2	–0.3	–0.2
	2006	**0.0**	**–0.2**	**–0.2**	**–0.2**	**0.1**	**0.4**	**0.4**	
Primary balance: central + local (per cent of GDP)	2005	–4.0	–3.1	–2.7	–2.1	–1.5	–0.9	–0.4	0.1
	2006	**–3.3**	**–2.8**	**–2.0**	**–1.5**	**–1.0**	**–0.4**	**0.0**	
Primary balance: central (per cent of GDP)	2005	–4.5	–3.8	–3.2	–2.8	–2.3	–1.8	–1.6	–1.4
	2006	**–3.7**	**–3.2**	**–2.2**	**–1.8**	**–1.5**	**–1.0**	**–0.8**	
Primary balance: local (per cent of GDP)	2005	0.5	0.6	0.6	0.7	0.8	1.0	1.3	1.5
	2006	**0.3**	**0.4**	**0.2**	**0.3**	**0.4**	**0.6**	**0.8**	
General government expenditure to GDP ratio	2005	36.2	36.1	36.0	36.0	36.1	36.1	36.4	36.9
	2006	**36.1**	**35.6**	**34.9**	**34.8**	**34.6**	**34.4**	**34.4**	

1. The *Reference Projection* is revised in January of each year. The figures for 2005 revision are from the "Base Case" and the figures for 2006 revision are from the "Base Case" in which the budget surplus is achieved in FY 2011.
2. The figures are calculated by the OECD based on the figures in the *Reference Projection*.

Source: Cabinet Office and OECD calculations.

strengthen the credibility of the government's fiscal position and to provide more flexibility to cope with unexpected shocks and rapid population ageing.

While the target for the primary budget balance should be made more ambitious, the 2011 date in the *Reference Projection* should be maintained. The primary budget deficit is estimated at 4% in CY 2006, excluding the one-off factor. As noted above, stabilising the debt ratio requires a primary budget surplus of between ½ and 1½ per cent of GDP, implying an improvement in the primary budget balance of between 4½ and 5½ percentage points of GDP. Achieving such a level by 2011 would thus require fiscal consolidation at a pace of about 1 percentage point of GDP per year, more rapid than that implied in the *Reference Projection* for the *Reform and Perspectives* in January 2006.[6]

Such a pace of fiscal tightening has been accomplished in other G-7 countries, such as Canada (see Box 3.2). The result of an econometric exercise for Japan suggests that such a pace would not be likely to undermine the economic expansion projected in 2006-07. For example, a 1 percentage-point reduction in the budget deficit as a per cent of GDP could be achieved by raising the consumption tax rate from 5% to around 7.5%. According to one econometric exercise by a private research institute, a 1 percentage-point hike in the consumption tax rate would slow the GDP growth rate by about ¼ percentage point.[7] A

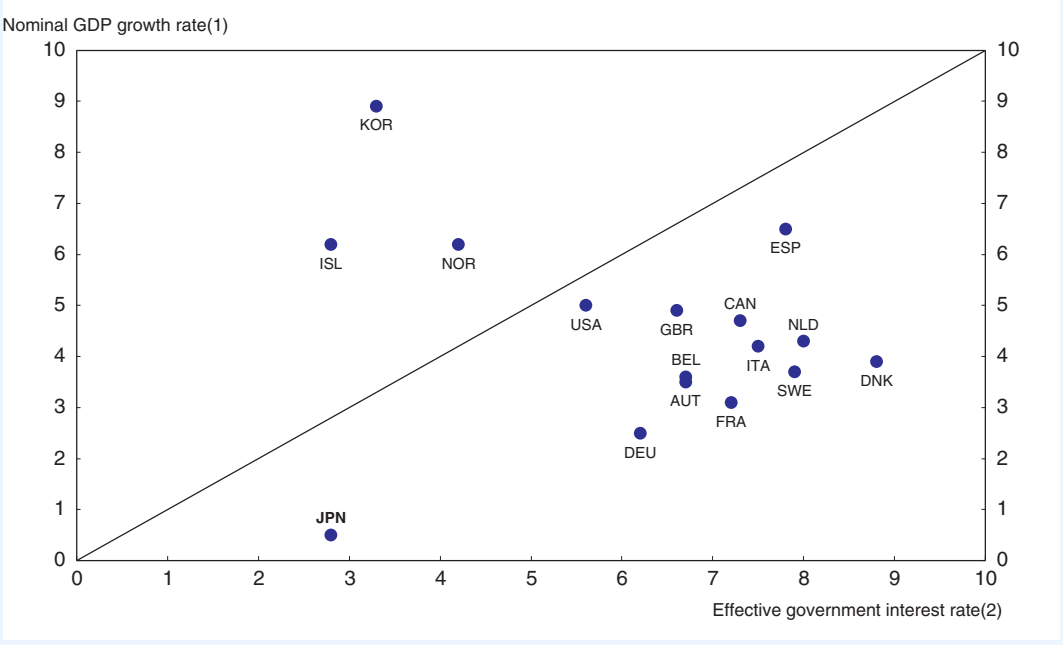
Box 3.1. **The debate over the economic assumptions in the *Reform and Perspectives***

During the revision of the *Reform and Perspectives* and the development of the *Integrated Expenditure and Revenue Reform* by the Council on Economic and Fiscal Policy (CEFP), there was a vigorous debate on the assumptions concerning the nominal GDP growth rate and the nominal long-term interest rate. One group argued that the GDP growth rate is likely to be higher than the long-term interest rate, particularly if appropriate monetary and fiscal policies are implemented. Such an outcome implies that a primary budget balance, or even a small deficit, would be adequate to stabilise the debt to GDP ratio. The second group rejected this view and favoured the more prudent assumption that the nominal long-term interest rate will be higher than the nominal GDP growth rate. The choice of economic assumptions has different implications for tax policy. The assumptions advocated by the first group, which worries that a focus on tax hikes would weaken the pressure to cut spending, imply less need for tax increases to reach the desired fiscal balance.

The effective government interest rate* in Japan has averaged 2.8% since 1990, considerably above the 0.5% nominal growth rate. While this certainly was influenced by the post-bubble problems, an effective interest rate that is higher than the nominal growth rate is the norm in the OECD area (Figure 3.4). Indeed, the average effective interest rate over the past 15 years was 5.8% while nominal output has risen at a 4.5% average annual rate. Only three countries – Iceland, Korea and Norway – achieved nominal growth rates higher than the long-term interest rate. However, according to one study, ("The Deficit Gamble" by Ball, Elmendorf and Mankiw, 1995), the GDP growth rate in the United States was generally higher than the interest rate between 1871 and 1992. Such a situation would allow a government to run budget deficits and then roll over the resulting public debt forever without adverse implications for future generations. Nevertheless, the study

Figure 3.4. **An international comparison of growth rates and interest rates**

1991-2005



1. Average annual rate.
2. Defined as government interest payments minus interest receipts divided by net government debt. There are data for 17 countries between 1991 and 2005, although Finland is excluded as the calculation gives a negative interest rate.

Source: OECD Economic Outlook 79 database.

Box 3.1. **The debate over the economic assumptions in the *Reform and Perspectives*** *(cont.)*

concluded that government deficits are an "imprudent policy". In sum, basing medium-term fiscal policy on the assumption that nominal growth will exceed long-term interest rates would be a risky gamble.

Based on actual developments in recent years, the OECD's Medium-Term Baseline scenario assumes that the average long-term interest rate between 2006 and 2012 is higher than the average nominal GDP growth rate for almost all member countries. Such an assumption is also included in the medium-term economic and fiscal programmes of some member countries, including Italy (Ministero dell'Economia e delle Finanze, 2005) and the United Kingdom (HM Treasury, 2004). In the case of Japan, it is true that the nominal growth of output is likely to exceed the effective interest rate in 2006 and hopefully in 2007. Such a development would be positive for the economy and would help slow the build-up of public debt. However, this situation would be unlikely to be a permanent feature of the Japanese economy, as population ageing will tend to slow economic growth. At the same time, the high and rising level of public debt may boost interest rates. These trends imply that the effective interest rate is likely to exceed output growth over the medium term, making a primary budget surplus necessary to stop the run-up in public debt in Japan.

* Calculated as government interest payments minus receipts divided by net government debt.

Table 3.4. **Policy options for fiscal consolidation in the medium term**

Per cent of GDP

	Assumptions for the 2005-11 period			If target is achieved through:[2]				
				Cuts in discretionary spending[3]		Tax hikes: Percentage-point increase in tax rate,[6] assuming that discretionary spending:		
	Nominal GDP growth rate	Nominal long-term interest rate	Required primary budget surplus[1]	Total cut in nominal terms[4]	As a share of GDP[5]	Is constant as a share of GDP	Is constant in real terms[7]	Is constant in nominal terms
1. Government's *Medium-Term Perspectives*[8]	3.2	3.9	0.6	–18.2	–5.9	13.8	8.8	6.4
2. Low interest rate scenario	2.5	2.0	–0.5	–15.8	–5.0	10.7	7.1	4.7
3. Nominal interest rate at 1990-2005 average[9]	2.5	3.0	0.5	–21.5	–5.9	13.1	9.5	7.1
4. Real interest rate at 1990-2005 average[10]	2.5	4.0	1.4	–28.3	–7.0	15.5	11.7	9.5

1. Necessary to stabilise the net debt to GDP ratio in 2011.
2. Social security expenditures and revenues are assumed to rise in line with the projections by the Ministry of Health, Labour and Welfare (2006). Net interest payments are determined by the interest rate and the level of net debt.
3. Discretionary spending is defined as total outlays minus social security-related spending and gross interest payments. In 2005, it was equivalent to 18.3% of GDP.
4. In per cent.
5. In percentage points.
6. The percentage point increase in the consumption tax rate from the current level of 5%, which is phased in over the period 2006 to 2011. As noted in the text, it is important to broaden direct tax bases to raise tax revenue. However, the consumption tax rate is used here to simplify the simulations.
7. Discretionary spending grows at 1%, the mid-point of the Bank of Japan's Board members' understanding of price stability.
8. The nominal GDP growth rate and nominal long-term interest rate are cited from the latest *Reference Projection*'s figures for FY 2011.
9. The average yield on ten-year government bonds.
10. The average yield on ten-year government bonds, deflated by the lagged GDP deflator.

Source: OECD calculations.

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Box 3.2. **Rapid consolidation: the case of Canada**

Canada achieved a rapid pace of fiscal consolidation during the 1990s. Between 1992 and 2000, its general government primary balance improved by nearly 10% of GDP, from a deficit of 3.8% to a surplus of 6%. Consequently, its gross debt to GDP ratio, which exceeded 100% in 1995, fell to 70% in 2005.

The impressive turnaround in Canada's fiscal position was due to a reduction in public expenditure from 53% of GDP in 1992 to 41% in 2000. The federal government cut unemployment benefits and the number of civil servants, in addition to freezing federal employee salaries in 1992. At the same time, the provincial governments, which had been largely responsible for the rapid deterioration in the general government deficit in the early 1990s, primarily due to the reduction in transfers from the federal government, also took measures in response to numerous downgrades in their credit ratings. Budget cuts focused on the wages of government workers, as well as health and education. In sum, the decline in the government wage bill made the largest contribution to fiscal consolidation, at 4.3% of GDP, followed by a cut in social security benefits of 3.0% of GDP. The significant improvement in the fiscal situation, both at the federal and provincial levels, resulted in lower real interest rates, which helped Canada achieve faster growth (see *OECD Economic Surveys of Canada* between 1993 and 2004). Indeed, real GDP growth, which had averaged 2.2% between 1984 and 1992, accelerated to an annual rate of 3.8% over the period 1992 to 2000.

While the case of Canada demonstrates that fiscal consolidation does not necessarily undermine economic growth, its approach of large cuts in social spending and the government wage bill may be more difficult to apply in Japan. In contrast to Canada, government spending is much smaller in Japan at 36% of GDP. Thus, a 12 percentage-point fall in government outlays as a share of GDP, as in Canada, would reduce expenditures in Japan by one-third. In particular, Japan has less scope to cut social spending, which accounts for 17% of GDP at present, compared to 22% in Canada in 1992. In sum, while expenditure cuts are the first priority, the potential savings in Japan are unlikely to be as significant as in Canada, making it necessary to raise revenue as well.

2.5 percentage-point hike in the tax rate would thus push down GDP growth by around 0.6 percentage points which, under current circumstances, would still leave output growth above potential. Moreover, there would likely be some offsetting positive effects on confidence that would reduce the negative impact of fiscal consolidation. In addition, more rapid progress in reducing the deficit would help to limit the possibility of a rise in the risk premium resulting from further increases in government debt. The pace of fiscal consolidation should, however, take macroeconomic conditions into account.

In the *Reform and Perspectives,* the fiscal target does not cover the entire general government budget, as it focuses on the central and local governments, thus excluding the social security fund. This fund, which accounts for 40% of general government expenditure, recorded a deficit estimated at 0.3% of GDP in FY 2002 (see Box 3.3). Its exclusion from the medium-term targets of the *Reform and Perspectives* reflects the government's view that the pension system should be managed from a very long-term point of view. According to this approach, as long as the long-run sustainability of the pension system is ensured, the fluctuations in its balance are not a concern. Although the balance of the social security fund is projected to return to surplus in FY 2009 thanks

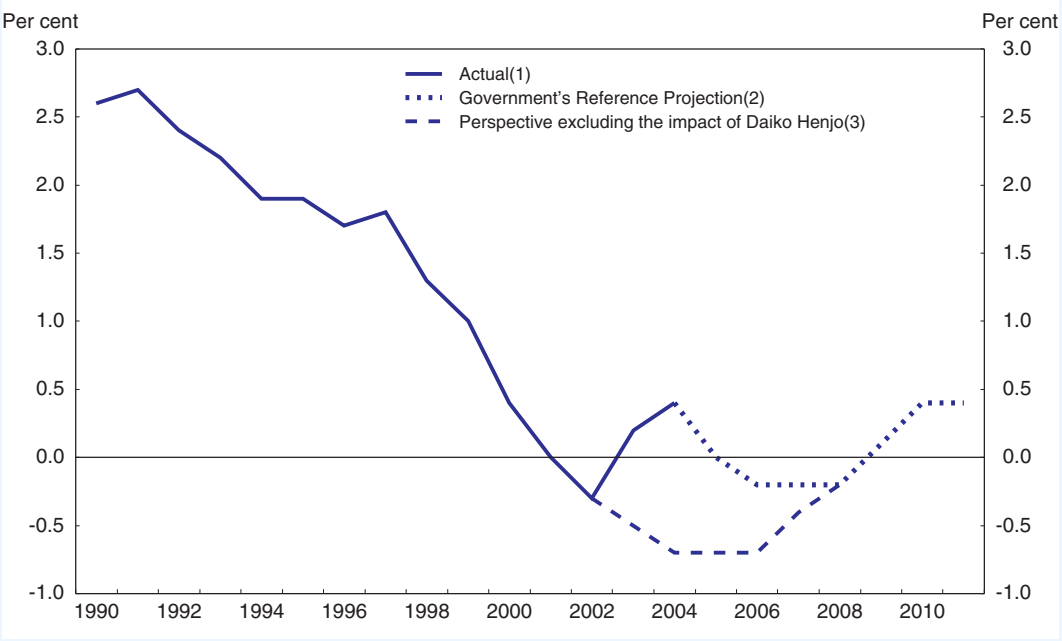
Box 3.3. **The size and balance of the social security fund**

The social security fund, which includes pensions, medical care and other systems, accounted for 40% of general government expenditure in FY 2002 and 37% of revenue. The largest sources of its revenue are the contributions paid by the participants in social insurance schemes and transfers from the rest of the general government, which accounted for 27% of its total revenue in FY 2002. In addition, interest income from the accumulated assets of the social security fund provided another 6% of its revenue.

The budget balance of the social security fund gradually deteriorated from a surplus of 2.7% of GDP in FY 1991 to a deficit of 0.3% in FY 2002 (Figure 3.5). It returned to surplus in FY 2003-04, but this was due to the one-off factor (see Table 3.2). Looking ahead, the government's Reference Projection implies that the social security fund will return to surplus in FY 2009 thanks to the FY 2004 pension reform, which includes several steps to boost revenue. *First*, the central government contribution to the public pension system is to rise from a third of the system's outlays to half by FY 2009. *Second*, the pension contribution rate is set to increase each year between FY 2004 and FY 2017. As a result, the balance of the social security fund is projected to improve from a deficit of 0.2% of GDP in FY 2006 to a surplus of 0.4% in FY 2011.* In sum, although the social security fund is projected to return to surplus in the medium term, the outcome depends on demographic developments and other factors that affect the size of the transfers from the rest of the government, as well as the speed of the reduction in its accumulated assets. Therefore, the sustainability of the social security fund remains a concern.

Figure 3.5. **Social security fund balance**

As per cent of GDP



1. *Annual Report on National Accounts*, Cabinet Office.
2. The balance of the social security fund is not shown explicitly in the *Reference Projection*. Instead, it is calculated by subtracting the balance of the combined central and local governments from the balance of general government.
3. OECD Secretariat estimate. Daiko Henjo is explained in Table 3.2.

Source: Cabinet Office and OECD calculations.

* The Ministry of Health, Labour and Welfare also projects an improvement in the balance of the social security system, although it differs from the national accounts data. According to its projection, the deficit will narrow from 7 trillion yen in FY 2006 to 4 trillion yen in FY 2011 (Ministry of Health, Labour and Welfare, 2006).

to the FY 2004 pension reform, the outcome depends on demographic developments and other unforeseeable factors. Therefore, it is important to carefully monitor the sustainability of the social security fund. The *Reform and Perspectives*' target for central and local governments should not be achieved through a deterioration in the social security account.

In addition, making the *Reform and Perspectives* more detailed and binding would boost its credibility.[8] *First*, while the annual budgeting process has generally been in line with the *Reform and Perspectives*, the annual spending levels are not binding but are presented for reference purposes only.[9] *Second*, the *Reform and Perspectives* does not contain any numerical targets for revenue categories, nor does it propose any changes in the tax system. Fiscal consolidation is a result of a decline in government spending as a share of GDP. *Third*, there is no explicit feedback rule on how the plan will change as outcomes deviate from the path described in the *Reform and Perspectives*. Experience in OECD countries demonstrates that anchoring the budget process in a medium-term perspective, including strict rules, can contribute significantly to a more efficient allocation of spending and hence to fiscal sustainability (see OECD, 2002 and OECD, 2003b). Although the specific contribution of rules based on numerical targets to better fiscal performance cannot be easily quantified, they have proven to be useful in helping countries to focus on clear objectives.[10] Some of these weaknesses were addressed in the *Integrated Expenditure and Revenue Reform*, which was released in July 2006 (see Annex 3.A1).

Policies to contain spending

To stabilise government debt, a primary budget surplus of ½ to 1½ per cent of GDP is needed, as noted above. Cutting spending is the top priority to achieve the necessary improvement of 4½ to 5½ per cent of GDP. This would reduce the size of the government and the tax burden necessary to fund it, thus limiting the negative impact of taxes on growth. Moreover, empirical research indicates that deficit reductions achieved through spending cuts tend to be longer lasting than those resulting from tax increases (OECD, 2006a). In addition, cross-country evidence suggests that expenditure cuts that focus on government wages and transfer spending have positive confidence effects that offset, at least in part, the contractionary impact of consolidation on economic activity. This is particularly the case when government debt is initially high, as in Japan. This section focuses on the scope for spending cuts in some key areas, including pensions, healthcare, public investment and the government wage bill. The sale of government assets, which has also been proposed as part of fiscal consolidation, is discussed in Box 3.4.

Social security spending

Although social security benefits paid by the government are lower than the OECD average at present, they are expected to grow by 2 to 3% per year in the medium term (see the 2005 *OECD Economic Survey of Japan*).[11] Given their large share in government outlays (Table 3.1), containing spending increases in this area is a key to achieving fiscal consolidation in the medium term.

The FY 2004 reform of the pension system marked a fundamental shift from the past approach, in which pension benefits were determined by the income needs of the elderly. Under the reform, the contribution rate is scheduled to increase from 13.6% in FY 2004 to 18.3% by FY 2017, while allowing the replacement rate to fall in line with changes in the demographic situation through "macroeconomic indexation". This new approach is

Box 3.4. **Sales of government assets as part of fiscal consolidation**

The government initiative to create a "small and efficient government" places a high priority on sales of its assets. Indeed, the Administrative Reform Promotion Law aims at halving central government assets as a share of GDP in ten years in order to limit the increase in public debt and reduce financial risks, and requests local governments to make similar efforts. Central government assets amounted to 154% of GDP in FY 2002 (Table 3.5). This is much higher than in other countries such as the United States (12%), the United Kingdom (32%) and Italy (77%), according to the Working Group on Public Asset and Liability Management of the Council on Economic and Fiscal Policy, although institutional difference across countries make direct comparisons difficult.

On an System of National Accounts (SNA) basis, *general government* assets amounted to 933 trillion yen (188% of GDP) in FY 2004, divided roughly equally between financial and non-financial assets (Panel B). The social security fund held almost half of financial assets, with central and local governments accounting for the remainder. The assets belonging to the social security fund are largely reserved for future pension payments (see Box 3.3). Financial assets held by the central government include loans to the Fiscal Investment and Loan Programme (FILP), investment in public corporations and foreign exchange reserves. Local government holdings include a large share of non-financial assets, such as roads and schools.[1]

The Ministry of Finance has stated that only 11.5 trillion yen (2.3% of GDP) of central government assets, including special accounts, can be sold over the next decade; 8.4 trillion yen from sales of holdings in public corporations that are privatised, including Japan Post, and 3.1 trillion yen from sales of land, government buildings and housing for central government workers. On the other hand, a Liberal Democratic Party study group has proposed selling 112 trillion yen (22.3%) of central government assets, although 100 trillion yen of it is through securitisation of loans to local governments and public corporations.[2] While the proceeds could be used to reduce gross debt, the impact on net debt is less certain. In sum, the sale of government assets should not be seen as a solution to Japan's public finance problem as it would have little impact on net debt. Moreover, there is only a limited amount of assets that could be sold to reduce gross debt, although this would have some positive effect by limiting the risk of a rise in long-term bond yields. The sale of government assets to the private sector should be pursued with the objective of increasing economic efficiency.

1. In the SNA report, the holding of assets by government sectors is only available for financial assets, although the Cabinet Office (2001a) provides a breakdown for non-financial assets. This implies that the central government and the social security fund each hold about a quarter of total government assets with local government accounting for the rest.
2. Note that it includes assets such as fiscal investment and loans, whose sale just reduces the relevant amount of debt, such as FILP bonds. Unlike bonds that are redeemed from future tax revenue, this does not increase the financial resources that could be used for fiscal consolidation.

projected to maintain pension spending at around 9% of GDP through 2015 (Table 3.6). Moreover, the authorities expect it to ensure the sustainability of the public pension system – defined as a fund large enough to cover at least one year of pension benefits – over the next 100 years (Table 3.7). The law requires that the replacement rate remain above 50%. With the demographic situation already worse than assumed by the government, developments may diverge significantly from the official projection. One option would be

Box 3.4. **Sales of government assets as part of fiscal consolidation** *(cont.)*

Table 3.5. **The composition of government assets and liabilities**

A. Balance sheet of the central government in FY 2002[1]

Assets	Trillion yen	Per cent of GDP	**Liabilities**	Trillion yen	Per cent of GDP
Currency and deposits[2]	38.0	7.7	Financial bills	46.2	9.3
Securities other than shares	119.4	24.1	Government bonds	348.0	70.2
Uncollected revenue	20.2	4.1	Postal savings	233.2	47.0
Loans[3]	286.0	57.7	Pension deposits	161.6	32.6
Trusts[4]	60.1	12.1	Retirement allowance reserve	23.6	4.8
Insolvency reserve	–2.4	–0.5	Others	180.0	36.3
Tangible assets[5]	191.0	38.5			
Non-tangible assets	0.4	0.1			
Investments	48.0	9.7			
Others	4.5	0.9			
Total	765.3	154.3	**Total**	992.7	200.1

B. General government assets and liabilities (end of 2004)

	Central government	Local government	Social security funds	Total	Per cent of GDP
Total assets	–	–	–	933.0	188.1
Non-financial assets[6]	–	–	–	454.7	91.7
Produced assets	–	–	–	331.7	66.9
Inventories	–	–	–	2.5	0.5
Fixed assets	–	–	–	329.3	66.4
Land	27.3	95.0	0.6	123.0	24.8
Financial assets	180.6	63.9	233.8	478.3	96.4
Currency and deposits	28.5	17.6	98.9	144.9	29.2
Loans	19.1	9.8	9.3	38.2	7.7
Securities other than shares	9.7	1.5	72.6	83.9	16.9
Shares and other equities	36.4	33.6	20.4	90.4	18.2
Of which: shares	2.1	0.8	18.4	21.3	4.3
Other financial assets	87.0	1.4	32.6	121.0	24.4
Closing liabilities and net worth				933.0	188.1
Liabilities	680.5	184.3	21.4	886.1	178.7
Loans	60.4	116	17.3	193.9	39.1
Securities other than shares	591.1	58.1	0.0	649.2	130.9
Equities	14.3	8.2	0.0	22.5	4.5
Other liabilities	14.6	1.8	4.1	20.5	4.1
Net worth				46.9	9.4

1. Includes general account and special accounts of central government.
2. Mainly foreign exchange reserves.
3. Including loans to special accounts and local governments.
4. Including FILP bonds held by pension funds.
5. Excluding roads and rivers.
6. Inventories and net fixed assets are not available for sub-sectors of the general government.

Source: Ministry of Finance (2004) "Balance sheet of the central government FY 2002 (draft report)" and Cabinet Office (2006) "Annual Report on National Accounts 2006".

to allow a further fall in the replacement rate to below 50%. However, the scope for such a 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. Another option is to further increase the pension eligibility age.[12] The third option – a further

Table 3.6. **Projection of social security spending**

	FY 2006				FY 2011				FY 2015			
	Before reform		After reform[1]		Before reform		After reform[1]		Before reform		After reform[1]	
	Trillion yen	Share of GDP[2]	Trillion yen	Share of GDP[2]	Trillion yen	Share of GDP[2]	Trillion yen	Share of GDP[2]	Trillion yen	Share of GDP[2]	Trillion yen	Share of GDP[2]
Total outlays	91.0	17.7	89.8	17.5	110.0	18.4	105.0	17.6	126.0	19.9	116.0	18.4
Pensions	47.3	9.2	47.4	9.2	56.0	9.4	54.0	9.1	64.0	10.1	59.0	9.3
Healthcare	28.5	5.5	27.5	5.4	34.0	5.8	32.0	5.4	40.0	6.3	37.0	5.8
Welfare	15.2	3.0	14.9	2.9	20.0	3.3	18.0	3.1	23.0	3.6	21.0	3.2
Of which:												
Elderly nursing care	6.9	1.3	6.6	1.3	10.0	1.7	9.0	1.4	12.0	2.0	10.0	1.6

1. Including the impact of the 2004 pension reform, 2005 elderly nursing care reform and 2006 healthcare reform.
2. GDP growth rate until FY 2011 is based on the *Reference Projection* of the *Reform and Perspectives*. MHLW assumes an annual growth rate of 1.6% after FY 2012.

Source: Ministry of Health, Labour and Welfare (2006).

Table 3.7. **Long-run projections for the public pension system**[1]

Trillion yen

Year	Revenue	Expenditure	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
2010	43.2	42.6	0.6	167.0	3.9
2015	50.5	47.3	3.2	176.3	3.7
2020	56.5	49.7	6.8	204.2	4.0
2025	61.8	52.5	9.3	246.3	4.5
2030	67.4	57.5	9.9	295.8	5.0
2040	77.4	73.5	3.9	368.8	5.0
2050	86.6	87.8	–1.2	377.0	4.3
2060	95.3	97.7	–2.4	356.3	3.7
2070	103.1	107.3	–4.2	324.1	3.1
2080	111.9	117.8	–5.9	273.1	2.4
2090	123.1	130.0	–6.9	207.4	1.6
2100	136.7	143.9	–7.2	136.7	1.0

1. The National Pension Scheme and Employees Pension System.
2. Ratio of fund to annual pension outlays.

Source: Ministry of Health, Labour and Welfare.

increase in the contribution rate – should be avoided as it would have an adverse impact on the labour market.

Public healthcare expenditure in Japan is projected to rise from its current level of 5½ per cent of GDP (OECD, 2006). The government's long-term projection of public healthcare expenditure was revised down from around 6.3% of GDP in 2015 to less than 6% (Table 3.6) following a number of reforms in 2006. Most important were an increase in the rate of co-payments by elderly people beginning in October 2006 and a 3.16% reduction in fees for medical services in FY 2006, the largest cut ever. In addition, a new medical insurance scheme for those over the age of 75 will be introduced in FY 2008. A large proportion of the reduction in healthcare spending in the new long-term projection is

assumed to be achieved through a reduction of the length of hospital stays and the prevention of lifestyle-related diseases. However, the extent of savings that can be achieved by encouraging healthier lifestyles is uncertain, making it important to pursue additional reforms to limit the growth of healthcare expenditure. The priority should be to make greater use of market mechanisms through regulatory reform, such as allowing private-sector companies to manage hospitals, permitting public insurance to be applied partially in cases where non-covered and covered medical treatments are provided together, and introducing electronic medical service systems. Such reforms should also be promoted to contain spending on long-term nursing care, which is also expected to increase rapidly due to population ageing.

Public investment

Although public investment, including that by public enterprises, has fallen from a peak of 8.4% in 1996 to 5.1% of GDP in 2004, it is still the second highest in the OECD area and far above the average of 3.2% in 2004.[13] While investment by government enterprises is expected to fall further as a result of the privatisation of Japan Post and the reform of public financial institutions (see Chapter 2), further reductions in public investment by the government would promote fiscal consolidation. However, such cuts should be accompanied by measures to increase the efficiency of public investment to ensure the provision of public goods and services. This would require a shift away from the redistributive nature of public investment based on the objective of "balanced regional development", which is reflected in the inverse relationship between per capita income and per capita public investment by prefecture. The disparity across prefectures, measured by the coefficient of variation, widened between FY 2000 and FY 2003. As a result of its redistributive objectives, the marginal productivity of public capital in the southern Kanto region, which includes Tokyo, is estimated to be about 20 times higher than in the Tohoku region (Figure 3.6). Instead, the allocation of funds should be based systematically on *ex ante* cost-benefit analysis, relying as much as possible on independent evaluation.

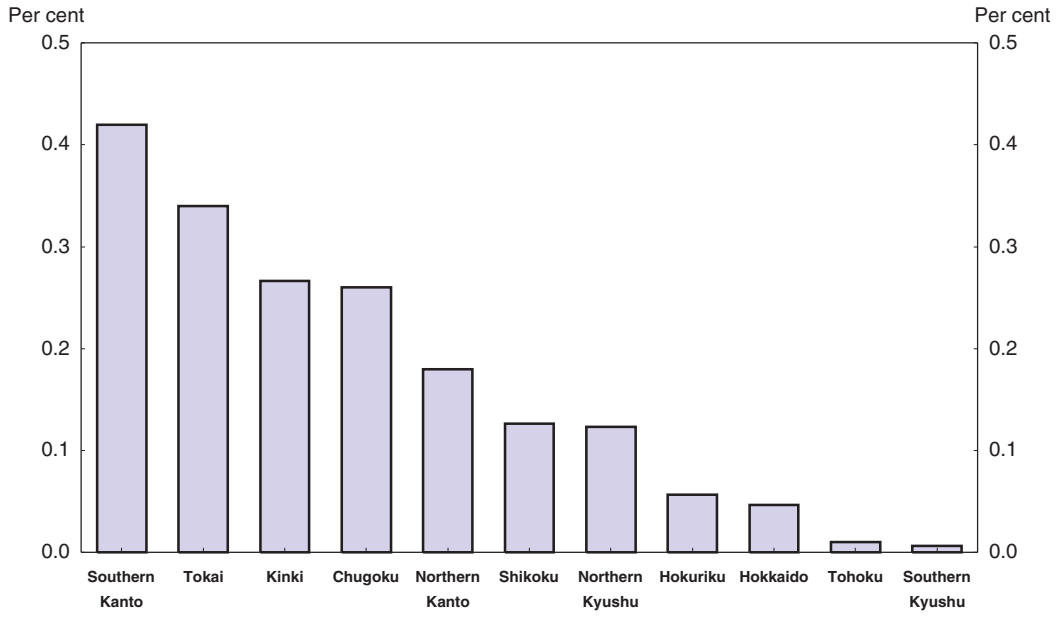
In addition to the inefficiency in its allocation, the potential for cutting public investment is limited by the rising share of spending needed to maintain and renew existing infrastructure. According to an estimate by the Ministry of Land, Infrastructure and Transport (2005), expenditure on maintenance and renewal will exceed the amount of new investment by 2011 and will totally crowd out new investment by 2022, if the current pace of spending cuts were to continue (Figure 3.7).[14] Maintaining a high quality of infrastructure is important in Japan given the frequency of earthquakes. Moreover, existing infrastructure has to be upgraded to incorporate new anti-earthquake technologies. At the same time, there is a need for efficient investment in new projects to support the growth potential of the economy. To limit the share of maintenance costs in public investment, the government should develop a comprehensive and strategic plan to close inefficient public infrastructure rather than maintain it, bearing in mind that the government projects the total population to fall by 10% during the next 30 years and by 20% during the next 45 years. This will lead to depopulation in many regions, making it inefficient to maintain the current infrastructure throughout the entire country.

Reducing the size of the government and increasing its efficiency

The current administration has made the creation of a "small and efficient government" a top priority. One initiative is the introduction of "market testing" to determine which

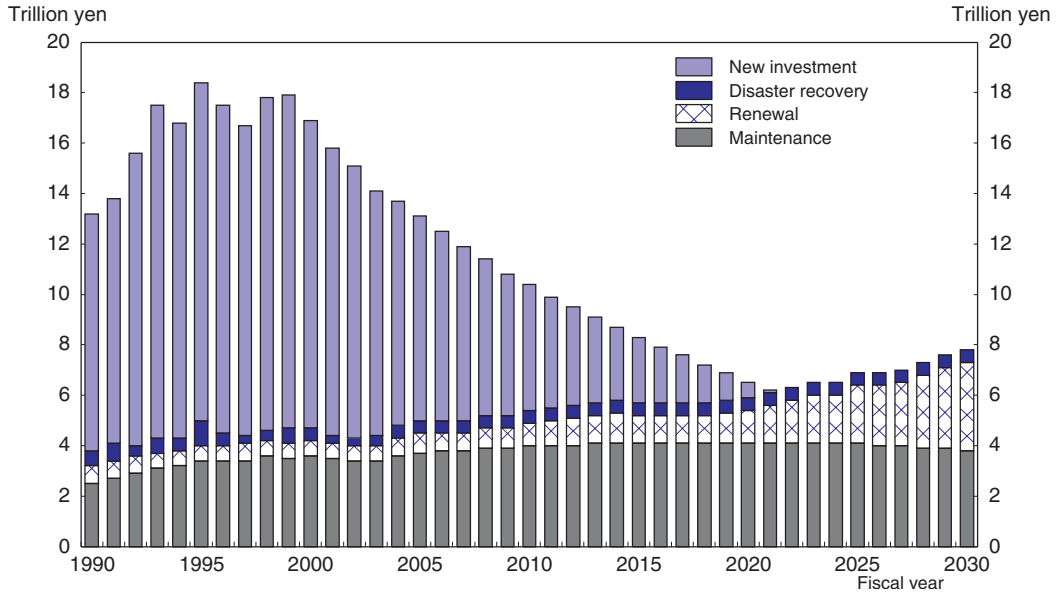
Figure 3.6. **Marginal productivity of public capital by region**

In manufacturing



Source: Yoshino (2006).

Figure 3.7. **Renewal and maintenance costs of public infrastructure**[1]



1. Social infrastructure built and managed by the Ministry of Land, Infrastructure and Transport only. Central government investment is assumed to decline by 3% per year and local government investment by 5% per year after FY 2005.

Source: Ministry of Land, Infrastructure and Transport (2005), *White Paper on Land, Infrastructure and Transport in Japan 2005*.

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Box 3.5. **The introduction of market testing in Japan**

Market testing is a strategy to open government-driven markets by determining what is best done in the private sector and what should be kept in the public sector. Under this approach, which has been used in a number of OECD countries, including the United States, the United Kingdom and Australia, competitive tendering is opened to both public and private entities. If the private sector performs better in terms of quality and prices, the service is privatised, transferred to a private entity or contracted out.

In Japan, eight projects in three areas were chosen as pilot projects for FY 2005, based on 119 applications from 75 private entities.* The project got off to a slow start; while 127 private companies submitted bids, no ministries participated in the bidding. A number of proposals were rejected by relevant ministries on the grounds of the need for "public authority" (23 proposals), "confidentiality of information" (13 projects) and "fairness and neutrality" (11 projects).

The initiative will be fully implemented in 2006 following the enactment of the Law on Enhancing Efficiency of Public Services, which stipulates the creation of a committee of private-sector experts in the Cabinet Office to monitor the bidding process. To make market testing effective, a number of points are essential. *First*, the private-sector committee should have complete authority in evaluating the results in order to ensure transparency and fairness between the competing entities. This requires that ministries disclose sufficient information on the costs and institutional arrangements of the activities subject to market testing. *Second*, it is important to maintain the public-service aspect of these activities after their transfer to private entities. *Third*, the transfer of public-sector workers across ministries and to the private sector should be facilitated. *Fourth*, this initiative should be fully extended to local authorities.

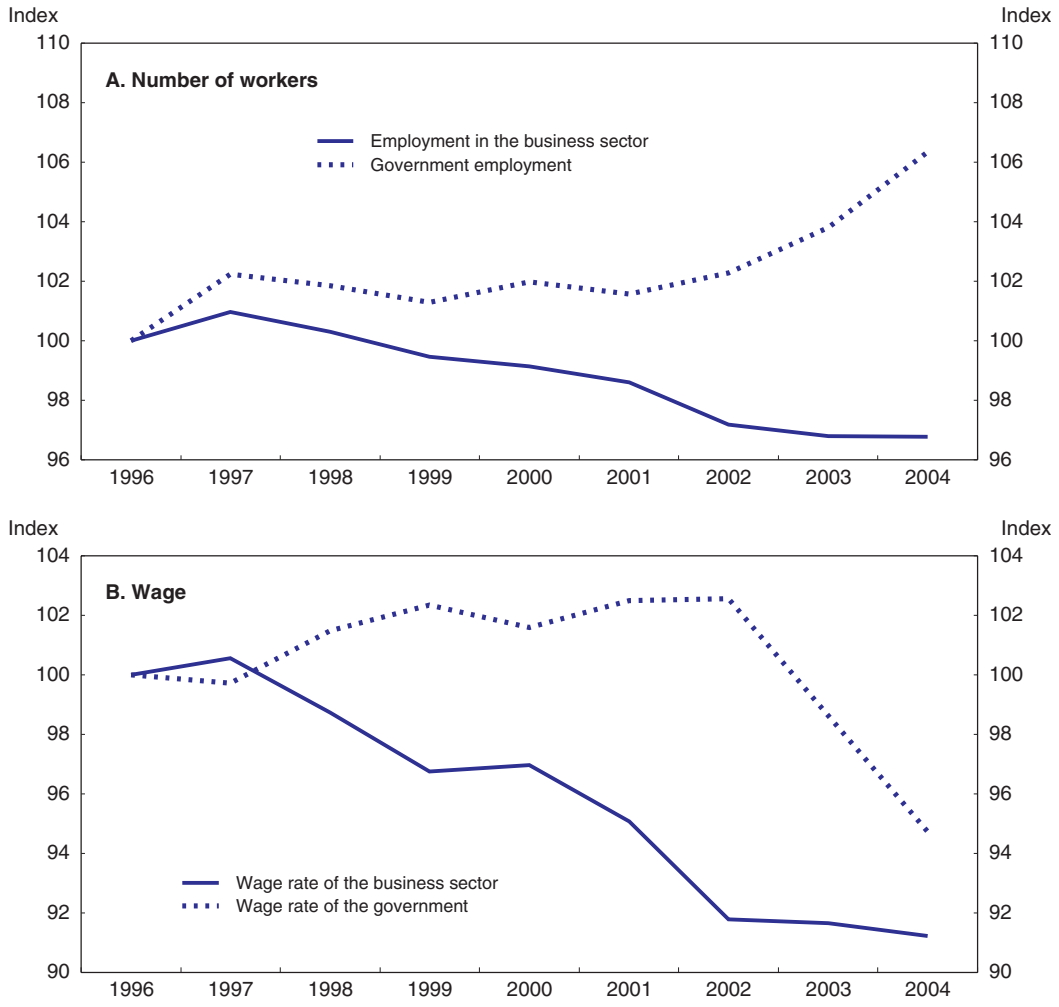
* The projects include: 1) public job placement and job training services; 2) enforcement of the employee pension scheme and collection of national pension contributions; and 3) assistance in the management of prisons. Some of these projects have been carried over to FY 2006.

government tasks could be done more efficiently by the private sector (see Box 3.5). The government has also set an objective of halving the total compensation of central government workers in ten years.[15] The support for such a radical reduction is based on the fact that the public sector has not undergone a restructuring similar to that experienced in the private sector in recent years. Indeed, government employment increased by 6% between 1996 and 2004, while business-sector employment fell by 3% (Figure 3.8). Moreover, wage declines were more pronounced in the business sector (Panel B). Consequently, the public favours reducing government compensation before cutting other public expenditures or raising taxes.[16]

However, the objective of reducing compensation for central government workers is made more difficult by the fact that central government employment is already relatively small in Japan. Indeed, there are only 2.8 central government workers in Japan per 1 000 population compared to 4.2 in the United States and 6.5 in the United Kingdom (Figure 3.9). Nevertheless, it is important to promote efficiency gains in the public sector.[17] Such efforts should not be limited to the central government, which accounts for only 16% of public-sector employment broadly defined, but should be extended to local governments, public enterprises and other government-related organisations (Table 3.8). Rather than targeting uniform cuts in the number of workers and wage levels, policies should focus on enhancing competition and transparency. One priority should be to reform

Figure 3.8. **Comparison of wages and employment in the private and public sectors**

1996 = 100

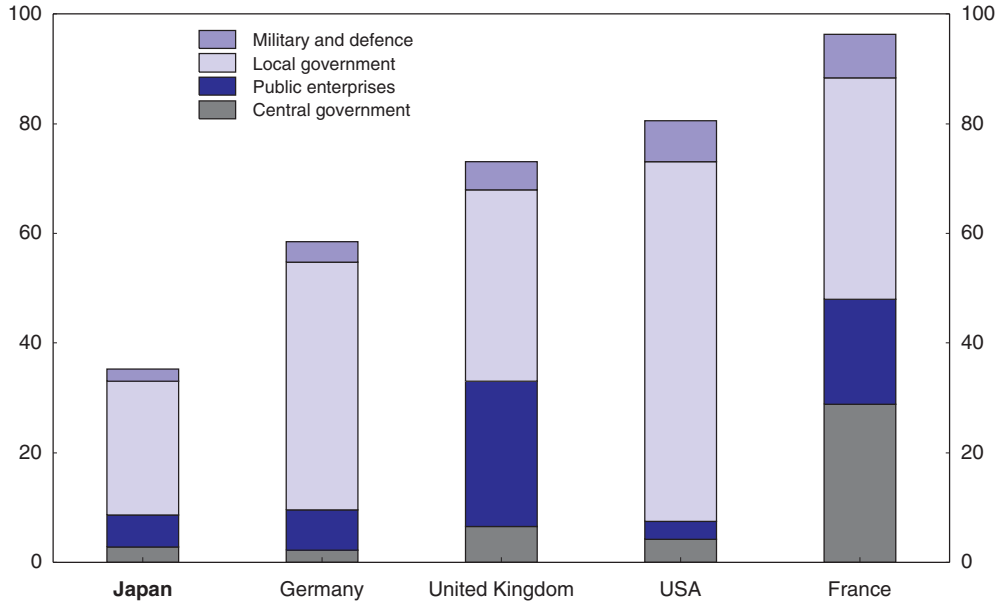


Source: OECD, Economic Outlook 79 database.

aspects of the rigid and closed government employment system, such as the strict seniority system, the steep wage curve and generous job offers after retirement as a compensation for low wages during the period of government service. The current system provides incentives for civil servants to expand their budgets and maintain the existing regulatory framework (Tsuru, 2002). The reallocation of workers between different parts of the government is extremely limited. Another problem is that the variation in public-sector wages across regions does not fully reflect differences in the cost of living (Ministry of Finance, 2005 and Nippon Keidanren, 2005). Unfortunately, the Trinity Reform to improve the relationship between levels of government (see the 2005 *OECD Economic Survey of Japan*) has not had a significant impact in terms of efficiency and spending thus far.

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Figure 3.9. **An international comparison of public-sector employment**
Number of employees per 1 000 population



Source: Ministry of Internal Affairs and Communications.

Table 3.8. **Number of public-sector workers**

	In thousands in 2004	Per cent of total
A. Central government level		
Central government workers	960	16.1
of which:		
Japan Post	290	4.9
National Defence Agency	280	4.7
Special corporations	140	2.3
Independent administrative agencies	50	0.8
National university corporations	120	2.0
Approved corporations	60	1.0
Public interest corporations	210	3.5
Government enterprises	70	1.2
B. Local government level		
Local government workers	3 160	52.9
of which: Education	1 170	19.6
Local public enterprises	410	6.9
Local public corporations	340	5.7
Public interest corporations	310	5.2
Third-sector corporations	140	2.3
Total	**5 970**	**100.0**

Source: Nippon Keidanren (2005).

Policies to increase revenues

Given the difficulty of significantly reducing public spending in the context of population ageing, there is a need to increase government revenue which, at 31% of GDP, is among the lowest in the OECD area. In order to improve the fairness, transparency and

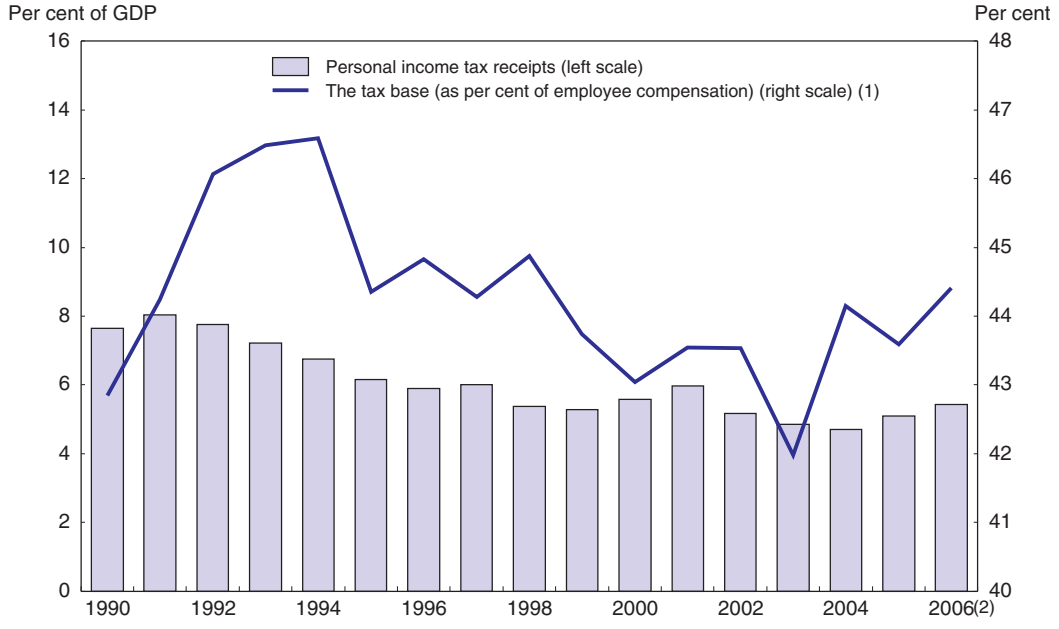
efficiency of the tax system, it is important to broaden tax bases, which have been eroded by the introduction of various exemptions during the past decades, as well as to raise the consumption tax rate. In addition, changes in the tax system should take into account the impact on income distribution, which has become less equal in recent years (see Chapter 4), as well as environmental concerns (see Box 3.6). In short, there is a need for a fundamental reform of the tax system.

Broadening the personal income tax base

The share of wage earnings that is taxable declined beginning in FY 1994, falling to only 42% in FY 2003 (Figure 3.10), a proportion that is well below other major economies.[18] The narrow tax base in Japan is due to large income-tax deductions for salaries and social insurance, including life insurance (Table 3.9). Some of the tax exemptions create serious distortions and make the tax code very complicated. A notable example is that dependent spouses tend to limit their working time in order to keep earnings below 1 million yen so that they can benefit from exemptions (see the 2005 *OECD Economic Survey of Japan*). However, the share of employee compensation subject to the personal income tax increased in FY 2004 due to the partial abolition of the special exemption for spouses.

Progress in reducing income tax deductions, however, has been hindered in part by concern about unfair treatment of salaried workers relative to the self-employed. Indeed, salaried workers complain that a relatively low proportion of the income of self-employed workers and farmers is taxed in practice. A number of studies have shown significant differences in tax compliance between different types of workers. According to a 2001 study, the proportion of taxable income (*i.e.* after deductions and allowances) subject to tax was 40% for farmers and 80% for other self-employed, compared to nearly 100% for salaried

Figure 3.10. **The personal income tax**



1. Share of taxable salaries after deducting various exemptions. Initial budget base.
2. OECD estimates for 2005 and 2006.

Source: OECD and Ministry of Finance.

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Table 3.9. **Income deductions as a share of total salaries**

Per cent[1]

Fiscal years	Salaries	Basic	Spouses	Special spouse	Dependent	Social insurance	Total
2003	28.8	7.7	2.3	1.8	5.5	11.9	58.0
2006	28.4	7.5	2.3	0.1	5.5	11.8	55.6

1. Deductions from the personal income tax, based on initial budget.
Source: Ministry of Finance.

workers (METI, 2001). However, another study suggests that that the gap between employees and the self-employed has narrowed since 1977, with the proportion rising from 39 to 81% for farmers and from 70 to 95% for other self-employed (Ohta *et al.*, 2003).[19] The introduction of a taxpayer identification number system in line with the practice in most other OECD countries would improve tax compliance.

Given the decline in the fertility rate to only 1.3, there has been a debate in Japan on whether to use the tax system to encourage childbearing. For example, there have been proposals to expand the income deduction for dependents or replace it by a tax credit based on the number of children. Although OECD research suggests that fertility rates are higher in countries with policies that reduce the direct costs of children, it is not entirely clear how effective specific policies have been in boosting fertility (d'Addio and d'Ercole, 2005). Moreover, some types of income support for childbearing may tend to reduce female labour force participation (Jaumotte, 2003). In the case of France, for example, it has been difficult to find the right balance between encouraging women to have children and, at the same time, not weakening their incentives to work (OECD, 2005a). Increasing the availability of childcare facilities and promoting the take-up of parental leaves, as well as creating more family-friendly workplaces, appears to encourage both childbearing and female participation in the labour force. Financing such outlays would require shifting the composition of social spending away from the elderly and in favour of children and family-related policies (see Chapter 4).[20]

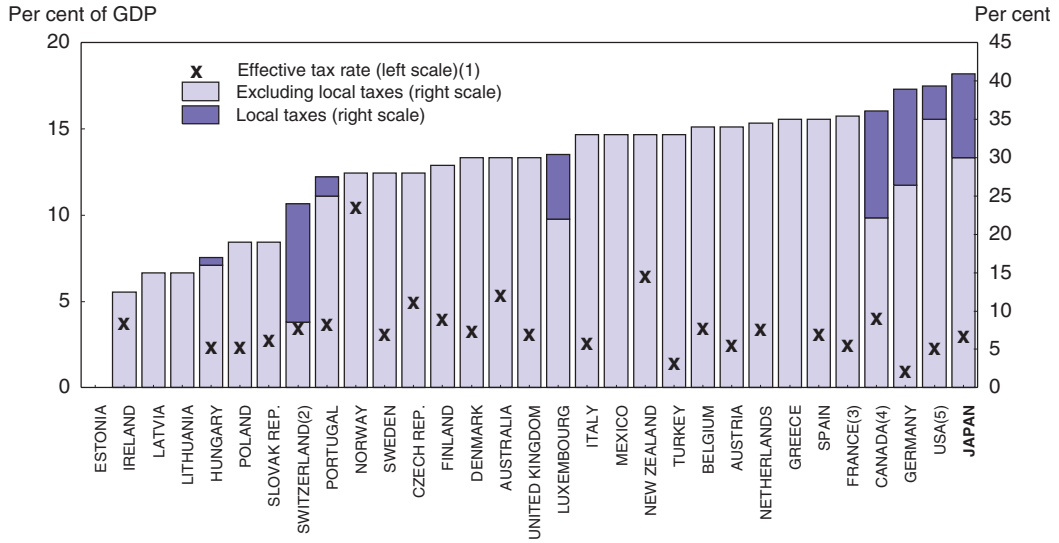
The structure of the personal income tax will be affected by the Trinity Reform to change the relationship between levels of governments from FY 2007.[21] Nevertheless, a more fundamental reform will be necessary in the near future. In light of the widening income disparity (see Chapter 4), greater reliance on personal income taxes through base broadening may have the advantage of being more neutral for income redistribution than a hike in the consumption tax rate, which would make the tax system less progressive.[22] An alternative approach to influencing income distribution is to make the inheritance tax more progressive, although its impact would be limited by the fact that it accounts for only 1.5% of total central and local government tax revenue. While tax reform could have a positive impact on income distribution, the priority in reversing the rising trend in inequality should be to reduce labour market dualism while restructuring the benefit system so that it is better targeted on those in need.

In addition to the narrow tax base, various tax credits and the fixed-rate income tax cut of 1999 have further reduced personal income tax revenue. As a result, the share of direct taxes on households fell from 7.6% of GDP in 1990 to 4.7% in 2004 (Figure 3.10), the fourth lowest in the OECD area and only about half of the OECD average of 10%. The phasing out of the fixed-rate cut in 2006-07 is expected to expand the revenue from personal income and local inhabitant taxes by 3.2 trillion yen (0.6% of GDP).

Consolidating corporate tax deductions

Despite having a very high statutory tax rate (Figure 3.11), corporate income tax revenue, at 2.9% of GDP in 2004, was below the OECD average of 3.3%, reflecting the narrow tax base. Indeed, the share of enterprises making losses according to the tax code – and thus not subject to corporate taxes (except for a part of local taxes) – has risen to nearly 70% in recent years. Even at the peak of the bubble economy, only half of companies paid taxes. Large companies with more than 100 million yen of own capital – 0.6% of all companies in terms of number – account for about two-thirds of corporate tax revenue. Reducing statutory tax rates would improve the attractiveness of Japan as a business location. At the same time, it is necessary to broaden the tax base and consolidate various tax expenditures to eliminate distortions. Despite the gradual decline in the number of tax expenditures, the amount of foregone revenue has been rising since the late 1990s, mainly due to special deductions aimed at stimulating investment in R&D and IT (Figure 3.12).[23] Such measures, however, need to be well targeted to limit deadweight costs.

Figure 3.11. **Statutory corporate income tax rates, 2004**



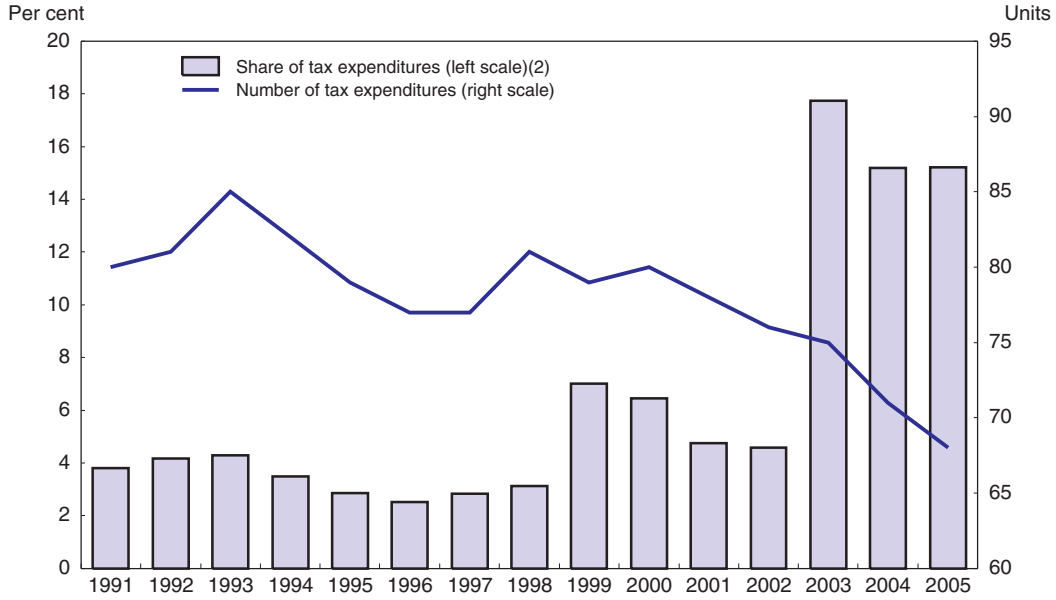
1. Corporate income tax revenue divided by GDP in 2004 or lastest year available. The local tax rate is the national average unless otherwise indicated.
2. Zurich.
3. Excluding local business tax but including the 3% surtax. The surtax will be eliminated in two steps in 2005 and 2006.
4. Ontario.
5. State of New York.

Source: OECD and German Ministry of Finance.

Raising consumption tax rates

Although broadening the tax bases of personal income and corporate taxes is important, relying on direct taxes, which have negative supply side effects, to provide all of the additional tax revenue needed to achieve the fiscal target may not be optimal. A hike in the consumption tax rate could also be used to raise revenue. The current rate of 5% is much lower than in most other OECD countries. Each 1 percentage increase in the tax rate would generate revenue equivalent to about 0.4% of GDP, while reducing output growth by about ¼ per cent, as noted earlier. The choice between a step-by-step increase in the

Figure 3.12. **Corporate tax expenditures**[1]



1. Includes tax credits, special depreciation, special reserves and special treatment of certain expenses.
2. In total corporate tax revenue.

Source: Ministry of Finance.

Box 3.6. **The Kyoto Protocol and the proposal for an Environmental Tax in Japan**

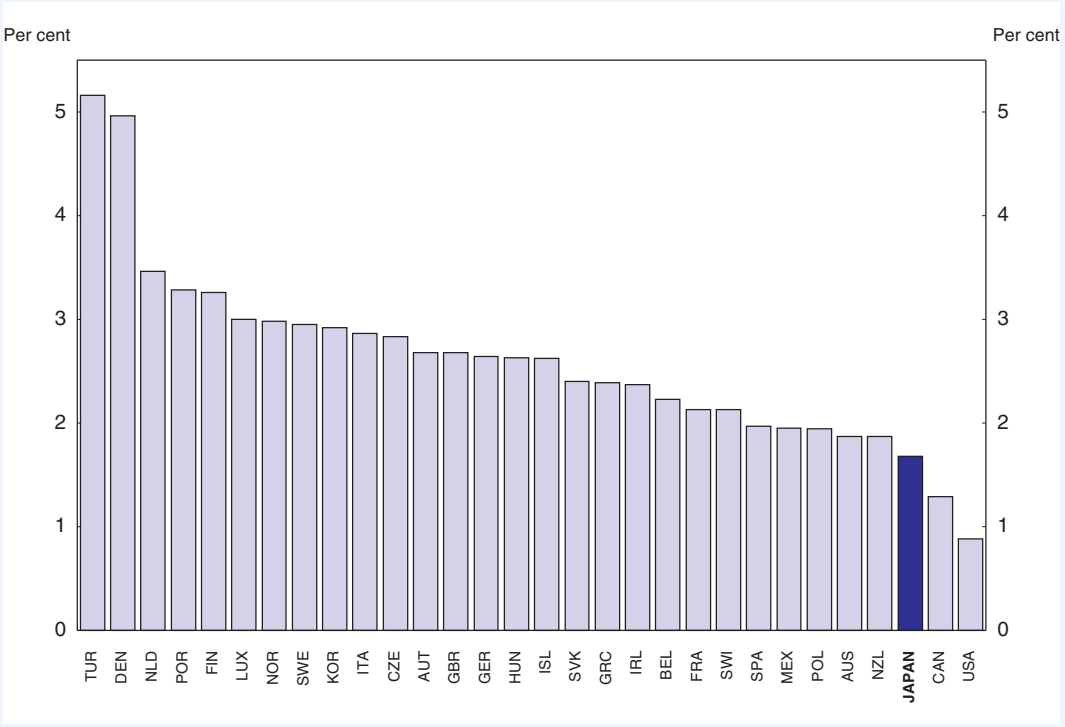
In ratifying the Kyoto Protocol on climate change in 2002, Japan committed to cutting its annual average greenhouse gas emissions during the period 2008 to 2012 by 6% from its 1990 level. However, emissions in FY 2004 were 8.0% above the 1990 level, making it difficult to achieve the targeted level. Even with some reduction assumed by the authorities during the next few years, Japan will need to cut emissions by 12%[1] from the baseline level to meet the 2008-12 objective. The Kyoto Protocol Target Achievement Plan decided by the Cabinet in 2005 aims at reducing greenhouse gases by: *i)* the development of energy-saving technologies, the reform of urban transportation systems and voluntary efforts by industries (6.5% in total); *ii)* greater absorption of emissions by forests through better conservation (3.9%); and *iii)* the utilisation of the Kyoto mechanism, in which environment-related technologies are transferred to developing countries in exchange for emission credits (1.6%).

The Ministry of the Environment argues that tax measures are needed to achieve the necessary energy savings and to finance related expenditures, such as for new technology development. In 2005, it proposed that an Environmental Tax be levied on factories, businesses and households. The proposed tax rate, at 2 400 yen per tonne of carbon emissions from all fossil fuels, is expected to generate total revenue of around 370 billion yen (270 billion yen from businesses and 100 billion yen from households).[2] The entire revenue would be used to finance expenditure and tax incentives to address global warming including conservation of forests, greater use of renewable energy and development of energy efficient technologies and facilities. The tax would also have the effect of reducing the amount of emissions, while its impact on the economy is very limited (an estimated 0.01% decline in GDP).

Box 3.6. **The Kyoto Protocol and the proposal for an Environmental Tax in Japan** *(cont.)*

Figure 3.13. **Revenue from environment-related taxes**

Per cent of GDP in 2003



Source: OECD, European Environment Agency database.

However, the plan was not included in the FY 2006 tax reform, in part because there are already a number of energy-related taxes. Nevertheless, the revenue from existing environment-related taxes as a share of GDP in Japan is the third lowest in the OECD area (Figure 3.13). Moreover, most of the energy-related taxes in Japan, which generated total revenue of more than 5 trillion yen (1% of GDP) in FY 2005,[3] are earmarked for road construction, which does not help achieve environmental objectives and economic efficiency. Therefore, the introduction of the Environmental Tax should be accompanied by a restructuring of the existing energy-related taxes to implement environmental policy in a more effective and efficient way.

1. Estimated in the "Kyoto Protocol Target Achievement Plan" (28 August 2005).
2. This tax rate is equivalent to 0.25 yen/kWh for electricity and 1.5 yen/litre for gasoline. Given that gasoline currently costs around 136 yen/litre (March 2006), it would raise the price by 1%. However, the Ministry of the Environment has proposed that gasoline, light oil and jet fuel be exempted initially. In addition, a 50% tax reduction will be applied to large consumers that have made certain efforts to reduce emissions.
3. The eight taxes (and their main uses) are: 1) Liquefied Petroleum Gas Tax (road construction); 2) Gasoline Tax (road construction); 3) Aviation Fuel Tax (airport construction); 4) Petroleum and Coal Tax (development of alternative energies, energy-saving technologies and promotion of renewable energy use); 5) Customs Duty on petroleum (redemption of coal-related borrowings); 6) Local Road Tax (road construction); 7) Promotion of Power Resources Development Tax (development of power stations); and 8) Light-oil Delivery Tax (a local tax for road construction).

consumption tax rate *versus* a one-step hike depends on the extent to which indirect taxes are used to achieve the necessary 5 percentage points of GDP improvement in the primary budget balance. If all or most of the fiscal consolidation were to be based on a rise in the consumption tax rate – which would require an increase from 5% to as high as 16%

(Table 3.4) – a one-step hike would clearly be inappropriate. Although it is often claimed that a step-by-step revision in the tax rate would impose extra costs for businesses, such as the reprogramming of cashiers, companies are in fact adjusting to unpredictable price changes on a continual basis. Costs associated with implementing rate hikes would be relatively easily absorbed, while spreading the impact over time and letting households prepare for future price increases. On the other hand, if fiscal consolidation were to be achieved through the preferred approach of spending cuts, base broadening of direct taxes and indirect taxes, the necessary rise in the consumption tax may be small enough to be implemented in one step, which would have a number of advantages.[24]

Policy options

Table 3.4 presents four scenarios, based on a variety of economic conditions, that stabilise the net debt to GDP ratio on a general government basis in 2011, the final year of the most recent *Reference Projection*. Maintaining 2011 as the endpoint has several advantages. *First*, the sooner that the net debt ratio is stabilised, the lower the accumulated level of net debt will be. *Second*, aiming at the early 2010s, rather than a less ambitious target of the mid-2010s, reduces the possibility of a rise in the risk premium.

The first scenario is based on the growth and interest rate levels shown for 2011 in the government's *Reference Projection,* while the second scenario is more optimistic, assuming that the nominal growth rate remains above the interest rate. Nominal growth is assumed to be 2.5% in the final two scenarios as well – the 1.5% potential real growth rate plus inflation of 1%, the midpoint of the Bank of Japan's Policy Board members' understanding of price stability. However, in the third scenario, the nominal long-term interest rate is set at the 3% average of the past 15 years, while in the fourth scenario, it is equal to the average real long-term interest rate since 1990, resulting in a 4% rate in nominal terms. The size of the primary budget surplus necessary to stabilise public debt is larger the greater the interest rate is relative to the nominal growth rate. Tax revenue changes are shown only in terms of the necessary increase in the consumption tax rate, while it is clear that broadening the direct tax base would also likely raise revenue.

Both expenditure and revenue measures are likely to be necessary to stabilise the public debt ratio as relying on only one would necessitate spending cuts or tax increases that are implausibly large. Achieving the primary budget balance objective through spending cuts alone would require that discretionary outlays be reduced by between 15 and 29% (fourth column of Table 3.4). Such a policy would lower discretionary expenditures from 18% of GDP in 2005 to only 11 to 13%. On the other hand, if discretionary spending were kept constant as a share of GDP, the consumption tax rate would have to be increased from 5% at present to between 16 and 21%. A more balanced policy, such as keeping discretionary spending constant in real terms would limit the tax rate to between 12 and 17%.

Conclusion

A comprehensive approach is needed to address the fiscal situation based on a credible and detailed medium-term consolidation plan that includes both expenditure and revenue measures. The recommendations made in this chapter are summarised in Box 3.7.

Box 3.7. **Summary of recommendations for medium-term fiscal consolidation**

Improve the medium-term framework for fiscal consolidation

- Establish a detailed medium-term plan that includes spending and revenue targets that are more binding.
- Aim at achieving a primary balance surplus large enough to stabilise, and eventually reduce, the debt to GDP ratio by the early 2010s, based on prudent economic assumptions.
- Ensure the sustainability of the social security fund. The *Reform and Perspectives*' target for central and local governments should not be achieved through a deterioration in the social security account.

Policies to contain spending

- Further reduce public investment, while changing the criteria for its allocation to emphasise efficiency, relying as much as possible on independent and *ex ante* evaluation.
- Develop a comprehensive plan to close inefficient public infrastructure to avoid a significant rise in renewal and maintenance costs that would crowd out new growth-enhancing public investment.
- Focus on achieving budgetary savings by raising public-sector efficiency, in part by reforming the employment system, rather than on across the board cuts in employment.
- Expand the plan to cut the wage bill for the central government to include the entire public sector.
- Promote the effective use of market testing to transfer some government tasks to the private sector.
- Introduce more market mechanisms into healthcare and nursing care in order to limit spending increases.
- Focus any additional measures to ensure the sustainability of the public pension system on raising the pension eligibility age.

Policies to increase revenues

- Broaden the personal income tax base in order to eliminate distortions.
- Introduce a taxpayer identification number system to improve compliance with the tax system.
- Consolidate corporate tax credits to broaden the tax base, ensuring that remaining tax credits are well targeted.
- Pursue the plan to sell government assets with an aim of increasing efficiency, while using the receipts to reduce gross government debt.

Notes

1. The 2005 *OECD Economic Survey of Japan* (Table 3.7) compared the experience of OECD countries that had achieved a major improvement – at least 3.5% of GDP – in their cyclically-adjusted primary budget balance. The improvement in the balance was evenly divided between cuts in spending (3% of GDP) and increases in revenues (3.5% of GDP). Every one of the 13 countries increased revenues.
2. The decline in current receipts as a share of GDP during 2002-04 was reversed in 2005 by two measures. *First*, the annual hike in the pension contribution rate that started in late 2004 is boosting social security receipts as a share of GDP by 0.1 percentage point each year. *Second*, personal income tax deductions for spouses and pensions were scaled back.

3. While net debt may provide a better indicator of the economic burden, there are several factors that make gross debt a more appropriate indicator. *First*, government assets are largely held by the social security system and are thus earmarked for future obligations. *Second*, the quality of some government assets, such as credits to Fiscal Investment and Loan Programme institutions, is doubtful. Only about a third of government assets are in the form of liquid instruments, such as bonds or cash. *Third*, both net and gross measures of debt exclude contingent liabilities, such as loan guarantees for quasi-government institutions, and may thus understate the government's eventual obligations. Gross debt, which is higher as it excludes government assets, may thus provide a more realistic picture of the government's obligations.

4. In addition, the termination of temporary R&D and investment incentives will boost corporate tax revenue by 0.6 trillion yen, although this will be partially offset by the introduction of a new ICT-related tax credit (see Chapter 5).

5. This would be the case if the real growth rate equalled the 1.5% potential rate and inflation rose to 1%, the mid-point of the Bank of Japan's understanding of price stability over the medium term.

6. In the *Reference Projection*, the primary budget deficit of the central and local government is reported to be around 3% of GDP in FY 2006 (Table 3.3). Achieving a balance in 2011 thus requires deficit reduction of about 0.6% a year. The OECD's estimate of the primary budget deficit of the general government – at 3.9% of GDP in CY 2006 – includes the primary deficit of the social security fund, which amounted to 1.4% of GDP in FY 2003 and 1.5% in FY 2004, excluding the impact of Daiko Henjo.

7. Nomura Securities (2005) estimated that a 5 percentage-point hike in the consumption tax rate would slow GDP growth by 1.3 percentage points in the first year, implying a ¼ percentage-point slowdown in growth for each 1 percentage-point hike in the consumption tax rate.

8. Increasing the transparency of budget procedures also has a positive impact on fiscal discipline (OECD, 2002). In this regard, it is commendable that the Council on Economic and Fiscal Policy (CEFP), which is the key player in policy discussions, has enhanced the transparency of the policymaking process, mainly by publishing the minutes of its meetings on its website in a timely manner. The CEFP is chaired by the prime minister and consists of five key economic ministers, the governor of the Bank of Japan and four private-sector experts. It has held more than 30 meetings every year since its establishment in 2001.

9. There are no binding fiscal rules in Japan. The Public Finance Law stipulates that central government borrowing should be limited to investment purposes only. However, this rule has not been kept since 1965 when the government started to issue "Exceptional Bonds" to finance current expenditure deficits (except for the period 1991-93). The Fiscal Reconstruction Law, which was introduced in 1997 with numerical targets to be achieved at certain dates, was suspended in 1998 following the economic downturn. As a result, the *Reform and Perspectives* is effectively the only constraint on fiscal policy.

10. The recent trend is to move away from simple rules to ones that are "smart" and more complex in two dimensions. *First*, there is more emphasis on cyclically-adjusted deficit targets. For example, the EU's Stability and Growth Pact requires that the budget deficit be less than 3% and that the cyclically-adjusted deficit be in balance or in surplus. *Second*, rules should not apply uniformly to all spending items. In particular, investment is often treated differently (Fatas, 2005), which, however, raises the temptation to circumvent rules by reclassifying a greater share of spending as investment. For a comparison of various rules, including the so-called Prudent Fiscal Policy Rule, see Carlin and Soskice (2005).

11. Social security benefits paid by the government in Japan were 11.3% of GDP in 2004 as compared to the OECD average of 13.6% for 26 countries.

12. At present, the pension eligibility age for receiving the flat-rate portion for men and women is 62 and 60, respectively. It is to be raised to 65 years in 2013 for men and in 2018 for women.

13. Public investment on a general government basis, *i.e.*, excluding fixed investment by government enterprises, was 3.9% of GDP in 2004, the sixth highest among OECD countries.

14. Nomura Research Institute (2003) estimates that the total amount of maintenance investment (including that for schools and housing) will rise from around 2 trillion yen in 2005 to over 10 trillion yen in 2030 and to 20 trillion yen in 2050.

15. This objective was included in the Law on Administrative Reform Promotion that was enacted in 2006. Its main components are: *i)* scaling down public financial institutions; *ii)* reforming independent administrative agencies; *iii)* reforming the special accounts; *iv)* cutting the total

compensation of public-sector workers, including a 5% reduction in the number of central government employees on a net basis over five years; and *v)* sales of government assets.

16. Maintaining public support for fiscal consolidation is crucial for its success. A government embarking on a consolidation programme may more effectively signal its commitment by concentrating budget cuts on government consumption (Carlin and Soskice, 2005). This approach may have a strong positive effect on the expectations of the private sector.

17. The Administrative Reform Promotion Law specified priority areas for restructuring in the public sector, such as agricultural statistics, food control and the development of Hokkaido.

18. For a single person earning the average production worker's wage, the share of wage earning subject to central government tax ranged from 91.3% in Germany, 77% in both the United States and the United Kingdom, 74% in Italy, 59% in France and 46.5% in Japan (OECD, *Taxing Wages*, 2006c).

19. The estimates by Ohta *et. al*. for 1977 are consistent with Ishi (1981), who estimated the proportion of income captured by the tax net as 88~100% for salaried workers, 56~73% for self-employed workers and 20~34% for farmers.

20. According to the National Institute of Population and Social Security Research (2005), about 70% of social security outlays is spent on programmes for elderly people, while less than 4% is spent on children and family-related policies.

21. The Trinity Reform is analysed in the 2005 *OECD Economic Survey of Japan*. From FY 2007, the number of personal income tax brackets will be increased from four to six, with the top rate rising from 37 to 40%. The three rates in the local personal inhabitant tax will be merged into one, thus boosting local tax revenue by about 3 trillion yen.

22. In the early 1990s, the tax system reduced the Gini coefficient for market income in Japan by about 3% (see Chapter 4). However, by 2002, its impact had fallen to less than 1%.

23. The R&D tax credit (0.7 trillion yen) and IT investment tax credit (0.5 trillion yen) introduced in 2001 (see Chapter 5) amounted to 67% of all tax expenditures in FY 2005. The average size of the remaining 66 measures, which mainly target SMEs, energy and regional development, was only 8.8 billion yen. A large proportion of these measures were introduced more than 20 years ago. There are similar provisions in the local inhabitant tax on corporations and the local enterprise tax. The share of tax expenditure in these taxes amounted to 6.2% in FY 2005. In addition, there are a large variety of tax exemptions for specific companies and areas which have been introduced by local governments without the approval or knowledge of the central government.

24. *First*, a step-by-step approach gives opponents time to organise to stop future increases. *Second*, it can encourage aggressive tax avoidance by drawing up contracts that create tax liabilities prior to the introduction of the higher rate.

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ANNEX 3.A1

The integrated expenditure and revenue reform

Following a year-long discussion by the Council on Economic and Fiscal Policy and the ruling parties, the government published on 7 July the *Integrated Expenditure and Revenue Reform* as part of the *Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2006*. This medium-term fiscal consolidation reform plan contains a number of improvements compared to the existing *Reform and Perspectives* (see Chapter 3). *First*, the target year for achieving a primary balance surplus has been set at FY 2011 instead of the "early 2010s". *Second*, the amount of budget consolidation necessary to achieve this target, as well as a target level of spending cuts by category, has been specified. *Third*, the new plan includes a longer-term target of a primary budget surplus large enough to reduce the debt to GDP ratio by the mid-2010s. The government has stated that in the near future it will announce new basic principles on economic and fiscal policy management in the medium-term that synthesise the *Integrated Expenditure and Revenue Reform* and the *New Economic Growth Strategy*.

A. Basic ideas of the reform

- ***Ensure accountability towards the public.*** Avoid passing an excessive burden onto future generations. Present the overall picture of expenditure and revenue reform in the medium to long term in a manner that is comprehensive and understandable for the public.
- ***Maintain and strengthen the fiscal consolidation efforts made by the Koizumi cabinet.***
- ***Achieve an appropriate balance between sustained economic growth and the pace of fiscal consolidation.***
- ***Allow flexibility with respect to the macroeconomic situation***. Limit the pace of fiscal consolidation when the economy decelerates significantly and maintain fiscal discipline when there is extra tax revenue.
- ***Base the consolidation programme on prudent economic assumptions.*** In order to gain credibility, the fiscal framework should be based on realistic assumptions, such as a nominal GDP growth rate of around 3%.

B. Time framework and targets

Phase I (FY 2001 to FY 2006) – Fiscal consolidation by the Koizumi government.

***Phase II (FY 2007 to early 2010s)* –** Achieve a primary balance surplus as a first step for fiscal consolidation.

- Continue fiscal consolidation at a pace similar to that during Phase I in order to achieve a primary budget surplus of the combined central and local governments by FY 2011.
- Reduce the central government primary budget deficit to as close to zero as possible. Consolidation efforts by the central and local governments should be balanced.

***Phase III (early 2010s to mid 2010s)* –** Stop the ballooning of the debt to GDP ratio and eventually reduce it in order to achieve a sustainable fiscal situation.

- Achieve a primary budget surplus that stops the rise of the debt to GDP ratio of the central and local governments, and reduce it steadily. Aim at stopping the increase in the central government debt to GDP ratio and reducing it steadily.

C. Seven principles of the reform

1. Minimise the additional burden on the public by streamlining the size of the government.
2. Enhance Japan's economic growth potential, thereby promoting fiscal consolidation and raising living standards.
3. Cut spending in every expenditure category while avoiding uniform, across-the-board cuts.
4. Balance consolidation between the central and local governments.
5. Establish an efficient and sustainable social security system that does not pass the burden onto future generations.
6. Reduce the size of the government's balance sheet through a drastic reduction of its assets.
7. Avoid an expansion of the public sector when the tax burden on the public is increased.

D. Towards achieving the Phase II targets

- The total size of budget consolidation necessary to achieve a primary budget surplus in FY 2011 for the combined central and local government is estimated at around 16.5 trillion yen.
- Spending cuts of 11.4 to 14.3 trillion yen will be implemented (compared to the base case of no additional reform). The specific expenditure reform plan in the five years through FY 2011 (Table 3.A1.1) will be reviewed every year, taking economic and social conditions into account.

Table 3.A1.1. **Expenditure reform over five years**

Trillion yen[1]	FY 2006	FY 2011 (without additional reform)	FY 2011 (with additional reform)	Size of spending cuts
Social security	31.1	39.9	38.3	–1.6
Personnel expenses	30.1	35.0	32.4	–2.6
Public investment	18.8	21.7	16.1 to 17.8	–3.9 to –5.6
Others[2]	27.3	31.6	27.1 to 28.3	–3.3 to –4.5
Total	107.3	128.2	113.9 to 116.8	–11.4 to –14.3

Note: The necessary size of budget consolidation: around 16.5 trillion yen.
1. Central and local governments combined. SNA basis.
2. Including science and technology and overseas development aid.

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E. Revenue reform

- Tax reform will play a major role in filling the gap between spending cuts and the total amount of fiscal consolidation necessary to achieve the budget target in FY 2011.
- Future tax reforms will be aimed not only at meeting the FY 2011 target, but also at addressing major challenges in the medium to long term, including: *i)* securing stable resources for social security spending which is expected to increase substantially, in particular in connection with a scheduled hike of the state subsidy rate for the basic pension from one-third to one-half by FY 2009; *ii)* strengthening international competitiveness of the economy under globalisation; *iii)* addressing the issue of the low birth rate by expanding child rearing support policies; and *iv)* increasing local tax resources to promote decentralisation.
- To ensure a stable revenue source for social security benefits, the government will consider whether to clearly designate the consumption tax as a revenue source, taking into account the link between the benefit recipients and the revenue source.
- The government will devote itself to fundamental tax reform in line with the ideas incorporated in the "Outline of tax reform of the ruling parties", which states that such fundamental reform, including the consumption tax, should be realised around FY 2007.

F. Integrated expenditure and revenue reform in Phase III

- As the budget deficit will remain 3 to 4% of GDP even after having achieved a primary budget surplus, the fiscal situation will remain vulnerable to interest rate fluctuations. It is therefore essential to end the explosive trend in the debt to GDP ratio at an early stage.
- Improving the efficiency and achieving the sustainability of the social security system is a major challenge.
- Policy options in the medium to long term are based on combinations of expenditure and revenue reform to achieve a certain level of primary budget surplus for both the central and local governments. It would be appropriate to start the discussion with a focus on the government expenditure to GDP ratio, while ensuring a stable revenue resource for social security.

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Chapter 4

Income inequality, poverty and social spending

Income inequality and relative poverty among the working-age population in Japan have risen to levels above the OECD average. This trend is partially explained by labour market dualism – the increasing proportion of non-regular workers, who are paid significantly less than regular workers – as well as by other factors, including the ageing of the workforce. Social spending as a share of GDP has been expanding in the context of population ageing, although it remains below the OECD average and the proportion received by low-income households is small. Consequently, the impact of social spending on inequality and poverty is weak compared to other OECD countries and inadequate to offset the deterioration in market income. The scope for increasing social spending is constrained by the fiscal situation. Instead, reversing the upward trend in inequality and poverty requires reforms to reduce labour market dualism and better target social spending on low-income households, particularly single parents.

A relatively equal income distribution has been a hallmark of postwar economic development in Japan. Around three-quarters of the population identify themselves as middle class.[1] Lifetime employment and seniority-based wages, in which age and job tenure largely determine employee compensation, enhanced equality. A traditional support system based on families and firms has partially fulfilled the role played by the state in many other OECD countries. This approach has limited the growth of government spending and kept the tax burden at a moderate level.

However, there are a number of negative trends in income distribution and poverty:

- According to the *Survey on the Redistribution of Income* by the Ministry of Health, Labour and Welfare (MHLW), the Gini coefficient for disposable income increased by 11% between the mid-1980s and 2000. The OECD's comparative analysis of member countries found a similar trend for Japan. This report, which is based on the MHLW's *Comprehensive Survey on Living Conditions*,[2] shows a 13% rise between the mid-1980s and 2000, compared to an OECD average of 7%.[3] Consequently, the level of income inequality in Japan was slightly above the OECD average in 2000 (see Table 4.3 below).[4]
- The relatively large share of elderly in Japan and rapid population ageing partially explain the high and rising level of inequality. However, the Gini coefficient for the 18 to 65 age group shows the same trend as the coefficient for the entire population (see Table 4.3 below).
- Changes affecting those at the lower end of the income distribution are of particular concern. While the top income quintile's share of disposable income increased between 1985 and 2000, the share of the bottom quintile declined. Consequently, the ratio between the top and bottom quintiles rose from 4.4 in the mid-1980s to 5.6 in 2000, well above the OECD average of 4.5.[5]
- The proportion of the population living in absolute poverty[6] increased by 5 percentage points between the mid-1980s and 2000 in Japan, the only OECD country to record an increase.
- The proportion of the population in relative poverty, defined as less than one-half of the median household disposable income, surpassed 15% in 2000 in Japan, the fifth highest in the OECD area and well above the average of 10% (Figure 1.5). Relative poverty is also high among the working-age population (see Table 4.9 below).
- The average income of those in relative poverty is low compared to other OECD countries. Consequently, as noted in Chapter 1, the amount of income transfers needed to raise all those in poverty up to the 50% threshold in Japan – the poverty gap – is the third largest in the OECD area.

In contrast to income distribution, the distribution of wealth has become more equal since the early 1990s following the collapse of the asset price bubble.[7] However, international comparisons of the distribution of wealth are problematic due to data issues. Finally, it should be noted that the international comparisons calculated by the OECD end in the year 2000.[8] The trends in inequality and poverty discussed in this chapter, therefore,

should not be attributed to the policies of the current government, which took office in 2001, but instead reflect more long-run developments.

Rising income inequality and relative poverty may be a concern to policymakers when they exacerbate the social exclusion of poorer persons, with negative consequences for the well being of those individuals as well as for society as a whole.[9] Moreover, it may increase demands for hikes in public expenditure to counter rising poverty, resulting in tax increases that have negative implications for growth. This chapter begins by examining the factors responsible for the increasing inequality in market income in Japan, followed by an overview of the impact of social spending on income distribution. The third section discusses the issue of relative poverty. The chapter concludes with recommendations to counter the upward trend in income inequality and poverty.

Factors responsible for the rising level of inequality in market income in Japan

Between the mid-1980s and 2000, the distribution of market income became significantly less even in Japan. The Gini coefficient of market income inequality for the total population rose by 9.4 percentage points over that period, a large increase compared to the OECD average of 4.3 points (Table 4.1).[10] The deceleration of economic growth following the collapse of the bubble and the resulting rise in the unemployment rate may have played a role.[11] However, the trend toward greater market income inequality was already evident in the second half of the 1980s, a period of rapid growth.[12]

Population ageing has contributed to higher inequality in market income through three channels. *First*, the elderly have less income than the working-age population. The increase in the share of elderly from 10% of the Japanese population in the mid-1980s to 17% in 2000 raised the level of inequality because of larger between-group income differences. *Second*, the level of inequality of market income among those over age 65 is higher than for the 18 to 65 age group, reflecting the fact that a smaller portion of the over 65 age group is in the labour force. Indeed, the Gini coefficient for the over 65 age group in Japan in the mid-1980s

Table 4.1. **Trends in the distribution of market income in OECD countries**

Gini coefficient (multiplied by 100)[1]

	Level of the Gini coefficient			Percentage-point change in the level		
	Mid-1980s	Mid-1990s	Around 2000	Mid-1980s to mid-1990s	Mid-1990s to 2000	Mid-1980s to 2000
A. Japan						
Total population	31.7	36.9	41.0	5.3	4.1	9.4
Working-age population[2]	30.9	33.8	36.2	2.9	2.3	5.2
Elderly population	47.3	57.5	62.9	10.2	5.4	15.6
B. OECD average[3]						
Total population	40.1	44.2	44.3	4.1	0.2	4.3
Working-age population[2]	35.4	39.2	39.3	3.8	0.1	3.9
Elderly population	63.9	65.5	65.1	1.6	–0.4	1.2

1. The Gini coefficient is defined as the area between the Lorenz curve (which plots cumulative shares of the population, from poorest to richest, against the cumulative share of income that they receive) and the 45-degree line, taken as a ratio of the whole triangle. The values, which range from 0 in the case of perfect equality and 1 in the case of perfect inequality, are multiplied by 100 to give a range of 0 to 100 for the Gini coefficient.
2. The 18 to 65 age group.
3. For the following 14 countries: Australia, Canada, Denmark, Finland, France, Germany (old Länder only), Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, United Kingdom and the United States.

Source: Förster and Mira d'Ercole (2005).

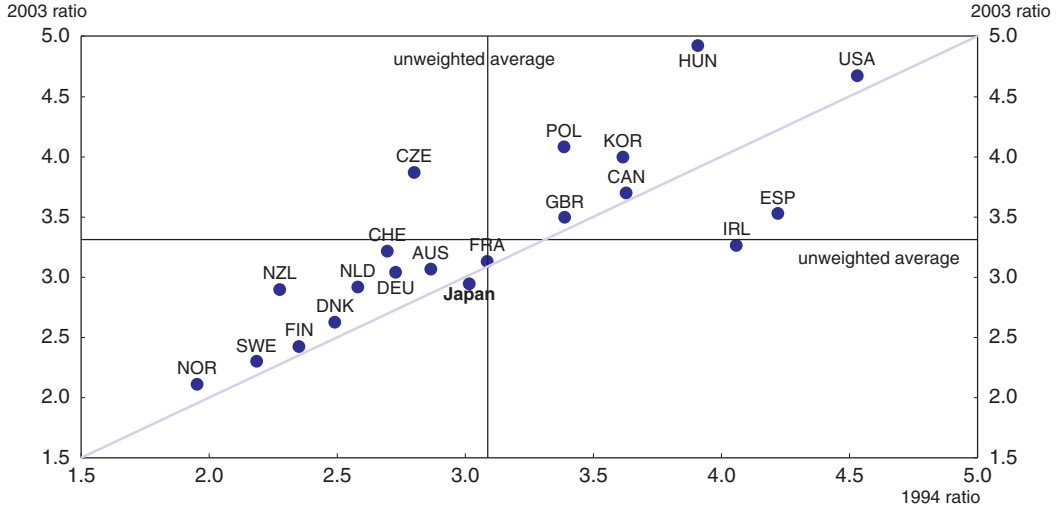
was 47.3 compared to 30.9 for the working-age population (Table 4.1). The rising share of elderly in the population thus boosted the level of inequality of market income for the total population. *Third*, the degree of market income inequality among the elderly in Japan has risen sharply, as shown by the 15.6 percentage-point increase in the Gini coefficient for the over 65 age group since the mid-1980s, moving it toward the OECD average. The rising trend is partly explained by changes in living arrangements: the proportion of the elderly living alone or with a spouse rose from 32% in 1985 to 47% in 2000, increasing the number of households with older persons reporting low incomes.

To the extent that higher market income inequality reflects population ageing, the observed increase may be less of a concern as it does not necessarily imply higher inequality in disposable income or greater relative poverty, given the importance of pension benefits (see below). Moreover, the elderly have generally accumulated significant wealth, in part to finance their retirement.[13] Data on poverty and disposable income do not take account of dis-saving by older persons. Given the fact that income distribution and poverty statistics for the elderly are affected by changes in living arrangements and dis-saving, this chapter focuses primarily on the working-age population, which also experienced a significant rise in inequality. Indeed, the Gini coefficient of market income for the 18 to 65 age group rose by 5.2 percentage points between the mid-1980s and 2000, bringing it closer to the OECD average (Table 4.1). In particular, there was a marked difference between trends in Japan and those in most other OECD countries during the latter half of the 1990s. While the average OECD Gini coefficient was almost unchanged, the coefficient for Japan increased by 2.3 percentage points, the third largest increase in the OECD area.

The relatively large increase in market income inequality among the working-age population during the latter half of the 1990s is somewhat surprising given the significant decline in capital income, which is marked by the highest degree of inequality among income components.[14] This suggests that rising inequality of labour earnings, which account for about 80% of households' market income, was the key factor. Indeed, the earnings of those in the bottom income quartile have fallen as a share of total earnings since the mid-1980s (Förster and Mira d'Ercole).[15] However, growing market income inequality cannot be explained by the variation in wages paid to full-time workers, as Japan was one of only three OECD countries to record a decline in wage inequality between 1994 and 2003 (Figure 4.1). This finding is supported by the fact that the Gini coefficient of earnings of regular workers, who are primarily full-time workers, has remained fairly constant since 1987. In addition, the ratio of wages of full-time workers in the 90th and 10th percentiles in Japan in 2003 was below the OECD average, perhaps reflecting the impact of the seniority-based wage system, which limits differences between employees of similar ages and tenure. Moreover, the wage gap between blue and white-collar employees is small and the wage premium for higher education is low.[16] The increasing share of the labour force above the age of 50 is another factor raising inequality, given the fact that the distribution of wages is more unequal for older workers.[17]

Instead, the growing proportion of non-regular workers is a key explanation of increased inequality in market income in Japan. Non-regular workers include part-time and dispatched workers (employed by temporary worker agencies) and temporary and short-term contract employees.[18] On an hourly basis, part-time workers – who account for about two-thirds of non-regular workers – were paid only 40% as much as full-time workers in 2003.[19] Consequently, the increase in the share of non-regular workers from 19% of employees in 1994 to 29% in 2004 (Figure 4.2) has significantly raised the overall level of inequality in Japan.[20]

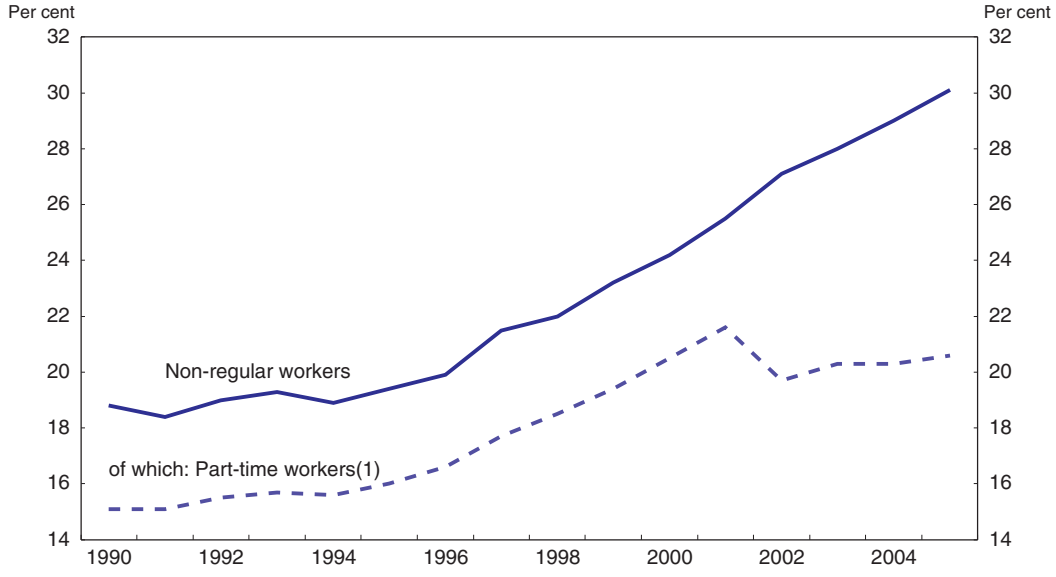
Figure 4.1. **Gross earnings inequality across OECD countries**[1]
1994-2003[2]



1. As measured by the ratio of the 90th to 10th percentile of the earnings of full-time workers. Countries located below the 45-degree line experienced a decline in gross earnings inequality between 1994 and 2003.
2. 1994-1999 for the Netherlands, 1994-2000 for Hungary and Ireland, 1994-2002 for France, Germany, Korea and Poland, 1995-2002 for Spain, 1996-2003 for Czech Republic and Denmark, 1997-2002 for Norway and 1997-2003 for Canada.

Source: *OECD Employment Outlook* (2004).

Figure 4.2. **The share of non-regular workers is rising**
As percentage of total employed persons



1. The significant fall in the number of part-time workers in 2002 and the rise in the other categories is thought to be due to a change in the questionnaire.

Source: Ministry of Internal Affairs and Communications.

Another study found that the wage differential between regular and non-regular workers has risen since the early 1990s (Higuchi and the Policy Research Institute, MOF, 2003). Moreover, the level of inequality among non-regular workers is relatively high – with a Gini coefficient of 48 in 2002 compared to 28 for regular workers – and has been increasing. Part-time workers

earn on average only 40% as much per hour as full-time workers, a gap which appears too large to be explained by productivity differences. In addition to the equity implications of greater labour market dualism, non-regular workers receive less on-the-job training, thus limiting their human capital and Japan's growth potential.

Non-regular workers are a diverse group that includes young people on temporary contracts, married women working part-time and older persons who are re-hired by their former companies on fixed-term contracts. Non-regular employment provides opportunities for people to work in flexible and diverse ways that match their lifestyle. Their average age is three to four years older than regular workers, although a quarter of employees in the 20 to 24 age group are non-regular workers (Table 4.2). There are twice as many females employed as non-regular workers as males. Consequently, less than half of women employees are classified as regular workers. Non-regular workers also tend to be less

Table 4.2. **Comparison of major characteristics of regular and non-regular workers**[1]

In per cent unless indicated otherwise

A. Age	Average-male (years)	Average-female (years)	Percentage under age 30[2]
Regular workers	39.6	37.0	23.0
Non-regular workers	43.2	41.0	25.1
B. Gender	Male	Female	Females by employee status
Regular workers	47.3	18.2	44.4
Non-regular workers	11.8	22.7	55.6
C. Education[3]	Lower secondary	Upper secondary	University
Regular workers	2.4	42.2	31.4
Non-regular workers	7.2	55.8	12.1
D. Occupation	Clerical workers	Service workers	Professional/technical workers
Regular workers	44.7	6.2	13.4
Non-regular workers	25.5	24.0	13.2
E. Sector[4]	Manufacturing	Services	Construction
Regular workers	76.7	58.7	85.6
Non-regular workers	23.3	41.3	14.4
F. By size of company[4] (number of employees)	More than 1 000	30 to 999	5 to 29
Regular workers	81.0	66.6	62.1
Non-regular workers	19.0	33.4	37.9
G. Wage payment system	By hour	By day	By month or year
Regular workers	2.3	4.9	89.7
Non-regular workers	66.4	8.7	21.3
H. Working time	Average hours per week	Percentage below 35 hours	Average days per week
Regular workers	40.4	0.6	5.3
Non-regular workers	30.3	53.0	4.8
I. Coverage by social insurance	Employees' Pension Scheme	Health insurance	Employment insurance
Regular workers	99.3	99.6	99.4
Non-regular workers	47.1	49.1	63.0
J. Tenure	Less than 1 year	1 to 10 years	More than 10 years
Regular workers	3.9	45.8	49.4
Non-regular workers	21.5	65.5	13.0
K. Main source of income	Own	Spouse	Other family
Regular workers	77.9	15.0	5.9
Non-regular workers	43.3	43.8	10.8

1. Non-regular workers include part-time workers, temporary workers, dispatched workers, workers on loan from other companies, and contract workers.
2. For non-regular workers, 31.4% were over age 50 compared to 18.5% of regular workers.
3. Highest level of education attained.
4. Figures show the percentage of regular and non-regular employees by sector and size of company.

Source: Ministry of Health, Labour and Welfare, "General Survey on Diversified Types of Employment, 2003".

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educated, as only 12% have a university degree compared to 31% for regular workers, and are most prevalent in the service sector. Likewise, they are concentrated in smaller firms, where they are generally paid on an hourly or daily basis. Finally, non-regular employees work 30 hours a week on average compared to 40 hours for regular workers, although nearly half work more than 35 hours a week and are thus classified as full-time workers.

The lower wages paid to non-regular workers makes them attractive to firms, particularly since the economic malaise that began in the early 1990s. In addition, many are not included in enterprise-based social insurance schemes. Indeed, only about one-half of non-regular workers are covered by the Employees' Pension Scheme and health insurance and about two-thirds by employment insurance (Table 4.2, Panel I). The number not covered includes those who evade participation in these insurance systems even though they are legally obliged to join. This results in an additional 13% saving in non-wage costs for firms.[21] In a government survey that asked management why they hire non-regular workers, around half of firms cited reducing wage costs while nearly a quarter mentioned cutting non-wage costs (see the 2005 *OECD Economic Survey of Japan*).

Another important motivation for hiring non-regular workers is to enhance employment flexibility. In the survey cited above, more than a quarter of firms employing non-regular workers did so in order to cope with daily or weekly fluctuations in demand and to be able to adjust the number of employees to changes in the business cycle. Not surprisingly, 22% of non-regular workers have less than one year of tenure and only 13% have more than ten years (Table 4.2, Panel J). In contrast, one-half of regular workers have been at their current firm for at least a decade. The flexibility afforded by using non-regular workers is needed to compensate for the high level of employment protection provided to regular workers. Indeed, Japan is ranked tenth out of 28 OECD countries in terms of the strictness of employment protection for regular workers, including voluntary practices by enterprises (OECD, 2004).[22] As for restrictions on dismissal, judicial precedent was incorporated in the labour law in 2003. 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 therefore invalid. In addition, court cases have set four conditions that a firm must meet in the case of collective dismissals. *First*, it must show the economic necessity of reducing its workforce. *Second*, it must prove that there are no alternative measures that could achieve the necessary reduction. *Third*, it must demonstrate that the process of selecting employees for dismissal is reasonable and objective. *Fourth*, it must discuss the dismissals with the workers' union. Given these conditions, enterprises do not know beforehand if their efforts to rationalise their workforce will be accepted by the courts.[23] Current efforts to incorporate judicial precedents into the law will help increase transparency.

The number of regular workers increased in 2005 for the first time in a decade. However, the job-offer ratio for full-time jobs was 0.65 in December 2005 compared to 1.45 for part-time jobs, indicating a continued preference for non-regular workers. There is thus a risk that the proportion of non-regular workers may ratchet up during the next economic downturn. Moreover, there are obstacles hindering the transition from non-regular to regular-worker status. Not surprisingly, 76% of the men and 69% of the women who are non-regular workers hope to become regular workers, according to a 2003 survey by the government. However, another government survey reported that only 23% of part-time workers who changed jobs in 2005 were hired as regular workers, compared to 31% in 1990.

The impact of tax and social spending policies on income inequality

As in other OECD countries, government policies in Japan play a significant role in reducing disparities in the distribution of market income. Consequently, measures of inequality are significantly smaller for disposable income, with a Gini coefficient of 31.4 in 2000 for the entire population (Table 4.3), compared to 41.0 for market income

Table 4.3. **Trends in the distribution of disposable income in OECD countries**

Gini coefficient (multiplied by 100)

	Level of the Gini coefficient			Percentage-point change in the level		
	Mid-1980s	Mid-1990s	2000	Mid-1980s to mid-1990s	Mid-1990s to 2000	Mid-1980s to 2000
A. Total population						
Australia	31.2	30.5	30.5	–0.7	0.0	–0.7
Austria	23.6	23.8	25.2	0.2	1.4	1.6
Canada	29.0	28.3	30.1	–0.7	1.8	1.1
Czech Republic	23.2	25.8	26.0	2.6	0.2	2.8
Denmark	22.9	21.3	22.5	–1.6	1.2	–0.4
Finland	20.7	22.8	26.1	2.1	3.3	5.4
France	27.5	27.8	27.3	0.3	–0.5	–0.2
Germany[1]	26.3	27.7	27.5	1.4	–0.2	1.2
Greece	33.6	33.6	34.5	0.0	0.0	0.9
Hungary	27.1	29.2	29.3	2.1	0.1	2.2
Ireland	33.1	32.5	30.4	–0.6	–2.1	–2.7
Italy	30.6	34.8	34.7	4.2	–0.1	4.1
Japan	**27.8**	**29.5**	**31.4**	**1.7**	**1.9**	**3.6**
Luxembourg	24.7	25.9	26.1	1.2	0.2	1.4
Mexico	43.9	50.8	46.7	6.9	–4.1	2.8
Netherlands	23.4	25.5	25.1	2.1	–0.4	1.7
New Zealand	27.0	33.1	33.7	6.1	0.6	6.7
Norway	23.4	25.6	26.1	2.2	0.5	2.7
Portugal	32.9	35.9	35.6	3.0	–0.3	2.7
Sweden	19.8	21.2	24.3	1.4	3.1	4.5
Turkey	43.5	49.1	43.9	5.6	–5.2	0.4
United Kingdom	28.7	31.2	32.6	2.5	1.4	3.9
United States	33.8	36.2	35.7	2.4	–0.5	1.9
Average[2]	28.6	30.5	30.7	1.9	0.1	2.1
B. Working-age population						
Australia	30.4	29.4	29.5	–1.0	0.1	–0.9
Canada	28.6	28.7	30.5	0.0	1.8	1.9
Denmark	22.0	21.4	22.6	–0.6	1.2	0.6
Finland	20.5	23.4	26.0	3.0	2.6	5.5
France	26.7	27.7	27.2	1.0	–0.5	0.5
Germany[1]	25.4	27.0	27.2	1.6	0.1	1.8
Italy	30.5	34.9	34.5	4.4	–0.4	4.0
Japan	**27.6**	**29.0**	**31.0**	**1.3**	**2.0**	**3.4**
Netherlands	23.3	25.4	25.0	2.1	–0.4	1.7
New Zealand	26.3	32.4	33.0	6.1	0.6	6.7
Norway	22.2	24.9	26.0	2.7	1.1	3.8
Sweden	22.4	21.6	24.2	–0.8	2.6	1.8
United Kingdom	27.7	30.4	31.9	2.7	1.5	4.2
United States	32.6	35.1	34.6	2.6	–0.5	2.0
Average[2]	26.2	27.9	28.8	1.8	0.9	2.6

1. Old Länder.
2. Average of the 23 countries in Panel A and the 14 countries in Panel B. For information on the exact year for each country, see Förster and Mira d'Ercole (2005).

Source: Förster and Mira d'Ercole (2005).

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(Table 4.1). The impact of tax and social spending policies in reducing inequality increased between the mid-1980s and 2000, although this was more than offset by the deterioration in market income distribution. As a result, the inequality of disposable income distribution has risen for both the total and the working-age populations. This section looks at the impact of taxes and social spending on equality.

The effect of taxes

In the early 1990s, the tax system reduced the Gini coefficient for market income in Japan by about 3% (Table 4.4). However, tax reforms, which were aimed at increasing economic efficiency, have made the system less progressive. In 1986, the personal income tax had 15 rates, with a top rate of 70%. In 1999, it was reduced to only four, with a top rate of 37%. As a result of lower progressivity, the impact of the tax system on the Gini coefficient had fallen to less than 1% by 2002.

Table 4.4. **The impact of taxes and public social spending on income distribution in Japan**

Gini coefficient (multiplied by 100)

	Market income	Disposable income		Income distribution through taxes		Income distribution through social spending	
	Gini coefficient (A)	GIni coefficient (B)	Decline in per cent [(A-B)/A]	Gini coefficient (C)	Decline in per cent [(A-C)/A]	Gini coefficient (D)	Decline in per cent [(A-D)/A]
1990	43.3	36.4	–15.9	42.1	–2.9	37.9	–12.5
1993	43.9	36.5	–17.0	42.6	–3.2	38.1	–13.2
1996	44.1	36.1	–18.3	43.4	–1.7	37.2	–15.7
1999	47.2	38.1	–19.2	46.6	–1.3	39.1	–17.1
2002	49.8	38.1	–23.5	49.4	–0.8	39.2	–21.4

Source: Japanese Trade Union Confederation (RENGO), (2006).

The effect of social transfers

In contrast to the tax system, the impact of social spending on income distribution has been relatively large and increasing (Table 4.4). Indeed, social spending reduced the Gini coefficient on market income by 12.5% in 1990 and 21.4% in 2002, although this includes the impact of pension benefits. Social spending thus accounted for almost all of the 9.7 percentage-point gap between the Gini coefficients for market income and disposable income for the total population in 2000 (Table 4.5). However, the impact on the working-age population – a 5.2 percentage point reduction – is only about half of the OECD average. The small impact of benefits on the income distribution among the working-age population in Japan reflects three factors: *i)* social spending is relatively low; *ii)* social spending is concentrated on the elderly; and *iii)* the distribution of benefits between different income quintiles is less progressive in Japan.

The level of social spending is low

Gross public social expenditure, including public pensions, in Japan reached 16.9% of GDP in 2001 (Table 4.6). Despite an increasing trend during the 1990s (Figure 4.3), Japan ranked 25th among OECD countries, well below what would be expected given its level of income. However, gross public social spending does not provide a complete picture as it excludes the impact of the tax system on social expenditure (see Annex 4.A1). Taking account of the tax system narrows the gap between Japan and other member countries by

Table 4.5. **The impact of tax and social spending policies on income distribution in OECD countries**

	Percentage point difference in Gini coefficients between market and disposable income[1]			Change in the impact of tax and benefit systems on the distribution of disposable income		
	Mid-1980s	Mid-1990s	Around 2000	Mid-1980s to mid-1990s	Mid-1990s to 2000	Mid-1980s to 2000
A. Japan						
Total population	3.9	7.4	9.7	3.5	2.2	5.8
Working-age population[2]	3.3	4.9	5.2	1.6	0.3	1.9
Elderly population	13.3	23.5	29.1	10.2	5.7	15.9
B. OECD average[3]						
Total population[4]	13.4	15.9	15.2	2.6	–0.7	1.9
Working-age population[2]	9.2	11.2	10.5	2.0	–0.7	1.3
Elderly population	37.2	39.2	38.1	2.0	–1.1	0.9

1. The difference in the Gini coefficient (multiplied by 100) for market income (Table 4.1) and disposable income (Table 4.3).
2. The 18 to 65 age group.
3. Average of the 14 countries shown in Table 4.1.
4. The decline between the mid-1990s and 2000 reflects falling unemployment rates.

Source: Förster and Mira d'Ercole (2005).

Table 4.6. **Social spending in OECD countries**

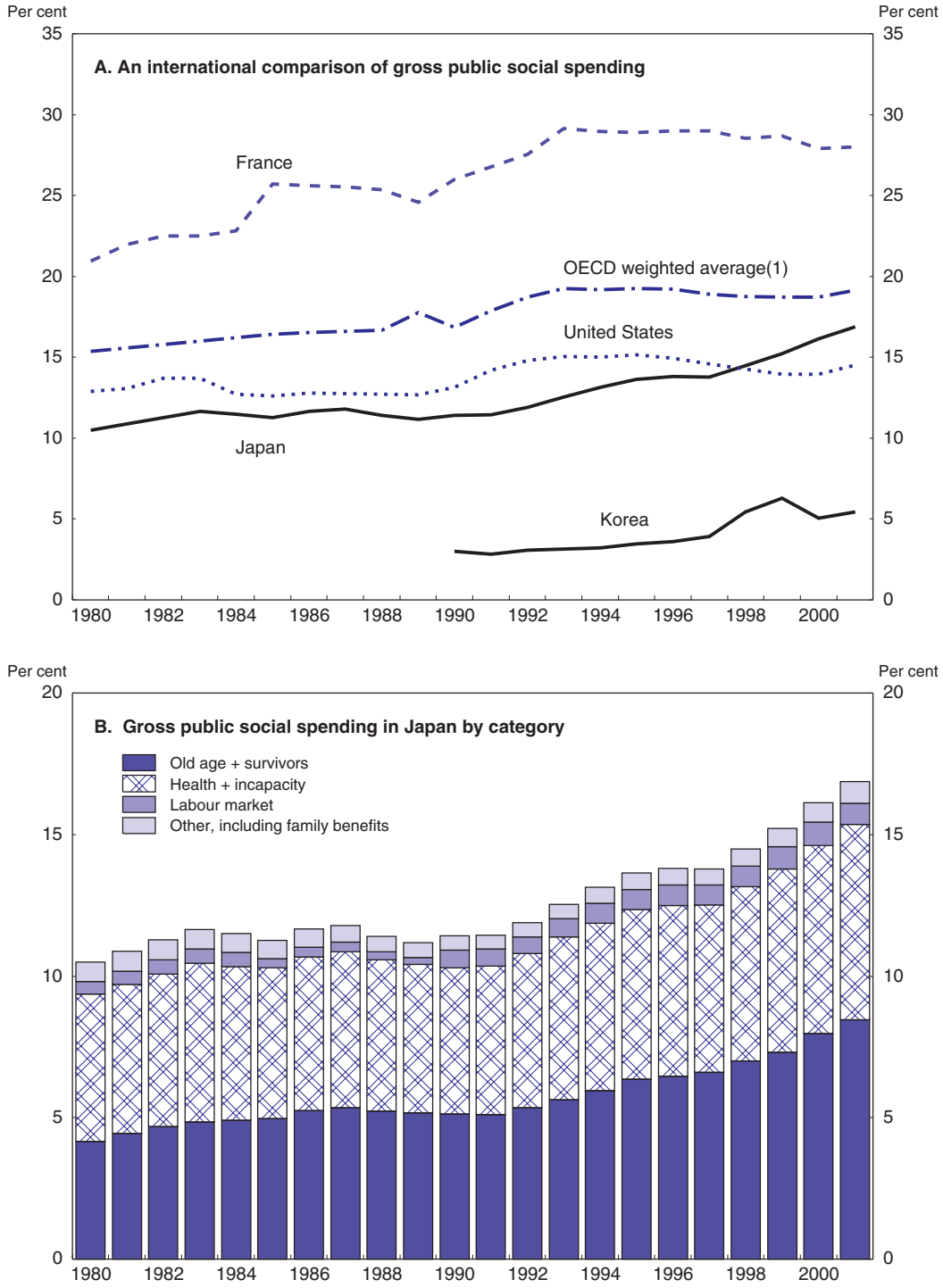
Per cent of GDP, including pensions, in 2001

Countries[1]	Gross public spending	Net public spending[2]	Net mandatory private spending	Total net public and mandatory private spending
Sweden	29.8	23.7	0.3	24.0
Denmark	29.2	21.8	0.1	21.9
France	28.5	25.2	0.0	25.2
Germany	27.4	25.4	0.8	26.2
Austria	26.0	20.6	0.5	21.1
Switzerland	25.8	..	..	..
Finland	24.8	19.2	0.1	19.3
Belgium	24.7	21.2	1.4	22.6
Italy	24.4	20.9	1.1	22.0
Greece	24.2	..		..
Norway	23.9	19.6	0.8	20.4
Poland	22.2	..	..	..
United Kingdom	21.8	19.8	0.4	20.2
Netherlands	21.4	18.0	0.4	18.4
Luxembourg	20.8	..	..	..
Portugal	20.3	..	..	..
Czech Republic	20.1	18.7	0.0	18.7
Hungary	20.1	..	..	..
Iceland	19.8	17.6	0.7	18.3
Spain	19.6	16.7	0.0	16.7
New Zealand	18.5	15.5	0.0	15.5
Australia	18.0	17.1	0.7	17.8
Slovakia	17.9	16.4	0.2	16.6
Canada	17.8	17.1	0.0	17.1
Japan	**16.9**	**17.1**	**0.7**	**17.8**
United States	14.7	15.9	0.4	16.3
Ireland	13.8	12.2	0.0	12.2
Turkey	13.2	..	..	..
Korea	6.1	6.1	2.2	8.3
Mexico	5.1	6.3	0.0	6.3
Average	20.6	17.9	0.5	18.4

1. Countries are ranked in descending order by gross public social spending.
2. Adjusts for the impact of the tax system on social expenditure.

Source: Adema and Ladaique (2005).

Figure 4.3. **Trends in public social spending**
As per cent of GDP



1. The OECD average does not include the Czech Republic, Hungary, Iceland, Korea, Mexico, Poland, the Slovak Republic and Turkey due to insufficient data. The national data is converted to US dollars using 2001 PPPs.

Source: OECD, Social Expenditure Database, 1980-2001, available at *www.oecd.org/els/social/expenditure*.

substantially reducing the OECD average (second column of Table 4.6). In addition, the provision of social expenditures is not restricted to government as most OECD countries require social spending by private-sector entities. Mandatory net private social spending in Japan amounted to 0.7% of GDP in 2001, slightly above the OECD average (third column).[24] According to the most complete measure – the sum of net public spending and mandatory net private spending (the fourth column) – social spending in Japan is slightly below the OECD average and 14th out of the 23 countries for which data are available.

Social spending is concentrated among the elderly

Social outlays in Japan are focused on insurance systems for pensions, healthcare, unemployment and long-term nursing care (Annex 4.A2). Total spending on these programmes amounted to nearly 75% of public social spending in FY 2003 (Table 4.7). Around 70% of the outlays by social insurance programmes were for elderly persons. Such spending, combined with a relatively high rate of labour force participation of older workers, has helped maintain the income of the elderly at a fairly high level. Indeed, the disposable income of the over 65 age group in Japan is 84% of the 18 to 65 age group, compared to an OECD average of 76%. In contrast to social insurance, spending on welfare programmes such as livelihood protection[25] and family benefits is much lower, accounting for 5.5% of total public social spending.

With the rising trend during the 1990s, expenditures on pensions and healthcare in Japan are larger than the OECD average (Figure 4.4). However, outlays for unemployment and active labour market policies are significantly less, reflecting the low rate of unemployment and the fact that a relatively low proportion of unemployed receive benefits (see below). In addition, spending on family benefits and disability and sickness payments is significantly smaller than the OECD average. In sum, Japanese social spending is somewhat below the OECD average and more concentrated on the elderly. In 2001, public old-age pensions per elderly person were 17 times larger than social spending per person

Table 4.7. **Social insurance and welfare programmes in Japan**

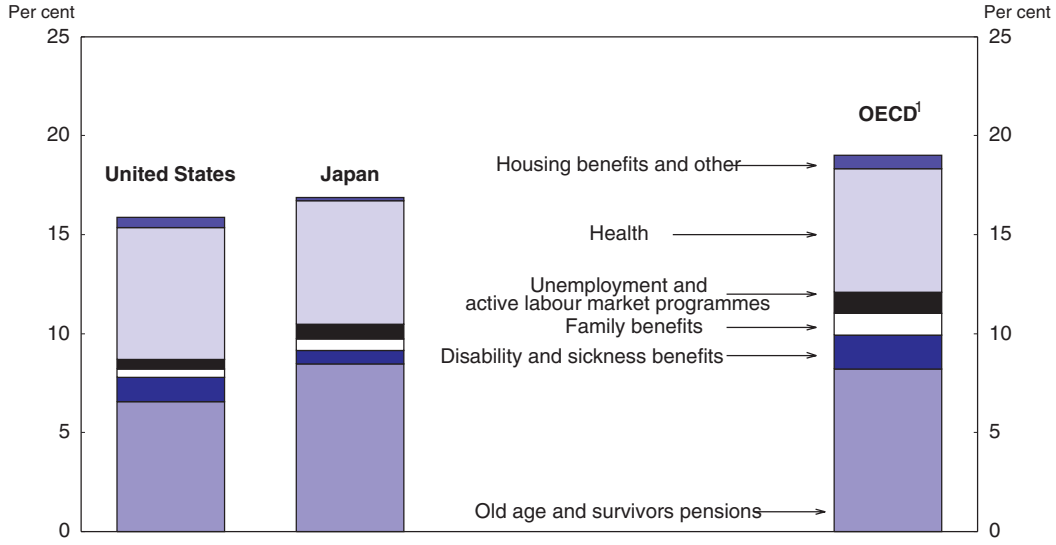
FY 2003

Revenue	Trillion yen	Per cent	Expenditure by scheme	Trillion yen	Per cent
Insurance premiums	54.6	54.0	Social insurance	76.5	74.34
Insured persons	27.4	27.4	Pension benefits	43.0	41.0
Firms	27.3	26.9	Medical insurance	14.7	14.0
			Healthcare for elderly	10.7	10.2
General tax revenue	27.8	27.8	Long-term care	5.1	4.9
Central government	21.1	20.9	Employment insurance	2.0	1.9
Local government	6.6	6.6	Accident insurance	1.0	1.0
			Social welfare	5.8	5.5
Income from capital	18.8	18.6	Livelihood protection	2.4	2.3
			Other social welfare	2.5	2.4
			Family benefits and other	0.9	0.8
			Civil servant pensions/protections	1.4	1.3
			Public health programmes	0.6	0.6
			Administrative costs	1.3	1.2
			Transfers to funds	15.9	15.2
			Other	3.4	3.2
Total	101.3	100.0	Total	104.9	100.0

Source: Ministry of Health, Labour and Welfare.

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Figure 4.4. **Composition of public social spending**
Per cent of GDP in 2001



1. Weighted average of 29 countries.

Source: OECD, Social expenditure database.

under the age of 65, a ratio that is double the OECD average, reflecting the low level of spending on the working-age population.

Benefits are less concentrated on low-income households

The third factor – the progressivity of social spending – is measured by the "quasi-Gini coefficient", which varies from –100 to 100. For transfers, a value of zero indicates a flat rate that pays the same amount of transfer to each household. Positive values between zero and 100 indicate that the amount of transfers increases with private income. For pensioners, the quasi-coefficient is positive in most countries, including Japan, as the amount of benefits is linked to past income (Table 4.8). For the working-age population, in contrast,

Table 4.8. **The progressivity of transfers and taxes in OECD countries**
Quasi-Gini coefficients[1] in 2000

	Japan	OECD average[2]	Highest	Lowest
Cash transfers				
Pensions	11.0	12.0	44.6	–11.9
Working-age	3.3	–7.2	43.8	–42.4
Total	3.2	–6.5	37.1	–38.3
Direct taxes	31.9	44.1	57.3	22.8

1. This measure varies from –100 to 100, with a value of zero for a flat rate that pays each household the same amount of transfer. It is calculated by comparing the share of social security benefits received by deciles ranked from the poorest to the richest. Values between zero and 100 mean that the share of transfers received increases with private income. Conversely, values between zero and –100 indicate that the share of transfers received decreases as income increases. Thus, negative numbers imply a greater share of transfers go to the poor. For taxes, the coefficient is positive for all countries. Since taxes are deducted from incomes, the higher the coefficient, the more equalizing the impact of taxes.
2. For transfers, the average includes all OECD countries except Korea, Iceland and the Slovak Republic. For taxes, the average includes 19 countries.

Source: Whiteford (2006).

the quasi-Gini coefficient is negative as expected in most countries, indicating that the amount of transfers increase as the level of household income declines. In contrast, in Japan, the quasi-Gini coefficient for the 18 to 65 age group is positive, suggesting that the distributional impact of transfers on low-income households is relatively weak.[26] As for direct taxes, the quasi-Gini coefficient in 2000 was 31.9, indicating less progressivity than the OECD average of 44.1.

Relative poverty

The increase in income inequality in Japan was accompanied by a rise in the relative poverty rate[27] – defined as an income that is less than 50% of the median – from 12.0% of the total population in the mid-1980s to 15.3% in 2000 (Figure 1.5). The OECD average increased from 9.4% to 10.6% over the same period. About a quarter of the increase in Japan was due to population ageing; the poverty rate would have only risen to 14.5% if the age-distribution of the population had remained unchanged from the mid-1980s.[28] A second factor was the increase in the share of people living alone from 3.5% in the mid-1980s to 6.8% in 2000. This is due to more young people moving away from home to study and work and a rise in the share of elderly persons living alone from 1% to 3% of the total population. About half of the increase in the poverty rate is due to the increase in single-person households: the poverty rate would have only risen to 13.6% – rather than 15.3% – if the household structure had remained as in the mid-1980s. These factors also boosted poverty rates in other OECD countries. In particular, the share of single-person households increased from an average of 9% in the mid-1980s in the OECD area to 11% in 2000, nearly double the level of Japan. Japan's poverty rate would thus likely be significantly higher if its proportion of single households were not so far below the OECD average.

The relative poverty rate for the working-age population in Japan increased from 11.9% in the mid-1990s to 13.5% in 2000 compared to the OECD average of 8.4% (Table 4.9). The high level of poverty is surprising given the level of employment: only 2.8% of the population in Japan in 2000 lived in a household in which no one worked, compared to an OECD average of 9.4%.[29] The 1.6 percentage point rise in poverty – the third largest in the OECD area – was due to changes in market income,[30] reflecting the rise in wage dispersion in the context of increased labour market dualism.

Social spending and relative poverty

The tax and social spending programmes on poverty helped to limit the rise in relative poverty in the second half of the 1990s. However, its impact – at two to three percentage points in both the mid-1990s and 2000 – was much smaller than in the OECD area (Table 4.9). The relationship between public social spending and poverty outcomes is striking: relative poverty rates among the working-age population are lowest in countries where social spending (excluding healthcare) for that age group is highest (Förster and Mira d'Ercole, 2005). The high level of relative poverty in Japan is consistent with the low level of public social spending on the working-age population discussed above.

The impact of government programmes to reduce poverty depends not only on the amount of spending but also on the criteria used in its allocation. In principle, a carefully targeted system can significantly reduce poverty even when the total amount of spending is small. However, in Japan, the share of transfers allocated to households in the lower part of the income distribution is relatively small (Table 4.10). Indeed, the lowest income quintile received 15.7% of government transfers compared to an OECD average of 22.8%.

Table 4.9. **The impact of tax and social spending programmes on poverty in OECD countries**

Relative income poverty as a percentage of the working-age population[1]

	Mid-1990s			2000		
	Poverty rate: market income	Reduction in poverty due to tax/benefit system	Poverty rate: disposable income	Poverty rate: market income	Reduction in poverty due to tax/benefit system	Poverty rate: disposable income
Czech Republic	17.7	14.6	3.0	19.5	15.7	3.8
Denmark	20.5	16.0	4.5	18.5	13.5	5.0
Sweden	18.6	14.5	4.2	16.2	11.0	5.1
Netherlands	17.6	11.4	6.2	14.9	9.0	5.9
France	26.1	19.4	6.8	24.1	18.1	6.0
Norway	14.2	7.5	6.7	14.5	8.5	6.0
Finland	18.1	12.7	5.4	15.3	8.8	6.4
Germany	18.6	11.3	7.2	20.5	12.5	8.0
Australia	20.5	13.0	7.5	20.5	11.9	8.6
United Kingdom	20.4	12.5	8.0	19.9	11.2	8.7
New Zealand	18.2	11.2	7.0	18.3	8.8	9.5
Portugal	16.6	6.6	10.0	15.7	6.1	9.6
Canada	17.8	8.4	9.4	16.0	5.7	10.3
Italy	23.6	10.9	12.7	21.8	10.3	11.5
Ireland	26.6	18.0	8.6	18.8	6.9	11.9
Japan	**14.0**	**2.2**	**11.9**	**16.5**	**3.0**	**13.5**
United States	18.7	5.2	13.5	18.0	4.3	13.7
Average[2]	19.3	11.5	7.8	18.2	9.7	8.4

1. Countries are ranked by the poverty rate of disposable income in 2000.
2. Average of the 17 countries in the table. The decline in the impact of the tax/benefit system between the mid-1990s and 2000 reflects falling unemployment rates.

Source: Förster and Mira d'Ercole (2005).

Consequently, transfers to the low-income quintile accounted for only 2.7% of total disposable income, well below the OECD average. In contrast, the share of transfers received by high-income households in Japan is larger than the OECD average. As a result, the ratio of the transfers received by the bottom and top quintiles was 0.8 in 2000 (as shown in the column on the far right) compared to an OECD average of 2.1, indicating that transfers are less targeted on the poor in Japan.

The share of the working-age population receiving income-replacing benefits also illustrates the relatively limited coverage of social spending (Table 4.11). The proportion receiving benefits in Japan was the lowest, at 11.4%, of any of the 16 countries for which data are available, even though the proportion of the working-age population that receives old-age and survivor benefits was above the OECD mean. Indeed, Japan was one of only two countries in which the share of the population receiving benefits from the government was below the relative poverty rate. The biggest difference between the OECD mean and Japan is in the area of unemployment benefits, reflecting the relatively low number of unemployed. Moreover, strict eligibility conditions and the short duration of benefits in Japan also reduce the proportion of unemployed receiving benefits to 34% compared to an OECD average of 92%.[31]

The number of recipients of social assistance/support for lone parents is exceptionally low at 0.3% of the working-age population in Japan, compared to an OECD mean of 2.6%. Moreover, it has fallen from 0.5% in the 1980s despite the increase in poverty during the 1990s. Part of the difference is explained by the fact that the share of the population living in lone-parent households, at 1.3%, is less than half of the OECD average. According to the MHLW,

Table 4.10. **Distribution of transfers and taxes in OECD countries**

Around 2000

	Transfers as % of Household Disposable Income (HDI)	Share of lowest quintile (%)	Transfers to lowest quintile as % of total HDI	Taxes as % of HDI	Share of lowest quintile	Taxes paid by lowest quintile as % of HDI	Net transfers to lowest quintile	Quintile ratio[1]
	(1)	(2)	(3) = 1*2	(4)	(5)	(6) = 4*5	(7) = 3 – 6	
Australia	15.1	40.6	6.1	24.8	0.4	0.1	6.0	12.7
Austria	16.3	15.5	2.5	..	..	..	..	0.7
Belgium	31.4	20.3	6.4	37.3	1.0	0.4	6.0	1.3
Canada	14.7	26.3	3.9	28.8	3.6	1.0	2.8	1.7
Czech Republic	23.9	25.1	6.0	19.6	3.1	0.6	5.4	2.8
Denmark	25.5	35.9	9.2	53.3	6.0	3.2	6.0	4.3
Finland	15.6	32.6	5.1	32.6	4.0	1.3	3.8	3.3
France	30.1	19.6	5.9	9.2	7.7	0.7	5.2	0.8
Germany	26.9	20.2	5.4	38.3	3.0	1.2	4.3	1.0
Greece	21.7	12.6	2.7	..	..	..	..	0.4
Hungary	33.7	19.8	6.7	..	..	..	..	1.3
Ireland	14.9	33.5	5.0	17.3	1.2	0.2	4.8	3.1
Italy	28.0	11.7	3.3	28.9	2.7	0.8	2.5	0.4
Japan	**17.0**	**15.7**	**2.7**	**18.2**	**7.4**	**1.4**	**1.3**	**0.8**
Luxembourg	24.6	18.0	4.4	..	..	..	..	1.0
Mexico	5.6	11.0	0.6	..	..	..	..	0.2
Netherlands	19.0	32.5	6.2	34.5	5.2	1.8	4.4	3.1
New Zealand	13.6	33.3	4.5	27.7	0.7	0.2	4.3	5.1
Norway	20.6	30.7	6.3	34.2	4.3	1.5	4.9	2.9
Poland	26.0	14.0	3.6	..	..	..	..	0.7
Portugal	19.5	16.8	3.3	17.2	3.5	0.6	2.7	0.5
Spain	21.0	16.0	3.4	..	..	..	..	0.8
Sweden	32.2	25.8	8.3	46.3	5.5	2.6	5.8	2.0
Switzerland	20.8	20.8	4.3	34	12.6	4.3	0.1	0.4
Turkey	1.9	8.5	0.2	..	..	..	..	0.3
United Kingdom	16.8	33.7	5.7	21.5	1.8	0.4	5.3	4.8
United States	7.4	25.5	1.9	32.1	1.4	0.5	1.4	1.4
Average[2]	20.1	22.8	4.6	29.3	4.0	1.2	4.0	2.1

1. The ratio of transfers received by the bottom income quintile to those received by the top quintile.
2. Excludes Iceland, Korea and the Slovak Republic.

Source: Whiteford (2006).

Table 4.11. **Proportion of the population receiving government benefits in OECD countries**

Percentage of working-age population in 1999

	Australia	Austria	Belgium	Canada	Denmark	France	Germany	Ireland	**Japan**	Netherlands	New Zealand	Slovak Rep.	Spain	Sweden	UK	US	Mean
Old age	1.9	7.4	7.2	3.1	4.0	7.0	4.6	0.5	**5.1**	0.8	1.4	9.4	1.1	0.4	3.4	1.8	3.7
Survivors	0.3	2.1	1.1	1.7	0.0	0.3	1.7	1.4	**1.6**	1.0	0.4	1.1	1.8	0.3	0.9	0.6	1.0
Sickness	1.4	2.0	1.1	0.2	4.6	1.8	2.5	1.9	**1.2**	3.4	1.5	3.1	0.4	5.8	0.8	2.1	2.1
Disability	4.9	3.5	3.6	4.9	6.7	4.8	4.1	3.9	**1.9**	7.2	2.3	5.6	3.9	6.5	6.4	6.3	4.8
Maternity and parental leave	0.0	2.0	0.2	0.4	1.6	1.9	0.2	0.2	**0.2**	0.0	0.0	4.4	0.0	2.0	0.3	0.0	0.8
Care and leave	0.3	0.0	0.9	0.0	0.0	0.0	0.0	0.5	**0.0**	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.2
Unemployment	5.6	3.8	6.9	5.8	4.4	4.7	6.6	6.7	**1.1**	4.1	6.6	3.6	3.9	4.0	2.9	1.2	4.5
Lone parents/ social assistance	3.2	0.8	2.4	1.9	1.6	3.0	2.2	4.2	**0.3**	1.2	4.4	11.1	0.3	1.1	2.8	1.7	2.6
Total	17.5	21.6	23.4	18.0	22.9	23.6	22.0	19.3	**11.4**	17.7	16.6	38.2	11.3	20.1	18.4	13.7	19.7

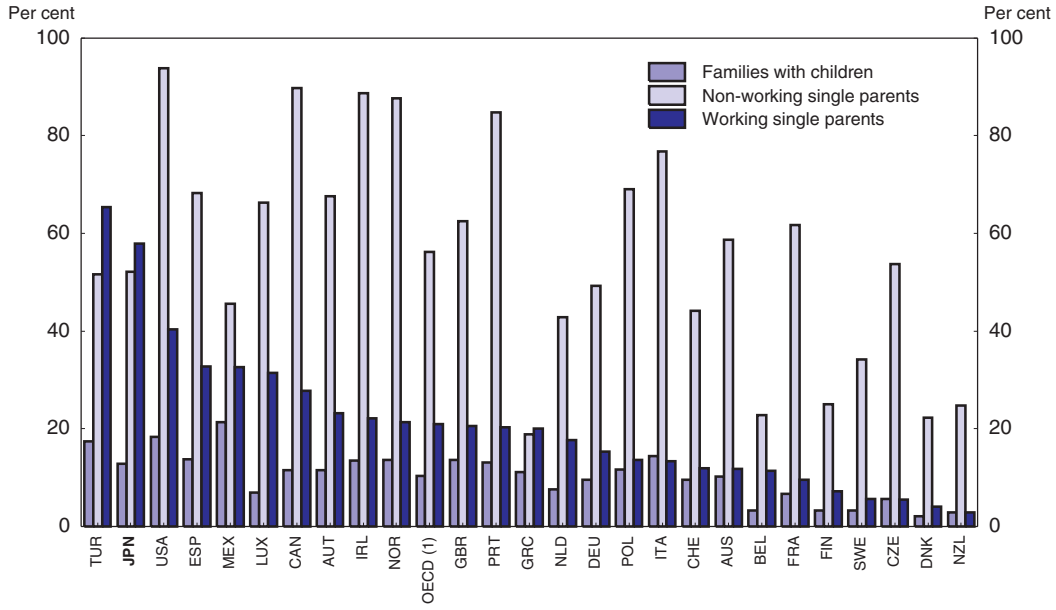
Source: OECD, *Employment Outlook* (2003).

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83% of single mothers are employed, although about half are non-regular workers.[32] Even though around 70% of single mothers receive the childcare allowance for single mothers, 58% of working single parents in 2000 lived in relative poverty, well above the OECD average of 21%,[33] and higher than the 52% of non-working single parents in relative poverty (Figure 4.5). Japan is one of only three OECD countries, along with Greece and Turkey, which have a higher poverty rate for single parents that are working than for those that are not employed. The childcare allowance for single mothers was reformed in 2002 so that the total amount of income rises as earnings from work increases.

Figure 4.5. **Relative poverty rates in households with children**

Households with a head of working age, around the year 2000



1. Average for 26 countries.

Source: OECD, ELS database.

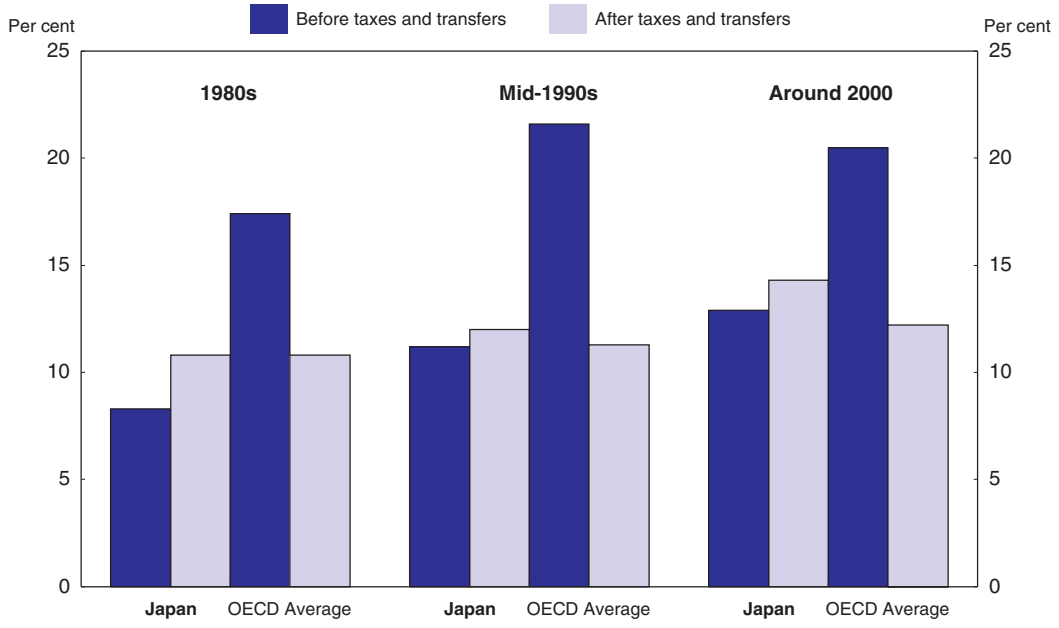
Widespread poverty among single parents results in a high incidence of poverty among children in Japan. Indeed, the rate of child poverty was 14.3% in 2000, compared with an OECD average of 12.2%. Given the high cost of schooling and private tutoring institutes, children in poor families are at risk of receiving an inadequate education, thus tending to reduce the growth potential and perpetuating poverty across generations. The most recent PISA tests of student performance show increased stratification of the results for Japan. In contrast to other OECD countries, child poverty is concentrated in working families; 49% of child poverty is in households with at least two earners and another 49% in households with one earner. Only 2% of child poverty is in households with no earners, in contrast to an OECD average of 32%. This suggests relatively little scope to reduce child poverty by boosting employment, which would be highly effective in other OECD countries. Instead, in-work benefits for working parents, together with a reduction in the dualism in employment conditions, appear to be the key.

Taxes and relative poverty

While poor households in Japan receive a low share of transfers, they bear a high tax burden relative to other OECD countries. The lowest income quintile paid 7.4% of total

direct taxes in 2000 compared to an OECD average of 4% (Table 4.10). Combining the impact of transfers and taxes, the net transfer to the lowest income quintile in Japan is 1.3%, compared to an average of 4% in the OECD area. In sum, the tax and benefit systems increase the income of low-income households by a relatively small amount in Japan. Indeed, Japan is the only OECD country in which the rate of child poverty has been consistently higher after taxes and transfers than before (Figure 4.6).

Figure 4.6. **Trends in child poverty rates**
Per cent in poverty before and after taxes and transfers



Source: Whiteford and Adema (2006).

Conclusion

The low level of market income inequality that was characteristic of the post-war era has been converging in recent years to the OECD average. Given the relatively small impact of the tax and benefit systems on income distribution, the level of inequality in disposable income in Japan has risen above the OECD average (Table 4.12). While population ageing has played a role, there has also been a marked rise in inequality among the 18 to 65 age group as a result of the increasing variance in wages. This trend cannot be explained by differences in the earnings of full-time employees, which have narrowed in recent years. Instead, the greater dispersion of market income is due to the increasing proportion of non-regular workers – primarily part-time employees – who are paid only 40% as much per hour as full-time employees. The growing dualism in the labour market thus creates serious equity issues, which are exacerbated by the limited mobility between the regular and non-regular segments of the labour market. Dualism also has a negative impact on potential growth, as non-regular workers receive less training by firms, thus limiting their human capital and productivity gains.

Rising income inequality in the working-age population has been accompanied by a hike in the rate of relative poverty to one of the highest levels in the OECD area (Table 4.12).

Table 4.12. **Summary of income distribution and relative poverty**
Indicators in 2000

	Working-age population		Elderly population		Total population	
	Japan	OECD average	Japan	OECD average	Japan	OECD average
Market-income inequality[1]						
Level	36.2	39.3	62.9	65.1	41.0	44.3
Rank	12th	14 countries	7th	14 countries	11th	14 countries
Change in %[3]	17.0	11.1	32.9	1.9	29.3	10.5
Change in level[4]	5.2	3.9	15.6	1.2	9.4	4.3
Disposable income inequality[1]						
Level	31.0	28.8	33.8	27.0	31.4	30.7
Rank	5th	14 countries	2nd	14 countries	8th	23 countries
Change in %[3]	12.2	10.1	–0.8	1.1	12.9	7.3
Change in level[4]	3.4	2.6	–0.2	0.3	3.6	2.1
Relative poverty[2]						
Level	13.5	8.4	21.1	13.9	15.3	10.3
Rank	2nd	17 countries	7th	24 countries	5th	26 countries
Change in %[3]	13.7	8.4	–8.3	–5.7	28.6	11.5
Change in level[4]	1.6	0.6	–1.9	–0.8	3.4	1.1

1. As measured by the Gini coefficient *100.
2. Percentage of population with an income below one-half of the median.
3. Mid-1980s to 2000.
4. Changes in percentage points between mid-1980s and 2000.

Source: Calculations based on Förster and Mira d'Ercole (2005).

One reason for high poverty is the limited effect of tax and social spending policies, reflecting the below-average level of social spending as a share of GDP, even after taking account of the tax system and mandated private outlays. Moreover, social spending is concentrated in pension and healthcare programmes that primarily benefit the elderly, while outlays for the working-age population are relatively limited. In addition, the proportion of benefits accruing to low-income households is small compared to other OECD countries. On the tax side, the system has become much less progressive in recent years.

Recommendations to address inequality and relative poverty are summarised in Box 4.1. Given the severe fiscal situation and the rapid pace of population ageing (see Chapter 3), there is little scope for additional social spending aimed at the working-age population. Moreover, a broad-based expansion in social programmes may not succeed in substantially reducing poverty rates. Experience in OECD countries shows only a weak relationship between increases in social spending and overall reductions in poverty (Figure 4.7). Instead, the priority should be to increase the returns from work by reducing labour market dualism and by better targeting existing social programmes on the most vulnerable groups. The priority is single parents, who have a poverty rate of over 50%. This would also help to reduce the rate of child poverty from its currently high level. With 98% of child poverty in working families, measures to increase employment are unlikely to reduce child poverty significantly. Instead, it is necessary to improve family benefits for employed persons, while limiting the creation of work disincentives and poverty traps. In the absence of such targeted policies, there is likely to be increased pressure to reduce poverty through steps to create a more generous overall welfare state. However, this would require substantial increases in public spending and revenue, with possible adverse economic implications at a time when coping with population ageing and raising potential growth from its low level is a priority in Japan (see Chapter 5). In addition to better

Box 4.1. **Summary of recommendations to address inequality and relative poverty**

Reverse the trend toward increasing labour market dualism through a comprehensive approach

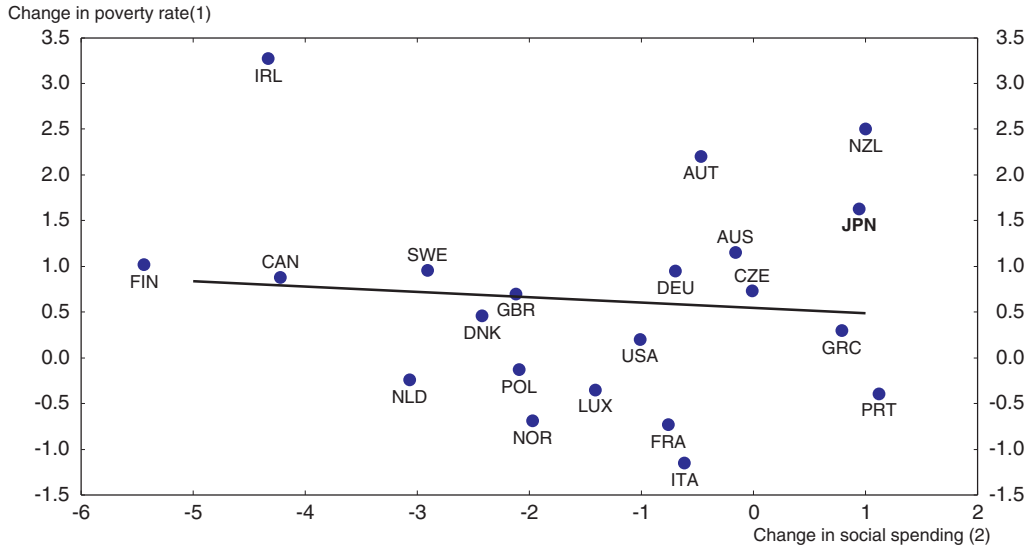
- Reduce employment protection for regular workers to reduce the incentive for hiring non-regular workers to enhance employment flexibility.
- Expand the coverage of non-regular workers by social insurance systems based in workplaces, in part by improving compliance with current insurance systems.
- Increasing training to enhance employability.

Policies to contain spending

- Shift the allocation of social spending to increase the share received by low-income households.
- Target social spending on vulnerable groups, such as single parents, while taking care to limit the creation of poverty traps and work disincentives.
- Take account of income distribution in reforming the tax system.

Figure 4.7. **Changes in social spending and poverty among the working-age population**

Changes in percentage points, 1995-2000



1. Change in the relative poverty rate, defined as a household income that is less than half of the median. A negative value denotes a reduction in poverty rate over the five-year period.
2. Social spending is defined as public and mandatory private social spending on the 18 to 65 age group.

Source: OECD, ELS database.

targeting of social expenditures, the reform of the tax system should aim at reducing the relative share of the tax burden that is borne by low-income households (see Chapter 3).

With the budget situation limiting the scope for greater social spending, it is essential to address the underlying factors behind the rise in market income inequality that is boosting inequality in disposable income and relative poverty rates. The key is to reverse

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the trend toward labour market dualism. According to government surveys, the main factors that encourage the hiring of non-regular workers are their lower labour costs and greater employment flexibility. Reducing dualism, therefore, requires addressing these two factors, while at the same time avoiding measures that would reduce total employment. The first advantage of hiring non-regular workers – lower labour costs – results from lower hourly wages, as well as the exemption of non-regular workers from company-based social insurance systems. While wage rates are set by the private sector, the government should increase the social safety net coverage of non-regular workers to reduce the cost advantage of hiring such workers, possibly accompanied by targeted in-work benefits to prevent unemployment. The second advantage – greater employment flexibility – could be narrowed by either reducing employment protection for regular workers or tightening that of non-regular workers, including through better compliance. However, as the latter approach would likely reduce overall employment, the priority should be to ease the protection of regular workers, thereby reducing the incentive to circumvent strict employment protection by hiring non-regular workers.

Notes

1. See, for example, Asia's New Giant, Chapter 1. This view of Japan was re-enforced by *OECD Economic Outlook* (1976), which placed Japan with Norway and Sweden in the group of countries with the most equally distributed income. However, it should be noted that the data, based on the National Survey of Family Income and Expenditure, excluded agricultural households and under-reported property income and social security, making international comparisons of inequality difficult (see Bauer and Mason, 1992).
2. Two other surveys by the Japanese government also show increases in the Gini coefficient over the same period. The *Family Income and Expenditure Survey* reports a rise of 6% between the average of 1984-86 and the average of 2002-04. The *National Survey of Family Income* shows an 8% increase between 1984 and 1999 (the latest year available). The various income surveys are discussed in Annex 4.A1.
3. For the 23 countries for which data are available. The OECD report (Förster and Mira d'Ercole, 2005) is based on data drawn from national sources on a standardised basis that adjusts household income by household size and uses common methodology and definitions to overcome many of the issues that limit cross-country and inter-temporal comparisons of income distribution and poverty (see Annex 4.A1 for an explanation of the data and concepts used in this chapter).
4. The estimate of the Gini coefficient from the *Survey on the Redistribution on Income* – at 38.1 in 1999 – suggests a much higher level of inequality than the estimate of 31.4 reported in the OECD's comparative analysis. The reason for the difference is that the former is not adjusted for family size (see Annex 4.A1).
5. This chapter focuses on the Gini coefficient, which provides a measure of inequality that is less sensitive to changes in the two extremes of the income distribution. Two other measures of income concentration – mean-log deviations and squared coefficient of variation – also report an increase in income inequality in Japan during the latter half of the 1990s (Förster and Mira d'Ercole, 2005).
6. Defined as an income less than one-half of the median disposable income in 1985 and adjusted for price increases in subsequent years. However, there are a number of difficult statistical issues in calculating an absolute poverty threshold (see Annex 4.A1). Consequently, this chapter will focus on relative poverty.
7. The Gini coefficient on the distribution of housing and residential land fell from 68 in 1989 to 57 in 1999.
8. Japanese surveys of household income show different results for trends in inequality since 2000. The *Survey on the Redistribution of Income*, which is drawn from the same sample on which the OECD's international comparison is based, reports that the Gini coefficient in 2002 (the latest year available) was unchanged from its 1999 level of 38.1. The *National Survey of Family Income and*

Expenditure reports an increase of 2% between 1999 and 2004. However, the *Family Income and Expenditure Survey* showed a 5% decline in the Gini coefficient over that period.

9. On the other hand, larger income inequalities may boost economic growth by raising incentives to work, save and invest. OECD analysis of this issue found some evidence that a wider income distribution is positive for growth. However, it explains very little of the differences in growth rates across countries and over time (Arjona *et al.*, 2001).

10. Nevertheless, it should be noted that the level of inequality of market income in Japan in 2000, at 41.0, was below the OECD average of 44.3.

11. The unemployment rate in the OECD area is positively correlated with the Gini coefficient, suggesting that higher unemployment increases inequality (Burniaux, Padrini and Brandt, 2006). However, among the five OECD countries that experienced rising unemployment in the second half of the 1990s, only two (Japan and the Czech Republic) recorded increasing inequality in labour earnings.

12. Indeed, the Gini coefficient for the total population increased by 5.3 percentage points between 1985 and 1994, when real output was growing at an average annual rate of 3.2%, and it rose by 4.1 points between 1994 and 2000 when real output was growing at a 1.2% rate.

13. In the mid-1990s, Japanese households headed by a person aged 67 or above had a stock of marketable assets of around nine times their annual disposable income in the case of singles and 3.6 times higher in the case of couples (Disney *et al.*, 1998). In both cases, the wealth to income ratios were more than double the amount for a household headed by someone below the age of 55.

14. Capital income declined from 7.2% of household disposable income in 1994 to 3.7% in 2000, reflecting falling interest rates and asset prices.

15. The minimum wage does not appear to be responsible for increasing inequality. The statutory minimum wage rose slightly from 32% of the average hourly wage in 1995 (all workers at firms with 30 or more workers) to 34% in 2004.

16. Men with a university degree earned 20% more on average than those with an upper secondary education.

17. In 1989, the Gini coefficient ranged between 21 and 25 for workers in the 25 to 50 age group, compared to 27 to 34 for those between 50 and 65. The increase in the proportion of the labour force between the ages of 50 to 65 – from 30% in 1989 to 36% in 2004 – lifted the Gini coefficient by about 1%, assuming that the Gini coefficients for each age group remained at their 1989 level. The Gini coefficient for the working-age population increased 17% between the mid-1980s and 2000.

18. There is no legal distinction between regular and non-regular workers. The categories of dispatched workers, part-time workers and temporary employees are legally defined.

19. Part-time workers are defined as those working fewer hours on a daily or weekly basis than full-time employees in the same workplace. Workers can be classified as part-timers regardless of the length of the term of contract and whether it is fixed or not. Both the full-time and part-time categories include those employed on fixed-term or indefinite contracts.

20. For example, if all regular workers were paid an identical wage and all non-regular workers were paid 60% less, the increase in the proportion of non-regular workers from 19% to 29% would boost the variance of wage payments by 31%.

21. Employees who work less than three-quarters of the hours worked by regular employees (on a daily, weekly or monthly basis) are exempted from pension and health insurance contributions. Employees working less than one year or less than 20 hours a week are exempted from employment insurance. Such thresholds diminish the supply of labour as some employees work part-time to avoid having to make contributions to social insurance programmes.

22. Regression analysis using data from 19 OECD countries (including Japan) showed that employment protection increased inequality in some specifications of the equations (Burniaux, Padrini and Brandt, 2006).

23. Prior to 2003, the legal code did not specify any criteria for dismissing workers in principle. The labour law reform proposed by the government in 2003 restated that corporations have the right, in principle, to dismiss workers. However, this statement was eliminated from the bill due to resistance from opposition parties and labour unions. The new law states that collective dismissals should be consistent with "social common sense".

24. Japan has a relatively high level of voluntary private net social spending, amounting to 2.5% of GDP, compared to the OECD average of 1.6%. The business sector has traditionally played an important

role in social spending, providing family benefits and services such as housing, recreation and hospital care in an effort to attract and keep highly qualified employees. However, such spending appears concentrated in large, successful firms that tend to pay higher wages, thus mainly benefiting regular workers and limiting its impact on reducing income inequality and poverty.

25. In 2005, 1.1% of the population received benefits from the Livelihood Protection Programme.

26. Transfers still have a redistributive effect as long as their quasi-Gini coefficient is below the Gini coefficient of market income. This is the case in all OECD countries, including Japan.

27. Patterns in inequality and relative poverty over time are similar in most OECD countries. The cross correlation of the Gini coefficient and the relative poverty rate during the period 1970 to 2001 was 0.90. The relative poverty rate is based on disposable income.

28. The rate of relative poverty for the over 65 age group fell from 23% to 21%, although it remains well above the OECD average of 13%.

29. This refers to the population living in households headed by a person of working age. The increase in poverty is consistent with data from the Ministry of Health, Labour and Welfare showing that the proportion of households with an income of less than 2 million yen rose from 14% in 1998 to 18% in 2002. In addition, the share of households with no savings doubled from 12 to 24% between 1999 and 2005.

30. According to a study of poverty in households headed by a person of working age, changes in market income boosted the poverty rate by 2.4 percentage points. This was partially offset – 0.7 percentage point – by an increased number of two-worker households (Förster and Mira d'Ercole, 2005). In contrast, market income had almost no effect on poverty, on average, in the OECD area.

31. The level of benefits, though, is relatively high. The average replacement rate for those who are unemployed for 60 months and qualify for social assistance is around 67%, compared to an OECD average of 62% (based on the average for four family types and two earning levels). See *Society at a Glance*, 2005.

32. In contrast, three-quarters of single fathers who work are regular workers, thus reducing the extent of poverty and illustrating the drawbacks of labour market dualism.

33. Of the single mothers who do not work, 22% received social assistance in 2003.

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ANNEX 4.A1

The measurement of inequality and poverty

Characteristics of the data[1]

The data used in this chapter are drawn from the OECD's income distribution database, which collects inequality and poverty information from national sources based on a standardised methodology regarding data characteristics. Because of the emphasis on changes in income inequality and poverty, an effort was made to improve data comparability over time for individual countries. The use of a common questionnaire and methodology also allows better comparisons of levels of different variables across countries. The basic concept underlying the data is that of *household disposable income*. To account for possible scale economies in consumption, household income is "equivalised" using the square root of household size.[2] Separate data are available for persons of working-age (18 to 65) and retirement age (over 65) and for households with different characteristics (age of household head, presence of children and of an adult partner, employment status of household members).

Despite efforts to ensure country comparability, some differences in national data escape "standardisation" across countries. Some of the main features that may affect comparisons across countries and time include the following:

- ***Differences in the definition of households.*** For most countries, households refer to a group of people having common provisions for essential items, but in some countries they may refer to people living in the same home. More restrictive definitions of "household" will tend to reduce household size and equivalised income (and increase poverty rates).
- ***Period over which income is assessed.*** Data generally refer to income in the year preceding the interview. However, even for countries where annual income data are shown, income may be assessed over a shorter reference period and then converted to an "annual equivalent". Countries using shorter reference periods to measure income will generally display higher poverty rates because of the greater volatility of weekly income and higher probability of recording periods of "temporary" income shortfalls. In the case of Japan, income data are reported on an annual basis.
- ***Gross and net income.*** For Japan and 21 other OECD countries, all income components are reported on a "gross" basis, *i.e.* before deduction of direct and payroll taxes (social security contributions) paid by individuals and households. However, there are differences in the way taxes are computed, with some countries (including Japan) relying on data as reported by respondents, and others on information from tax records, and others yet on values "imputed" though micro simulation models applied to individual records.

- ***Income components.*** The data generally distinguish between earnings (broken down into the earnings of the household head, the spouse and other household members); self-employment income; capital income (rents, dividends and interest); and current transfers received by households. Capital income is generally limited to income paid in cash. Current transfers refer to cash transfers paid by government to individuals and households. Because of the exclusion of in-kind transfers, changes in the nature of government support (*e.g.* from provision of social housing at subsidised rates to housing benefits paid in cash) may distort results.
- ***Recording of private pensions.*** There are large differences across countries in terms of the nature and institutional arrangements governing private pensions. These differences relate both to their mandatory or voluntary character, and to the nature of the agencies that are responsible for their management and administration (*i.e.* in some cases, they may be part of the social security administration, while in others they may be fully private). Also, private pensions are not always identified separately in the household surveys of some countries. Because of these differences, private pensions that are substantially similar may be recorded differently across countries.

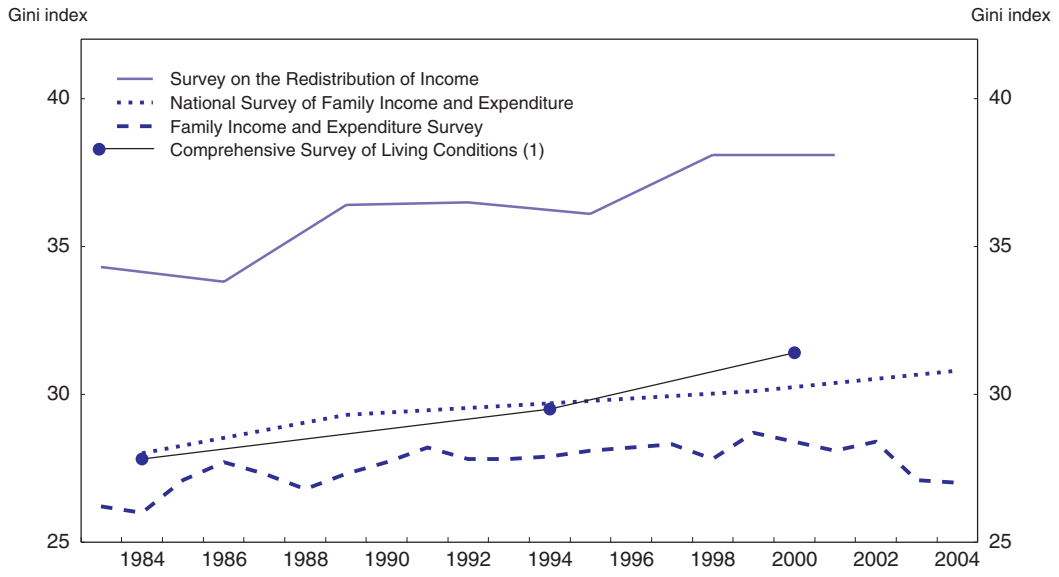
Comparison of data from Japanese government surveys

There are a number of government surveys that provide information on income distribution in Japan (Figure 4.A1.1):

- The *Comprehensive Survey of Living Conditions of the People on Health and Welfare* by the Ministry of Health, Labour and Welfare (MHLW), which carries out a large-scale survey every three years. Its Income Survey includes about 32 000 households and replies are received by 80% of those surveyed. The Survey covers all items in gross income.

Figure 4.A1.1. **Different measures of the Gini coefficient in Japan**

Gini coefficient * 100 for disposable income



1. Survey data used by the OECD to calculate an internationally consistent estimate of Gini coeffcients.

Source: Ministry of Health, Labour and Welfare, Ministry of Internal Affairs and Communications and Förster and Mira d'Ercole (2005).

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- The *Survey on the Redistribution of Income* by the Ministry of Health, Labour and Welfare. The sample data is taken from the *Comprehensive Survey of Living Conditions of the People on Health and Welfare*.
- The *National Survey of Family Income and Expenditure* by the Ministry of Internal Affairs and Communications is based on a sample of 60 000 households.
- The *Family Income and Expenditure Survey* by the Ministry of Internal Affairs and Communications, which is based on only 8 000 households.

All four Surveys report a rise in income inequality between the mid-1980 and 2000, although by differing amounts. The data from the *Comprehensive Survey of Living Conditions of the People on Health and Welfare* (on which the comparative OECD study is based), gives a 12.9% rise in income inequality for the total population, compared to 11.1% in the *Survey on the Redistribution of Income,* 8.3% in the *National Survey of Family Income and Expenditure* and 6.1% in the *Family Income and Expenditure Survey.*

The results of the *Comprehensive Survey of Living Conditions*, which is used by the OECD for its comparative analysis, and the *Survey on the Redistribution of Income,* are similar as expected as the data comes from the same survey by MHLW (Table 4.A1.1). The *Comprehensive Survey* exclude households headed by a person below the age of 17 and all individuals whose age is not recorded, thus allowing comparisons of working-age and elderly populations, as shown in Tables 4.1and 4.3. In contrast, the data from the *Survey on the Redistribution of Income* that are available to the OECD Secretariat do not have separate measures of inequality for the working-age and elderly populations. However, persons with an income three times larger than the standard deviation are excluded from the *Comprehensive Survey* (1.6% of all persons in 1995 and 1.3% in 2000), thus reducing inequality measures that are sensitive to the high end of the income distribution. In sum, the Gini coefficients from the two *Surveys* agree that government policies have had a growing impact on reducing inequality but have been more than offset by the rising inequality in market incomes. The main difference between them concerns the level of inequality. The Gini coefficients calculated from the *Comprehensive Survey* by the OECD are

Table 4.A1.1. **Comparison of different measures of the Gini coefficient**

The Gini coefficient multiplied by 100 for the total population

	Market income		Disposable income		Impact of government policies[1]	
	Survey of living conditions[2]	Survey on income redistribution[3]	Survey of living conditions[2]	Survey on income redistribution[3]	Survey of living conditions[2]	Survey on income redistribution[3]
Mid-1980s[4]	31.7	39.8	27.8	34.3	3.9	5.5
Mid-1990s[5]	36.9	43.9	29.5	36.5	7.4	7.4
Around 2000[6]	41.0	47.2	31.4	38.1	9.6	9.1
Change, mid-1980s to 2000						
Percentage points	9.3	7.4	3.6	3.8	5.7	3.6
Per cent	29.3	18.6	12.9	11.1	146.2	65.5

1. Percentage point difference between the Gini coefficients for market income and disposable income.
2. As reported in the OECD comparative estimates (Förster and Mira d'Ercole, 2005), which for Japan uses the data from the *Comprehensive Survey of Living Conditions* by the Ministry of Health, Labour and Welfare.
3. The *Survey on the Redistribution of Income* by the Ministry of Health, Labour and Welfare.
4. 1984 for Japanese estimate. 1985 for OECD estimate.
5. 1993 for Japanese estimate. 1994 for OECD estimate.
6. 1999 for Japanese estimate. 2000 for OECD estimate.

Source: The OECD comparative estimates based on the *Comprehensive Survey of Living Conditions* are reported in Förster and Mira d'Ercole (2005).

adjusted for family size as noted above, thus making them significantly less than the Gini coefficient from the *Survey on the Redistribution of Income,* which is not adjusted.

The Gini coefficients from the *Comprehensive Survey of Living Conditions of the People on Health and Welfare* and the *Survey on the Redistribution of Income* are higher than the other two estimates shown in Figure 4.A1.1. This reflects the fact that the *Family Income and Expenditure Survey* and the *National Survey of Family Income and Expenditure* by the Ministry of Internal Affairs and Communications exclude single-person households. The latter two Surveys by the MHLW thus give a more complete picture of trends in inequality, thus giving a much lower level of inequality.

The impact of taxes and social spending on income distribution

Using the *Survey on the Redistribution of Income*, it is possible to distinguish between the impact of taxes and social spending on income distribution. The redistributive effect of the tax system has been relatively small and declining since 1993. In contrast, the impact of social spending is much larger and has been increasing. To some extent, this result, which is for the entire population, reflects the influence of rising pension outlays.

Gross *versus* net public social spending

The tax system affects social expenditure through several channels (Table 4.A1.2):

- *Direct taxation*, including social security contributions paid on cash transfers. In Japan, direct taxes on cash benefits are low, reflecting reduced taxation of pension benefits and the exemption of child, unemployment and social assistance benefits.
- *Indirect taxation* levied on goods and services bought by benefit recipients. The value-added tax (the consumption tax) in Japan is set at 5% compared to rates between 13% and 21% in most European countries.
- *Tax breaks* with a social purpose, such as tax expenditures for families with children and favourable treatment of contributions to private health plans. Such tax breaks amount to 1% of GDP in Japan.

Table 4.A1.2. **Net public social spending in OECD countries**

Per cent of GDP in 2001

	Japan	United States	OECD average[1]
1. Gross public social spending	16.9	14.7	20.4
2. Direct taxes[2] on cash benefits	0.2	0.5	1.2
3. Indirect taxes on cash benefits	0.6	0.3	1.8
4. Net direct public social spending = 1 – 2 – 3	16.1	13.9	17.4
5. Net tax breaks	1.0	2.0	0.5
6. Net public social spending = 4 + 5	17.1	15.9	17.9

1. Average of 23 countries. Greece, Hungary, Luxembourg, Poland, Portugal, Switzerland and Turkey are not included.
2. Includes social security contributions.

Source: Adema and Ladaique (2005).

Direct and indirect taxation has a relatively small impact in Japan, reducing social expenditure by 0.8% of GDP, compared to an OECD average of 3% (Table 4.A1.2). In particular, such taxes reduced social expenditure by between 5½ and 7½ per cent of GDP in Denmark, Finland and Sweden. In addition, tax breaks with a social purpose are 1% of GDP,

twice as high as the OECD average. In sum, the tax system substantially narrows the gap in public social spending between Japan and other countries.

Relative *versus* absolute poverty[3]

The choice of the poverty threshold – the income threshold below which a person is considered poor – crucially affects the calculation of poverty rates. Two categories of thresholds are commonly used:

a) *Absolute poverty* based on the cost of a basket of basic "necessities". The threshold of poverty is constant over time in real terms.

b) *Relative poverty* based on a percentage of an indicator of the average "standard of living", typically the median (or the mean) of the entire distribution. The threshold of poverty is allowed to change over time.

Both approaches have benefits and drawbacks. An advantage of absolute poverty is that it more closely reflects the evolution of the standard of living of poor persons.[4] From a policy perspective, absolute thresholds provide a fixed target for social assistance programmes, which facilitates the assessment of anti-poverty policies.

However, the calculation of absolute poverty thresholds confronts difficult conceptual and statistical issues, especially when international comparisons are involved. *First*, it is unclear that basic necessities are identical across countries. *Second*, international comparisons of absolute thresholds require "appropriate" exchange rates, typically some type of purchasing-power-parity (PPP) exchange rate. While PPP exchange rates have been calculated to compare GDP or national consumption levels in different countries, they are not appropriate for comparing poverty cut-offs.[5] *Third*, the choice of a price index to update absolute thresholds within each country also raises further difficulties.[6]

Because of the conceptual and statistical issues involved in the calculation of absolute poverty measures, most international studies rely on relative poverty measures. This chapter as well focuses on the level of relative poverty, using 50% of median income as the threshold. It should be noted that an increase in relative poverty may result from a rise in average income, which does not imply a deterioration of the living standard of the poor.

Notes

1. This section draws heavily on Annex 1 of Förster and Mira d'Ercole (2005).
2. This implies that, to keep economic well-being unchanged, household income needs to increase by 41% when a second member joins the household, by a further 32% for a third, and by 26% for the fourth.
3. This section draws on *Background Report No. 2 – Labour Market Performance, Income Inequality and Poverty in OECD countries* to the *OECD Jobs Strategy: Lessons from a Decade's Experience*.
4. For example, a broad-based drop of income across deciles would raise poverty rates calculated with absolute thresholds but would leave unchanged those calculated using relative thresholds.
5. For example, food is less expensive in the United States than in other OECD countries. As the share of food in the expenditures of poor persons is higher than that of the average household, the use of the PPP exchange rate to convert the absolute thresholds of different countries into a common unit would overstate US absolute poverty compared to other OECD countries.
6. Absolute poverty thresholds are usually updated using the overall consumer price index (CPI). However, the growth rate of the overall CPI index is an imperfect indicator of the increase of living costs for low-income families as their expenditure pattern is different from that of average households.

ANNEX 4.A2

The development of social spending in Japan

The development of the social welfare system in Japan is based on Article 25 of the 1947 Constitution:

a) All people shall have the right to maintain minimum standards of wholesome and cultured living.

b) The State must make efforts to promote and expand social welfare, social security and public health services to cover every aspect of the life of the people.

The major steps were the introduction of public pension and health insurance systems in 1961 and long-term nursing care insurance in 2000. The year 1973 was another landmark year, marked by the introduction of family and child allowances and price indexation for pensions, as well as increases in the coverage and payments for pension programmes and health insurance. The following year, unemployment insurance, introduced on a limited scale in 1947, was expanded into the Employment Insurance System.

However, the initial momentum towards the development of an extensive social safety net was subsequently slowed by a variety of factors. *First*, 1973 marked the end of the high-growth era, encouraging a more modest vision of government's capacity to provide social welfare. *Second*, government budget deficits ballooned in the 1970s and again in the 1990s, prompting spending restraint. *Third*, as the speed of population ageing became apparent, the plans for the development of the safety net became less ambitious. *Fourth*, the traditional roles played by families and firms and the high household saving rate limited the perceived need for public welfare programmes (Tachibanaki, 2003).

Public social spending remained fairly constant at around 11% of GDP from 1980 until 1991 in the context of low unemployment and a relatively young population (Figure 4.3). However, it increased significantly to almost 17% during the 1990s, while the average level in the OECD area was about the same in both 1990 and 2000. About two-thirds of the rise in social spending as a share of GDP in Japan was due to outlays for pension and survivor benefits (Panel B). Health spending, an area also driven in part by population ageing, accounted for most of the remaining increase.

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Chapter 5

Upgrading Japan's innovation system to sustain economic growth

Increasing productivity growth through innovation is a key to raising living standards. Although R&D intensity in Japan is the third highest in the OECD area, the benefits do not appear to have been commensurate with the level of investment. The innovation system, which developed during the catching-up process, is largely input-driven and focused on incremental innovation based on closed and stable corporate and employment systems. However, this approach is less appropriate in the current global environment that favours risk-taking and a more open system relying on external linkages. To improve the innovation system, a broad-based strategy is needed, including a reform of framework conditions in the product and labour markets to strengthen competition and mobility, enhance international R&D links and improve the environment for venture business. Education and public research should be upgraded through stronger competition. The effectiveness of science and technology policy should be increased by strengthening its link to economic framework policies.

Innovation – the successful commercial development and application of new knowledge – has been an important source of economic growth in Japan, as in other OECD countries.[1] Innovation leads to higher income growth through productivity gains and by creating new demand (Aoki and Yoshikawa, 2002). From the 1960s until the early 1990s, Japanese innovation focused on imitating and improving products and processes that had been developed in other countries, thereby limiting costs.[2] Process innovation and incremental product innovation were an important aspect of this process, resulting in technological advances in manufacturing that were exploited by large-scale investment (OECD, 2005e). Incremental innovation was achieved through a complicated interaction and integration of skills (*suriawase*) within each company and within closed networks of companies based on the internal accumulation of company-specific knowledge (Goto, 2000). The system was supported by a stable and self-contained business system, built on a rigid employment structure of seniority-based promotion, life-time employment and in-house training. The self-contained structure was also encouraged by an extensive indirect financing system, centred on each company's "main bank". In addition, enterprises pursued self-contained R&D strategies by establishing their own research institutes, reflecting in part their low expectations of higher education in Japan, but thereby further weakening domestic and international linkages.[3]

However, as Japan was completing the catching-up process, international competition was shifting to a new stage of industry-based knowledge and open networks. Basic research tends to be outsourced to universities and external research organisations with specialised expertise, while start-up companies play an increasingly important role in risky investment.[4] The importance of company-specific knowledge and experience accumulated and shared internally is being replaced by more specialised, codified, module-based and open-network type knowledge in the era of rapid technological progress and globalisation and this trend is expected to continue (OECD, 2005e). Although the government and the business sector recognised by the end of the 1980s the importance of shifting from a catching-up process to a system based on fundamental product innovation through creativity, Japan has been slow to adjust its corporate system and industrial structure to this new environment. Moreover, the concept of management of technology, including closer interaction between R&D and marketing, is weak in a large proportion of Japanese firms.[5]

R&D spending in Japan increased markedly during the 1990s despite economic stagnation. The high level of investment in R&D is reflected in some positive outcomes that are supporting Japan's international competitiveness in some key sectors. According to the US National Science Foundation, Japan's share of world exports of seven key high-tech manufactured products in 2001 was 10%, second only to the US share of 17%.[6] The steady increase in Japan's net technological balance of payments[7] also reflects a strengthening of its innovation activities, which is mirrored in the rankings of Japan's R&D performance in various international surveys.[8] However, a number of industries have lost competitiveness,

particularly in sectors characterised by module-based production, such as portable computers, semi-conductors, telecommunications equipment and bio-industry (Ando and Motohashi, 2002).

Moreover, the return on investment in knowledge did not meet expectations. Indeed, the economic malaise of the 1990s raised the question of why the OECD country with one of the highest R&D intensities had such disappointingly low rates of productivity growth. Looking ahead, innovation to boost productivity is a key to sustaining increases in living standards as the decline in the working-age population accelerates. This chapter examines the current innovation system in Japan and highlights a few key challenges:

- Japanese innovation activities, which developed as part of the catching-up process, need to be modernised and internationalised to raise their efficiency.
- The concept of innovation in Japan is generally equated with pure scientific progress, focusing government policies on science and technology. Weak links between science and technology policies and framework conditions, such as education, the product and labour markets, and competition policy, have led to a failure to maximise the return on R&D and to strengthen innovation, particularly in the service sector, which is a key to sustaining economic growth.

The chapter begins with an assessment of Japan's innovation performance, followed by an analysis of recent government initiatives in this area. The following section examines policies to improve the innovation system, including changes in framework conditions, notably venture capital, the labour market and product market competition, as well as human capital development and innovation-specific policies. The chapter concludes with a set of policy recommendations (Box 5.4).

Major challenges facing the innovation system in Japan

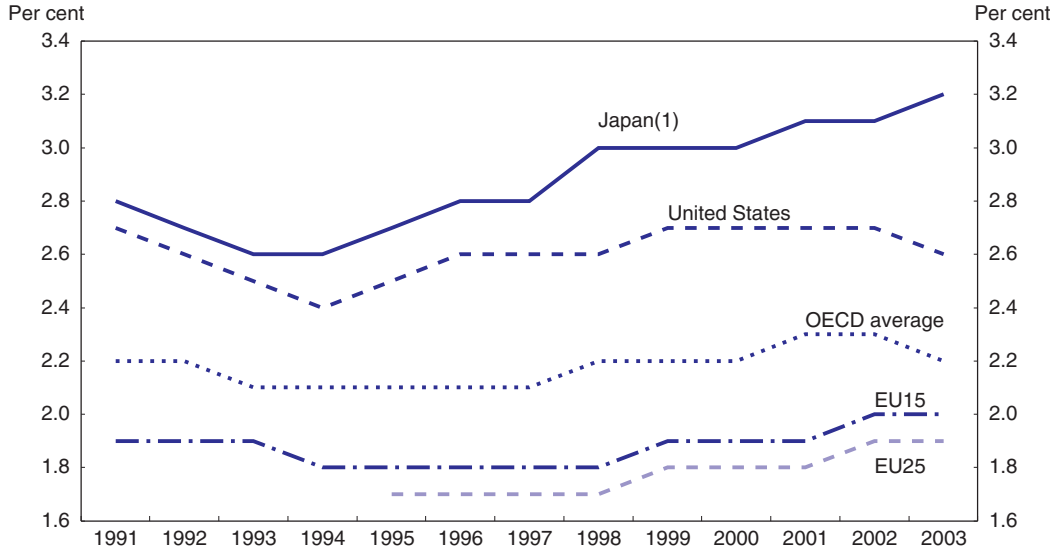
While innovation is a key factor driving economic growth in the long run, it is difficult to measure (Box 5.1). A common method is to look at R&D performance, as this is a basic source of innovation. Japan recorded the third highest R&D intensity in the OECD area at 3.2% of GDP in 2003, compared with 2.6% in the United States and 2.0% in the EU (Figure 5.1).[9] Japan's high ranking is primarily due to the business sector, whose R&D intensity was also the third highest in the OECD, accounting for three-quarters of total R&D expenditures (Box 5.2). At the same time, R&D outlays by the government and higher education as a share of GDP were also above the OECD average. Moreover, public R&D spending during the past decade rose at a 6% real annual average rate, compared with an OECD average of 3.5%, thus contributing to the increase in R&D intensity in Japan. Growth in the number of researchers has also outstripped the OECD average during the past decade. In sum, despite depressed economic conditions, the level of R&D inputs has increased significantly since 1990 from already high levels, placing Japan near the top of OECD countries.

The return on investment in R&D appears weak

The overall output from investment in innovation does not appear to have been commensurate with the large amount of inputs. The Science Council of Japan estimates that efficiency in R&D in the four priority areas (see below) is around half of that in the United States and major European countries.[10] In addition, according to a survey of firms

Figure 5.1. **International comparison of trends in R&D intensity**

Gross domestic expenditure on R&D as per cent of GDP



1. The data for Japan prior to 1996 are adjusted to make them comparable to other countries. Until 1995, Japanese data for R&D personnel was expressed as the number of persons, rather than in terms of full-time equivalent.

Source: OECD, *OECD Science, Technology and Industry Scoreboard 2005*.

Box 5.1. **The measurement of innovation**

Most of the rise in living standards since the industrial revolution has been the result of innovation, through new products and services and by more efficient ways of producing them. Assessing innovation performance remains a challenge, given the lack of direct and comparable measures of innovation outcomes. One way to measure the volume of innovative activity is to look at total and/or private spending on R&D. However, one limitation is that investment in innovation also includes activities that are not necessarily recorded as formal R&D spending, such as the purchase of high-tech equipment, training and product testing. Furthermore, the volume of R&D spending is not sufficient to assess a country's success in innovation. As with all types of investment, it is not only the total amount invested that matters but also how efficiently resources are used. Recent innovation surveys provide some insights into innovation performance, but suffer from response biases that limit cross-country comparability (OECD, 2004b).

A key measure of innovation output is the number of patents issued, although this indicator has a number of weaknesses. *First*, international comparability is limited by several factors, including substantial variations in the criteria used to grant patents, the filing system and the cost of patenting. One measure that reduces the impact of such factors is the number of triadic patents – patents issued by the United States, Japan and the European Union. *Second*, the propensity to patent differs across industries, affecting comparisons based on economy-wide data. *Third*, perhaps more importantly, patents only capture part of innovation output. Many innovations are not patented as companies may prefer to keep commercially sensitive information secret or claim property rights via other means such as trademarks and copyrights. In addition, many patents are never exploited for economic purposes.* The shortcomings of available indicators need to be kept in mind in assessing innovation performance.

* A survey of 643 major companies in Japan found that patents are not necessarily the key instrument used to obtain exclusive rights over innovative outcomes (Goto, 2000). As for product innovation, advancing the time of initial production was the most effective method (41%), followed by patents (38%) and possession and administration of production facilities and know-how (33%). For process innovation, possession and administration of production facilities and know-how was ranked at the top (36%), followed by hiding technological information (29%) and patents (25%). There are wide differences between industries; in pharmaceuticals, for example, 65% of firms cited the effectiveness of patents.

Box 5.2. **An international comparison of Japan's innovation system**

Total R&D spending is high in Japan

Total R&D spending in Japan as a share of GDP is significantly above the OECD average (Figure 5.2, line 1):

- As a share of GDP, R&D expenditures by the business, government and higher education sectors were each higher than the OECD average in 2003 (lines 2, 3 and 4).
- In terms of the allocation of national R&D outlays between sectors, the business sector in Japan in 2003 had a relatively large share (75% *versus* an OECD average of 62%), higher education had a relatively low share (14% *versus* 19%) and the government sector was close to the OECD average (9% *versus* 11%).
- On the funding side, business-sector financing of R&D – at 2.4% of GDP – was considerably above the OECD average of 1.4%. Government financing of R&D matched the OECD average of 0.7% of GDP.[1]

Japan had the third highest number of researchers relative to total population in the OECD area (line 5), with 10.4 per thousand in 2003, compared with 9.3 in the United States and 5.8 in the European Union. However, Japan's ranking would decline if the number of researchers were adjusted by the time devoted to research, given that Japanese researchers tend to spend more time on non-research activities. As with R&D spending, about three-quarters of researchers are in the business sector. The expansion of higher education enrolments has also boosted human capital in Japan (line 6): tertiary-level graduates as a percentage of total employment was the second highest in Japan at 41% in 2003, compared with an OECD average of 29%. Moreover, the proportion of tertiary degrees in science and engineering (line 7) is above the OECD average of 23%.

The return on R&D investment

Although its production of scientific articles is growing rapidly, Japan's share of 9% of the world total in 2001 was well below its contribution to global R&D and patents. When scientific articles are compared to population, Japan ranks 17th in the OECD area and is the only G-7 country below the OECD average (line 8). In the 19 most industry-relevant scientific disciplines, Japan ranks 18th among 23 OECD countries in publications (OECD, 2005e). Moreover, while US publications show balanced strength across scientific areas, as measured by the number of publications, Japan reports large imbalances between relatively strong fields, such as material science and chemical engineering, and weak fields such as biosciences, medicine and pharmaceuticals.On the other hand, Japan's contribution to global patenting is large relative to its population (line 9) and R&D efforts, accounting for 24% of all triadic patents in 2001, compared with around 34% for both the United States and the European Union, However, a large proportion, as much as two-thirds according to a recent study, are idle – so-called "sleeping patents" (OECD, 2005e).[2]

Japan is the least active in international co-operation in R&D and patenting

During the period 1999-2001, Japan was the lowest in the OECD area in each of the measures of international integration shown in Figure 5.2 (lines 10 to 12). Foreigners owned less than 4% of domestic inventions in Japan (line 11), well below the 12% level in the United States and the European Union. The share of patents with foreign co-inventors in Japan was less than 3%. Foreign affiliates accounted for 4% of manufacturing R&D in Japan, substantially below the level of around 18% in the United States and the European Union.

Weaknesses in the area of R&D linkages, services and venture capital investment

International comparisons indicate a number of other weaknesses in Japan's innovation system:

- The linkages between R&D sectors appear to be weak. For example, the share of government-financed business R&D in Japan was 0.8% in 2003 (line 13), the lowest in the OECD, compared with 7% in the European Union and 10% in the United States.

Box 5.2. **An international comparison of Japan's innovation system** *(cont.)*

- Japan is lagging in the service sector. Knowledge-intensive services accounted for 16.5% of total value added in 2002 (line 14), well below the European Union at 19% and the United States at 24%.
- The share of the service sector in business R&D in Japan was the lowest in the OECD at 7% (line 15), well below the 15% in the European Union and 40% in the United States. The service sector contributed only 0.7 percentage point annually to labour productivity growth during 1995-2003, compared with 1.7 points in the United States.
- Venture capital investment as a percentage of GDP (line 16) in Japan was the second smallest in the OECD area.

1. In other words, the business sector completely financed its R&D outlays (shown in line 2), while the government funded the R&D activities of public research institutes (line 3) and higher education (line 4).
2. In Japan, large companies tend to evaluate researchers based on the number of patents they generate, while placing less emphasis on their success in making innovative and risky investments based on those patents (Wakasugi *et al.*, 1995 and Goto, 2000).

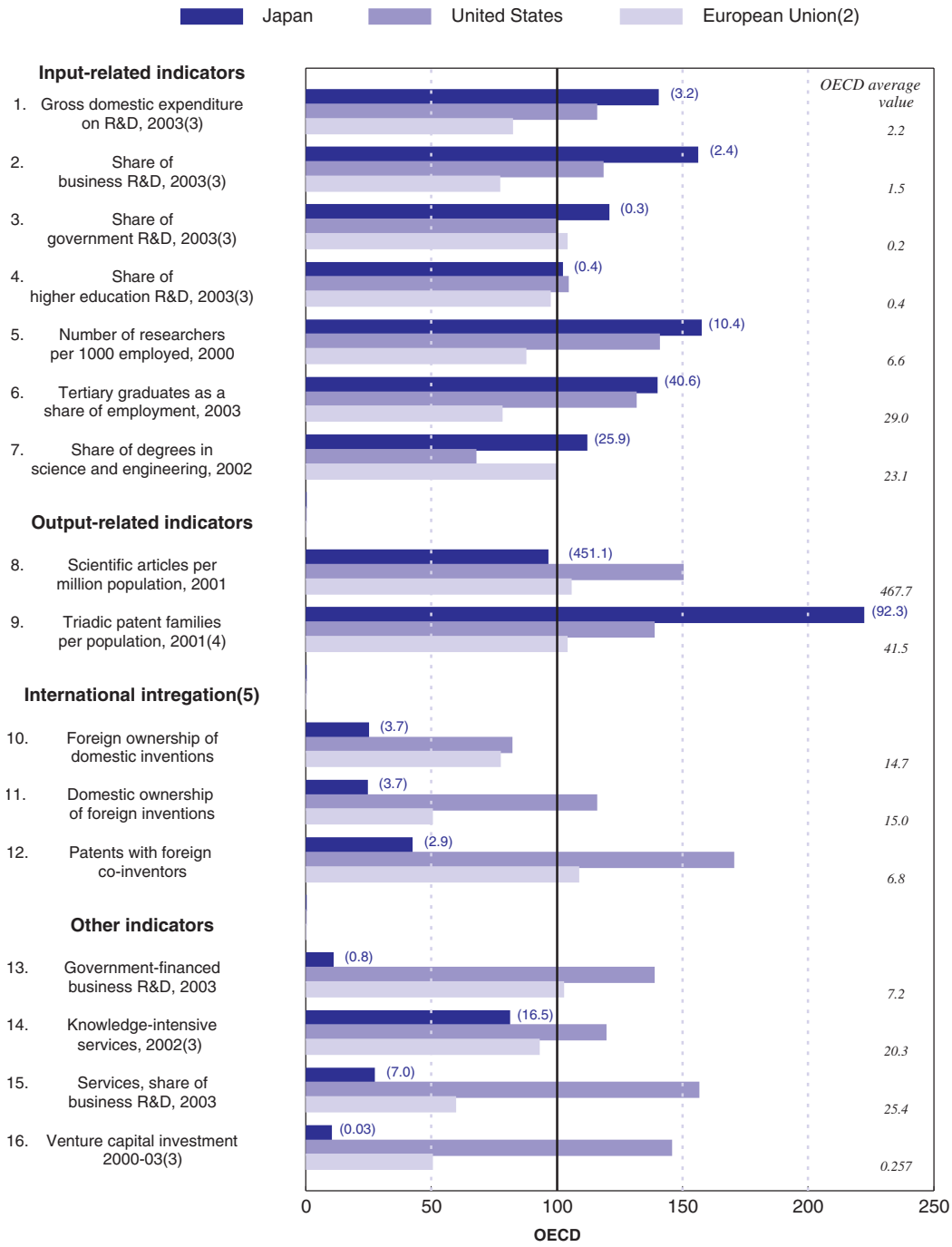
in Europe and Japan, the proportion of Japanese companies reporting success in innovation is only 22%, well belowthe EU average of 41% (Figure 5.3), although there is a need for caution in evaluating such survey results. Japan ranks slightly below the OECD average in the number of scientific articles per population, even after adjusting for the number of citations, and is weak in the disciplines most relevant to the business sector (Box 5.2). On the other hand, the National Institute of Science and Technological Policy (NISTEP), a research institute of the Ministry of Education, Culture, Sports, Science and Technology, reported that the number of papers published per university faculty member in natural science in Japan has almost reached the US level, while the number of papers per R&D expenditure is higher (NISTEP, 2005).

Moreover, there is evidence that the impact of R&D on the economy has weakened during the past decade. A study by the Cabinet Office (2005a) found that the efficiency of private-sector R&D declined during the 1990s (Figure 5.4).[11] In addition, while an OECD report found a positive correlation between changes in business-sector R&D intensity and multifactor productivity (MFP) growth during the 1980s and 1990s in the OECD area, the fact that Japan recorded a decline in MFP growth despite higher R&D spending suggests that its investment in innovation was less efficient (OECD, 2001). However, given that productivity growth is affected by cyclical factors, economic stagnation also depressed MFP gains during the 1990s.[12] In addition, structural problems during the post-bubble period, notably in the financial system, pushed down productivity.[13] With the cyclical upturn and the removal of structural obstacles through restructuring, the high level of R&D should now be more effective in boosting productivity growth in the coming years. However, the capacity to innovate depends on successful interactions between a number of actors and institutions that contribute in different ways to the innovation process (OECD, 2005e). Conditions for a successful national innovation system include:

- Strong industry-science linkages, allowing firms to better exploit the output from public research and helping researchers to better respond to business sector needs.
- A significant proportion of firms actively engaged in cross-border trade and investment, given that genuinely new products or processes often come from abroad.
- A solid science base, anchored in higher education and research organisations that nurture cutting-edge research and develop skilled human resources in science, technology and engineering.

Figure 5.2. **International comparison of Japan's innovation performance**

OECD = 100, latest available year[1]

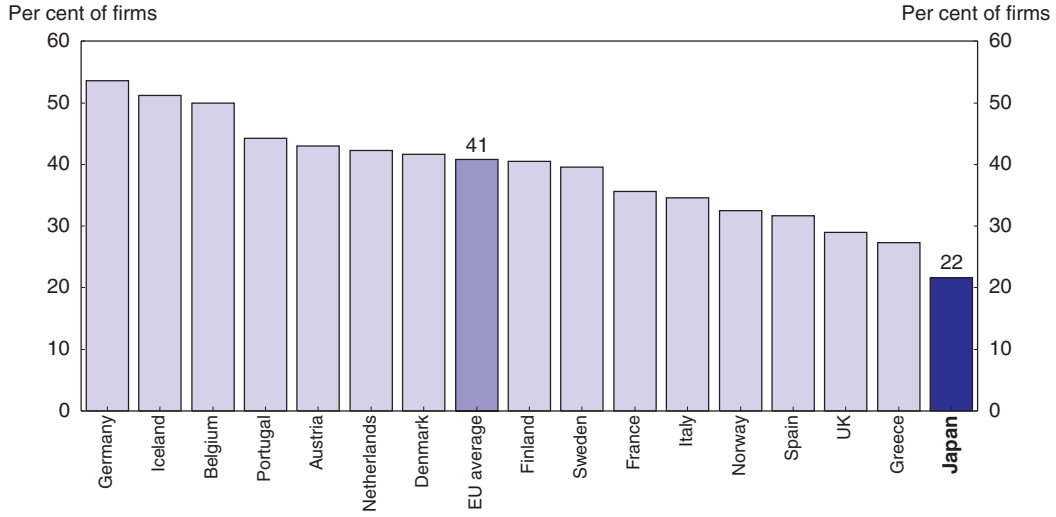


1. See Annex 5.A1 for information on individual countries. The year varies among countries. See the source for information on exact years for individual countries.
2. Does not include all European Union member countries. See Annex 5.A1 for information on which countries are excluded.
3. As per cent of GDP.
4. Patents filed in the United States, Europe and Japan.
5. During the period 1999-2001.

Source: OECD, *OECD Science, Technology and Industry Scoreboard 2005*.

Figure 5.3. **International comparison of success in innovation**

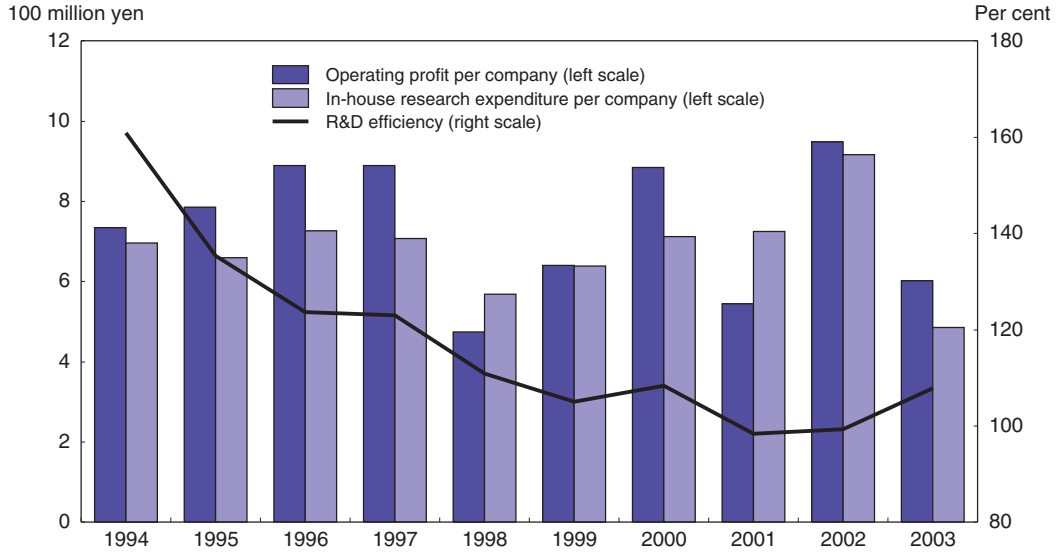
Based on surveys of firms[1]



1. The survey period was 1999-2001 for Japan and 1998-2000 for the European countries. The EU average is the average of the 13 EU countries shown in the figure. This comparison was published in Japan by the Cabinet Office (2005a). There is a need for caution in evaluating such surveys because of the low response rate in Japan.

Source: National Institute of Science and Technology Policy, *National Innovation Survey 2003*, and Eurostat, *Innovation in Europe*.

Figure 5.4. **Trends in R&D efficiency in the manufacturing sector**



Note: R&D efficiency in each fiscal year is calculated as (cumulative operating profit per company over the preceding five years)/(cumulative research expenditure per company used in-house over the period five to nine years prior to the given fiscal year). For example, the R&D efficiency rate in FY 2003 is the cumulative profits between FY 1999-2003 divided by R&D expenditures between FY 1994-98.

Source: Cabinet Office (2005a), *Annual Report on the Japanese Economy and Public Finance 2005*.

- A culture of entrepreneurship underpinned by market incentives and conditions that encourage risk-taking activities.
- Appropriate framework conditions, including product market competition and regulation and labour market regulations that encourage both the creation and diffusion of innovation.

The following section examines Japan's performance in these areas.

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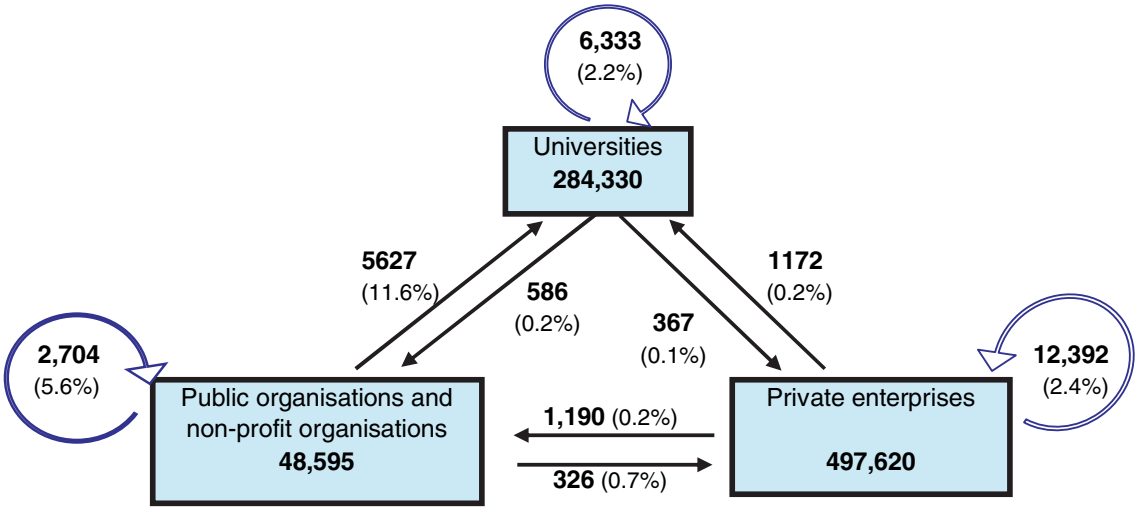
Factors explaining the low return on R&D investment

Ties between the business sector and research organisations in the public sector are weak

Links between firms and research institutes in government and higher education can improve the match between public-sector research and industry needs, thus facilitating the transfer of knowledge to firms. Such links, however, are weak in Japan. For example, business-financed R&D performed by the government and higher education as a share of GDP are only 40% and 50%, respectively, of the OECD average. As noted above, many firms prefer to establish their own R&D centres. Moreover, the movement of researchers among institutes, an effective way to transfer knowledge and technology, is extremely low in Japan, reflecting rigid employment practices. The average number of job changes by researchers in Japan is 0.8 times during their career, significantly less than in some other countries, such as the Netherlands (3.5), Australia (2.6), Germany (2.0) and the United States (1.6) (Carnegie Foundation for the Advancement of Teaching, 1994). Only 3.7% of researchers changed their organisational affiliation in FY 2003 (Figure 5.5). Of the academic researchers who changed jobs, 85% moved to another academic post and only 6% went to the business sector.

Figure 5.5. **Mobility of researchers**

Number of researchers and job changes within and between organisations in FY 2003[1]



1. Including liberal arts and social studies, and including post-doctoral students. Figures in parentheses show the proportion of researchers in each sector that changed positions in 2003.

Source: National Institute for Scientific and Technological Policy (NISTEP) and Mitsubishi Research Institute (2005).

A low degree of openness to international trade and investment

Innovation performance is also related to the degree of openness to knowledge and ideas generated abroad. The penetration of foreign affiliates in both manufacturing and services is the lowest in the OECD area (see Chapter 6).[14] In addition, Japan, together with Korea, has the lowest share of highly skilled foreign workers in its labour force. Although Japan encourages foreign researchers and other highly skilled workers to work and study in Japan, their access to the labour market is restricted as they must have studied at the university level the subject relevant to the job concerned. Not surprisingly, Japan is ranked at the bottom in many of the indicators on international linkages in R&D. For example, it is the least active country in international co-operation in R&D activities in the OECD area

(Figure 5.2, line 12) and the share of foreign ownership of domestic patents is extremely low (line 10). Japanese firms that have established overseas research centres and R&D alliances with foreign firms have achieved better innovation performances (OECD, 2003b).

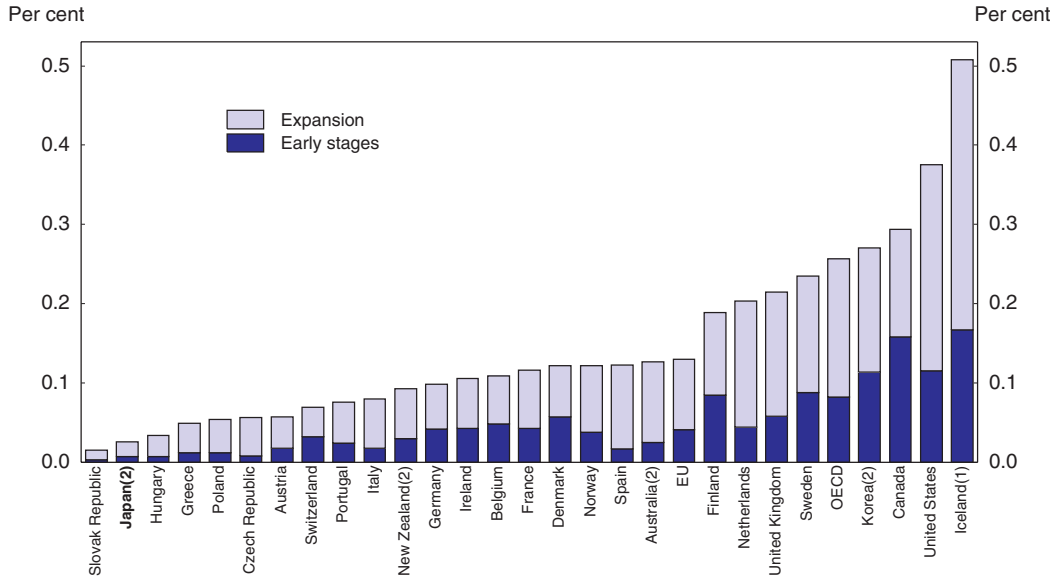
Problems in the education system undermine the science base

Scientific research is a major source of technological progress, indicating the importance of education for both the creation and implementation of innovation. Despite high graduation rates for both upper secondary and tertiary education in Japan, there are a number of weaknesses. Japan ranked 22nd in the OECD area in 2002 in the number of doctoral graduates as a share of the relevant age cohort (OECD, 2005a). The share of new students in science, engineering and agriculture courses at the university level declined from 26% in 1995 to 23% in 2004 (Cabinet Office, 2005a). The share of women in science and technology is also low. Indeed, the proportion of women among students who completed undergraduate, master and doctoral coursework in engineering (10%) was the lowest in the OECD area in 2002, while in the case of science degrees, it was the second lowest (39%). Although Japan's high level of basic education contributed to faster growth during the period of mass production and catching-up, the lack of diversity and the declining level of basic education, as suggested by international test results (see below), may act as a drag on the diffusion of innovation.

The lack of a risk-taking culture that encourages entrepreneurship

A market environment that is conducive to risk-taking enhances entrepreneurship as well as the capacity to innovate. However, venture capital investment and entrepreneurship is exceptionally weak in Japan. Venture capital investment as a share of GDP is the second lowest among OECD countries (Figure 5.6). Moreover, the share of Japanese venture capital invested in high-technology sectors, such as communications, IT and biotechnology, is the

Figure 5.6. **Venture capital investment, 2000-2003**
Per cent of GDP



1. Data from 2000-02.
2. Data from 1998-2001.

Source: OECD, *OECD Science, Technology and Industry Scoreboard 2005*.

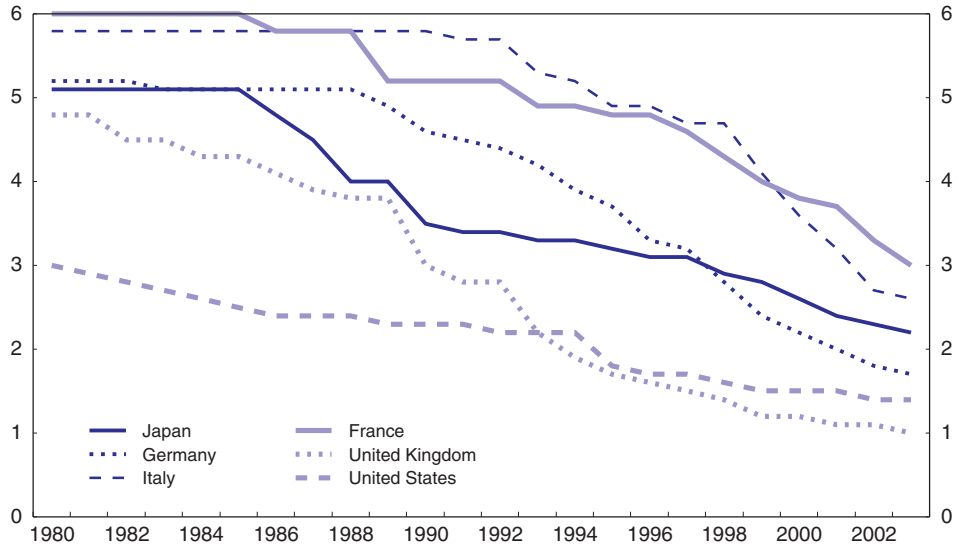
third lowest among OECD countries, and about half of the OECD average (OECD, 2005e). Business start-ups are also less frequent in Japan, accounting for 4% of firms compared with around 10% in Europe and 14.3% in the United States.[15] Not surprisingly, Japan is ranked at the bottom of the International Institute for Management Development's (IMD) rankings on entrepreneurship.

Problems in the regulatory framework slow innovation

Another important factor is that framework conditions – which include product market competition and the financial system – have failed to support the transition of the Japanese innovation system to the global standard. An econometric study of change in business R&D intensity found that Japan was one of four OECD countries in which the framework conditions reduced business-sector R&D intensity during the 1990s (Figure 1.7). Moreover, the negative impact of framework conditions was by far the largest. One aspect of framework conditions is product market regulation, where Japan ranked 11th in the OECD area in 2003, well behind the front-runners. Moreover, an indicator of regulatory reform in seven non-manufacturing industries placed Japan in the middle of the six largest OECD economies (Figure 5.7). Nevertheless, productivity growth has accelerated in some sectors that experienced relatively rapid progress in regulatory reform, suggesting that appropriately designed framework conditions can enhance innovation outcomes.[16]

Slow progress in reforming regulations in the service sector has hindered productivity growth. Indeed, average labour productivity in services fell from 88% of the US average in 1993 to 84% in 2003, despite the high and rising level of productivity in Japan's finance, insurance, real estate and business services, which is above US levels (Figure 5.8). Excluding those industries, labour productivity in the service sector declined from 85% to 78% of the US level over the same period. Moreover, the knowledge-intensive industries

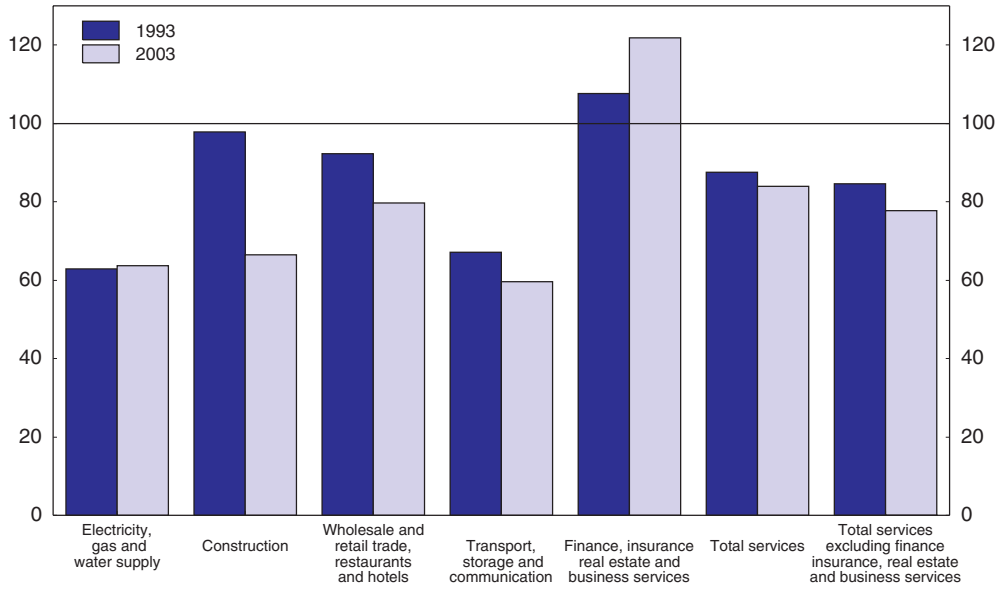
Figure 5.7. **Regulatory conditions in seven non-manufacturing sectors**
Zero means least restrictive[1]



1. The regulatory indicator is calculated as the simple average of the seven sectoral indicators. The sectors are telecommmunications, electricity, gas, post, road, rail and air passenger transport. Scores range between 0 and 6.

Source: OECD Product Market Regulation Indicators Database.

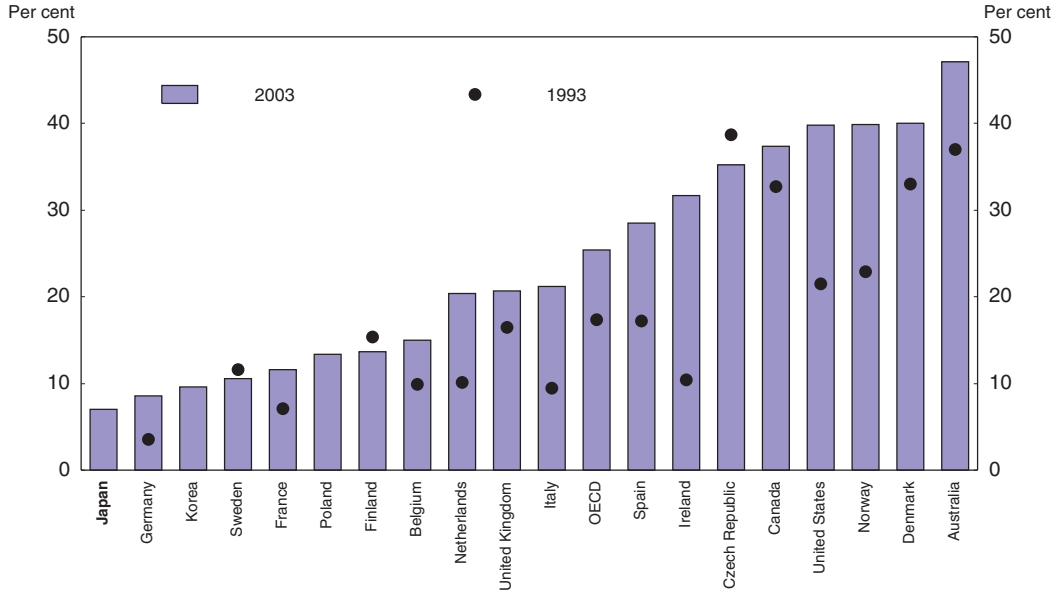
Figure 5.8. **Comparison of productivity in the Japanese service sector**
US = 100 using PPP exchange rates



Source: OECD STAN database and OECD Economic Outlook 79 database.

(post and telecommunications, finance, insurance and business activities) account for only 16.5% of value added, well below the United Kingdom at 22.5% and the United States at 24.3%. In addition, the share of services in business R&D in Japan is the lowest in the OECD area (Figure 5.9).

Figure 5.9. **Share of the service sector in business R&D**
2003[1]



1. Or most recent data available. See the source for more precise information.

Source: OECD, *OECD Science, Technology and Industry Scoreboard 2005*.

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Recent government initiatives to strengthen the national innovation system

The weaknesses outlined above have limited the positive impact from the expansion in R&D activities during the 1990s. Consequently, increased innovation inputs have failed to offset the deceleration in productivity growth recorded during the decade of depressed economic conditions. The government promotes innovation through its spending on R&D, which accounts for a quarter of total R&D outlays, and by policies influencing private-sector innovation activity. This section discusses the Council for Science and Technology Policy and the New Industry Promotion Strategy.

The Council for Science and Technology Policy and the third Basic Plan

The Council for Science and Technology Policy (CSTP) was created in 2001 to formulate and co-ordinate government policies in this area. The CSTP is chaired by the prime minister[17] and supported by a secretariat established in the Cabinet Office.[18] The Council's main activities are to formulate the Basic Plan for Science and Technology Policy (see below) and to evaluate the innovation policies of each ministry, mainly by assessing their budget proposals. New projects with a budget of over 100 million yen ($0.8 million) and on-going projects of over 1 billion yen ($8.5 million) are classified into four groups according to the priorities set by the Council (the so-called "SABC" system, with S reserved for the highest priority projects and C for the lowest). In FY 2006, 900 billion yen ($7.6 billion) – about a quarter of total science and technology budget requests – went through such evaluations before the budget was finalised. The Council has had some impact in changing the composition of science and technology spending; the budget for projects categorised as S, A, B and C changed by +16%, +12%, –3% and –30%, respectively, in FY 2005 compared with FY 2004. However, the change in the allocation of the science and technology budget across ministries has been small at less than 1 percentage point between FY 2001 and FY 2004 (Table 5.1).

Table 5.1. **National science and technology research system**

	Number of national research institutes	Number of independent administrative agencies	Science and technology-related budget in FY 2004		
	FY 2005	FY 2005	Billion yen	Share of total	Change in share since FY 2001
Diet	0	0	1.0	0.0	0.0
Cabinet Secretariat	0	0	63.2	1.8	–0.5
Cabinet Office	1	0	10.0	0.3	0.1
National Policy Agency	1	0	2.2	0.1	0.0
Japan Defense Agency	1	0	185.5	5.1	0.8
Ministry of Internal Affairs and Communications	0	3	80.1	2.2	–0.2
Ministry of Justice	1	0	2.2	0.1	0.0
Ministry of Foreign Affairs	0	0	10.3	0.3	0.0
Ministry of Finance	1	1	1.5	0.0	–0.1
Ministry of Education, Culture, Sports, Science and Technology	4	15	2 284.0[1]	63.3	–0.5
(88 national university corporations)			(1 040.6)		
Ministry of Health, Labour and Welfare	9	5	129.0	3.6	0.0
Ministry of Agriculture, Forestry and Fisheries	1	8	119.0	3.3	–0.2
Ministry of Economy, Trade and Industry	0	9	605.3	16.8	0.6
Ministry of Land, Infrastructure and Transport	5	9	83.7	2.3	0.0
Ministry of the Environment	2	1	31.2	0.9	0.0
	26	51	3 608.4	100.0	0.0

1. Including the budget of the national university corporations.
Source: MEXT, 2002 and 2005a.

Despite the important role of science and technology policy in enhancing economic growth, the CSTP's activity was confined in the past to purely scientific issues. Relatively little attention has been paid to the economic impact of innovation and the framework conditions needed to support such activities, particularly in the service sector. For example, the expert panels established thus far have given little emphasis to the overall impact of innovation on economic growth or the relationship with economic policies, reflecting in part the very small number of economists participating in the CSTP's panels. Furthermore, the CSTP should have more authority to improve framework conditions for innovation. For example, the Council's specific recommendations to improve the R&D system, in part through measures to increase R&D-based venture companies and the mobility of researchers, have not been fully implemented by the ministries. However, more recently, the CSTP appears to play a more active role in relation to economic policy. For example, in its "Comprehensive Strategy for Creating Innovation" (published in June 2006), the CSTP made specific recommendations to improve the R&D system, including measures to encourage closer industry-academia co-operation.

The government has implemented two Science and Technology Basic Plans, covering the periods of 1996-2001 and 2001-06. The second Plan placed more emphasis on basic research, greater co-operation among industry, academia and government and systemic reforms, such as expanding the competitive research grant system. It also identified four priority areas: *i)* life science; *ii)* information technology; *iii)* environment; and *iv)* nanotechnology and materials. Although the target for total government (including local government) expenditure on science and technology policy was increased from a total of 17 trillion yen during the first Plan to 24 trillion yen, weaker-than-expected economic conditions limited outlays to 21 trillion yen. Nevertheless, public R&D outlays rose from 0.7% of GDP during the first Plan to 0.8% in the second. Other numerical targets such as "30 Nobel laureates in 50 years" were also included in the second Plan. The share of the budget allocated to the four priority areas increased from 38% to 46% and the share of competitive grants rose from 8% to 13% between FY 2001 and FY 2005.

The government announced in March 2006 the third Science and Technology Basic Plan for FY 2006-2010, which was formulated by the CSTP (see Box 5.3). The Plan emphasises the importance of creating a knowledge-based economy in the context of intensifying worldwide competition, particularly with Asian countries including China and Korea. It includes a number of positive systemic reforms, such as encouraging human resource development, enhancing the mobility of researchers, expanding the role of universities, increasing competition in research funding and strengthening international linkages.

Despite many positive elements, there is still much room for improvement. *First*, there should be more focus on increasing efficiency in R&D spending rather than meeting a specific spending level, which risks encouraging wasteful investment. Past experience shows that expenditure targets for public works, such as roads and airports, led to inefficient investment and contributed to the rapid rise in government debt. Moreover, the extent of the planned increase, from the 21 trillion yen spent in the second Plan to 25 trillion yen in the third, is considerable in the context of the spending restraint needed to reduce the budget deficit. As noted above, public R&D spending as a share of GDP in Japan is already close to the OECD average (Figure 5.2), while there is considerable scope for improving the efficiency of these outlays. There is a risk that a generous medium-term spending target could encourage inefficient spending. As with all government spending, there is a need to ensure the efficiency of R&D investment. *Second*, the third Plan allocates

Box 5.3. **The third Science and Technology Basic Plan**

Basic ideas

- Promote science and technology that is supported by the public and provides benefits to society.
- Foster human resource development and a competitive research environment.
- Aim at six goals: *i)* realise great discoveries and inventions; *ii)* break through science and technology frontiers; *iii)* balance environmental and economic concerns; *iv)* enhance innovation by establishing appropriate economic conditions; *v)* promote a healthy and active life for all citizens; and *vi)* create the safest nation in the world.
- Increase total public R&D spending to 25 trillion yen over five years (1% of GDP on an annual basis, well above the average of around 0.7% during 2001-03), while taking the fiscal situation into account in setting annual budgets.

Strategic prioritisation

- The prioritisation efforts made during the second Basic Plan are to be re-enforced by strengthening the selection and concentration of investment in the following key areas:
  - *i)* Basic research, including that in non-priority areas.
  - *ii)* The four priority areas already identified in the second Plan – life science, information technology, environment, and nanotechnology and materials – which address key national challenges.
  - *iii)* Four promotion areas – energy, manufacturing, social infrastructure and the frontiers of outer space and oceans – which are fundamental to Japan.
- The CSTP will formulate a strategy for each of the priority and promotion areas based on criteria such as scientific research, economic and social impact, international comparisons and investment risks.
- The CSTP has chosen "Strategic Priority Science and Technologies (SPSTs)", which will receive large-scale investment during the third Basic Plan.
- Among the SPSTs, the CSTP identified "National Key Technologies", such as next-generation super computers and space transportation systems, which will be promoted by large-scale investments.

Systemic reform of science and technology

- Promote human resource development through fair and transparent evaluation and recruitment of researchers. Provide more opportunities, through financial aid and other support, and improved working conditions for researchers who are young, female, foreign or elderly. Boost the share of female researchers from 11% to 25%.
- Enhance the mobility of researchers by expanding the use of fixed-term contracts and performance evaluation at universities and public research institutes. Require young researchers to change their organisational affiliation at least once after graduation before obtaining a permanent position. Publish information on the share of researchers who work at the same university from which they graduated.
- Strengthen the role of universities and graduate schools in human resource development, in part through the establishment of long-term internship programmes in co-operation with industry. Increase support for upper secondary schools that put priority on science and mathematics.
- Further expand the use of competitive funding for research, based on improved evaluation of such programmes. Substantially raise the share of private sector-funded research carried out in universities by strengthening ties between industry, university and government through greater support for technology licensing organisations (TLOs), university start-ups and other measures.

Box 5.3. **The third Science and Technology Basic Plan** *(cont.)*

- Strengthen international linkages through greater participation in the setting of international standards, such as by the International Organisation for Standardisation. Extend the length of time that foreign researchers may stay in Japan and relax the requirements for obtaining permanent residence permits.

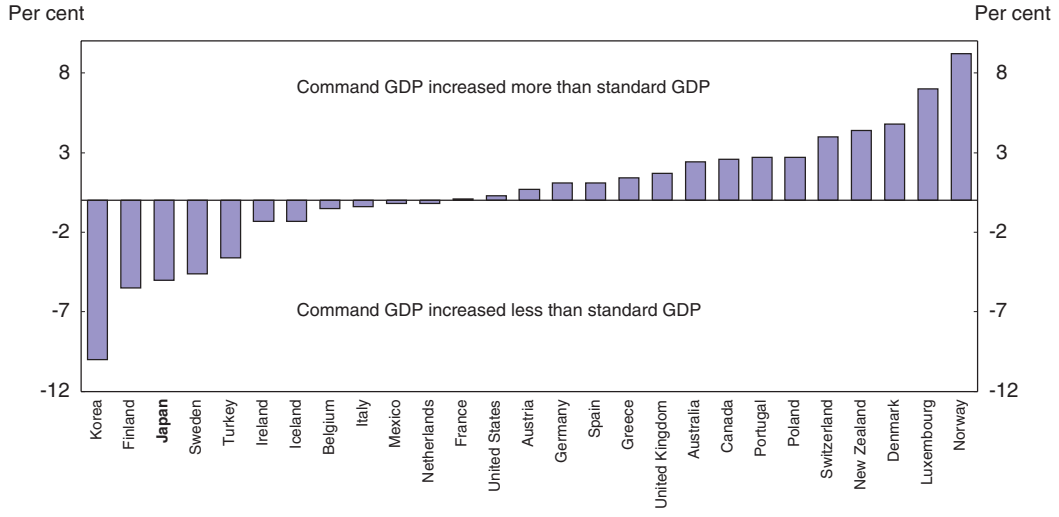
Role of the CSTP

- Re-enforce the CSTP's co-ordinating function through closer links with other government councils. Achieve stricter prioritisation of outlays based on improved evaluation methods. Accelerate the reform of independent administrative agencies, including universities, by closer monitoring of their activities.
- Promote the development of science and technology by actively participating in the formation of policies in other areas.

about half of its resources to a limited number of priority areas. The approach of allocating R&D resources to specific areas is also used in many other countries (OECD, 2006b). The government's objective is to influence the research activities of universities and public research institutes, which are increasingly independent. However, giving undue emphasis to priority areas could lead to government failure and distortions. Moreover, focusing on key products also poses a risk of a deterioration in the terms of trade (through falling export prices) as other countries also increase production in these areas. Japan has experienced significant terms of trade losses in recent years due to high dependence on ICT, suggesting that there are gains to a diversified approach to R&D (Figure 5.10). Government R&D spending should focus more on areas with large positive externalities. *Third*, in the allocation of public R&D funds, greater importance should be attached to the non-manufacturing sector, given that the service sector accounts for about 60% of GDP.

Figure 5.10. **Impact of the terms of trade on income**

Cumulative gap between command GDP and standard GDP between 1990 and 2004[1]



1. Command GDP adjusts GDP for the terms of trade effect by deflating exports by the import price deflator: Command GDP = TDDV + XGSV * (PXGS/PMGS) – MGSV where TDDV is real domestic demand, XGSV and MGSV are exports and imports in volume terms, and PXGS and PMGS are the export and import deflators.

Source: OECD, Economic Outlook 79 database.

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Fourth, although the Plan emphasises the importance of improving framework conditions in order to encourage innovation and calls for greater interaction between science and technology policies and economic policies, the specific recommendations are still confined to the area of science and technology.[19] More recently, however, as mentioned above, efforts have been made to improve the R&D system through better framework conditions.

The New Industry Promotion Strategy

The Ministry of Economy, Trade and Industry (METI), which accounts for one-sixth of public R&D spending, is also promoting innovation, mainly in the industrial sector. In 2004, the Ministry compiled the "New Industry Promotion Strategy", which specifies seven priority areas – fuel cells, digital consumer electronics, robots, software, health/welfare, environment/energy and professional services – to support the Japanese economy over the next 20 to 30 years. After consultation with specialists and the business sector, the government selected these industries because of their broad-based impact, which extends to raw materials and finished products, small and medium-sized enterprises (SMEs) and large corporations, and rural areas and large cities.[20] In addition, these industries were chosen because market forces alone were judged to be insufficient to ensure development and joint efforts by the government and the private sector are thought to be necessary. Policies to promote these areas include increased R&D spending, strengthened competition (healthcare) and the establishment of regulatory frameworks (robots). The report focuses on the traditional innovation process based on interaction between the existing network of parts and material industries in Japan, and calls for further development of such networks. Finally, the report presents "technology roadmaps" for 20 areas for the period 2005 to 2030. The importance of global networks is discussed in the context of coping with module-based production, which is assumed to dominate the production system in the later stage of technology development.

The "New Industry Promotion Strategy" raises a number of concerns with respect to its impact on innovation. *First*, as in the third Science and Technology Basic Plan, the choice of seven priority sectors raises the risk of government failure and distortions. To the extent that the government focuses on regulatory reform to promote competition, the impact would certainly be positive. However, such efforts should be extended more broadly. *Second*, given the rapid pace of technological change, roadmaps covering up to 25 years are unlikely to be very useful. *Third*, while it is true that innovation is often encouraged by the geographical concentration of various actors, the government should avoid mixing national innovation policies with measures aimed at promoting balanced regional development. *Fourth*, the focus on parts and materials suppliers for domestic industries is less appropriate in a globalised economy.

Policies to upgrade the national innovation system

A comprehensive approach is needed to transform the Japanese innovation system and bring it into line with best practices in the OECD area. Given that the core of the problem lies in the relatively closed and self-contained innovation system and the weak service sector, framework policies that open up research systems and improve the allocation of resources should be placed at the centre of reform. Measures to accelerate the integration of Japan in the global economy are discussed in Chapter 6.

Framework policies to support innovation activities

This section discusses four major policy priorities: *i)* strengthening venture capital investment; *ii)* enhancing the mobility of workers; *iii)* upgrading product market regulation and competition policy; and *iv)* improving the system of intellectual property rights.

Strengthening venture capital investment

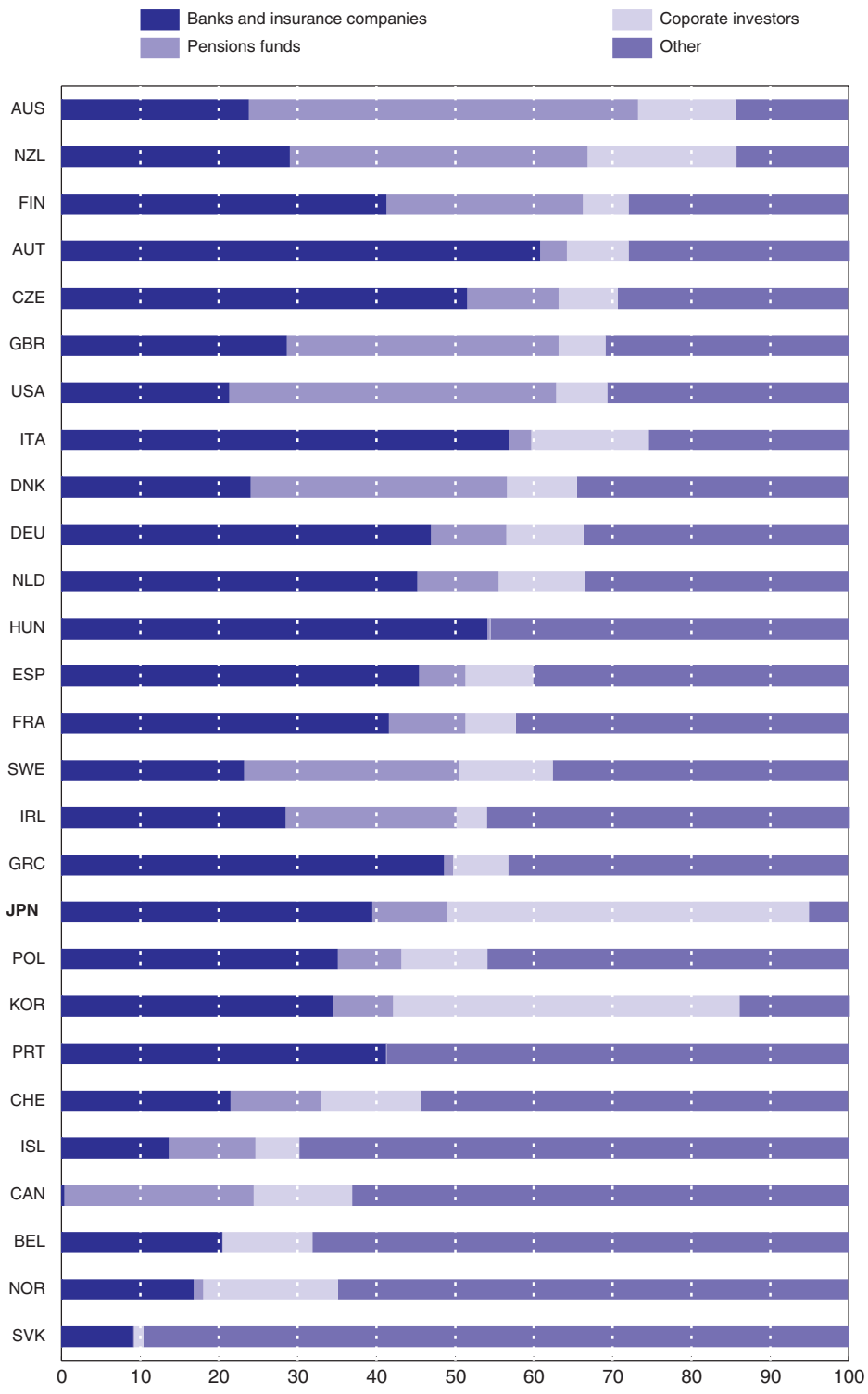
The venture business sector plays an important and growing role in advancing innovation in many OECD countries. However, in Japan, venture capital investment has been stagnant during the past decade at a very low level of around 0.05% of GDP, and the outstanding amount decreased from a peak of 1 trillion yen (0.2% of GDP) in 2002 to 860 billion yen in 2005 (Venture Enterprise Center, 2005). The low level is a result of a number of factors. *First*, households' appetite for risk is low, as indicated by the fact that the share of their assets in savings accounts is more than double that in other major countries, while the share in risky assets is considerably lower. *Second*, companies depend heavily on indirect financing. *Third*, the share of investment by pension funds, which make decisions from a longer-term perspective, is only 4% of total investment, compared with 40% in the United States and the United Kingdom (Figure 5.11). Such a low share reflects government regulations on pension fund portfolios, including the so-called "5-3-3-2" rule that was in force until 1997.[21] Consequently, pension fund portfolio did not change much until the end of the 1990s. *Fourth*, the role of universities in the venture sector has been limited, as discussed below.

In addition, many venture capital funds are subsidiaries of financial institutions, which lack expertise in monitoring and supporting venture companies and are less eager to take risks (Takahashi, 2006 and EPA, 1999). This limits the role of venture business in cutting-edge technology. Indeed, venture investment in high-technology areas, including ICT and health/biotechnology, is only 23% of the total, compared with an OECD average of nearly 50%. In contrast, traditional industries in the manufacturing sector attracted more venture capital investment (OECD, 2005j and JASMEC, 2002). In addition, venture investment in Japan is concentrated in later-stage technology, although the share of early-stage companies has increased somewhat in recent years. Moreover, Japanese venture capitalists are relatively less involved in the management of the companies in which they invest (JASMEC, 2002 and EPA, 1999). This reflects the fact that the average size of venture investments in Japan is only about 3% of that in the United States and about one-third of that in European countries.

Some reforms have been introduced in recent years to encourage venture capital investment. *First*, the financing of venture companies has been facilitated by the creation of second-tier stock markets, such as MOTHERS in Tokyo and HERCULES in Osaka, and the relaxation of listing requirements in JASDAQ. There have been more than 100 initial public offerings in these three markets each year since 2000, helping to boost their total market capitalisation from 8 trillion yen in 2002 to 20 trillion yen (4% of GDP) in 2005. *Second*, the incorporation of universities in 2004 is encouraging university-business start-ups. *Third*, preferential tax treatment for venture capital investment has been expanded[22] while the minimum capital requirement for start-ups has been lowered.

However, a broad-based programme is needed to transform business practices to encourage risk-taking based on new technology. The traditional system of extensive indirect financing, centred on the main bank and corporate groups (*keiretsu*) with large

Figure 5.11. **Sources of venture capital funds**
1999-2001[1]



1. Countries are ranked according to the sum of banks, insurance companies and pension funds.

Source: OECD (2006b), *Economic Policy Reforms: Going for Growth*.

cross share-holding has encouraged long-term investment but not risk-taking. In addition, the increase in the share of loans by public financial institutions may have prevented the exit of less competitive firms while hindering the development of the capital market to supply risk money. The government should thus scale back lending by public financial institutions and follow-through on the privatisation of Japan Post (see Chapter 2). Indeed, lending by public financial institutions has risen from less than 15% of total bank loans at the beginning of the 1990s to around 20% in recent years (Figure 2.3). In addition, the government should encourage venture investment by reducing capital gains taxes, which are relatively high for individuals and companies in Japan compared with other OECD countries (OECD, 2006b). This has reduced both the willingness of individuals to commit savings to venture funds and the incentive of entrepreneurial firms to engage in high-risk activity. As for the direct role of the government, programmes to promote venture investment should focus on leveraging and diversifying private sources of venture capital and moving small firms away from dependence on public debt guarantees and public finance (OECD, 2006b). In addition, universities should play a larger role in enhancing venture investment though a better match of their R&D base and business needs (see below).

Policies to enhance mobility of researchers and workers

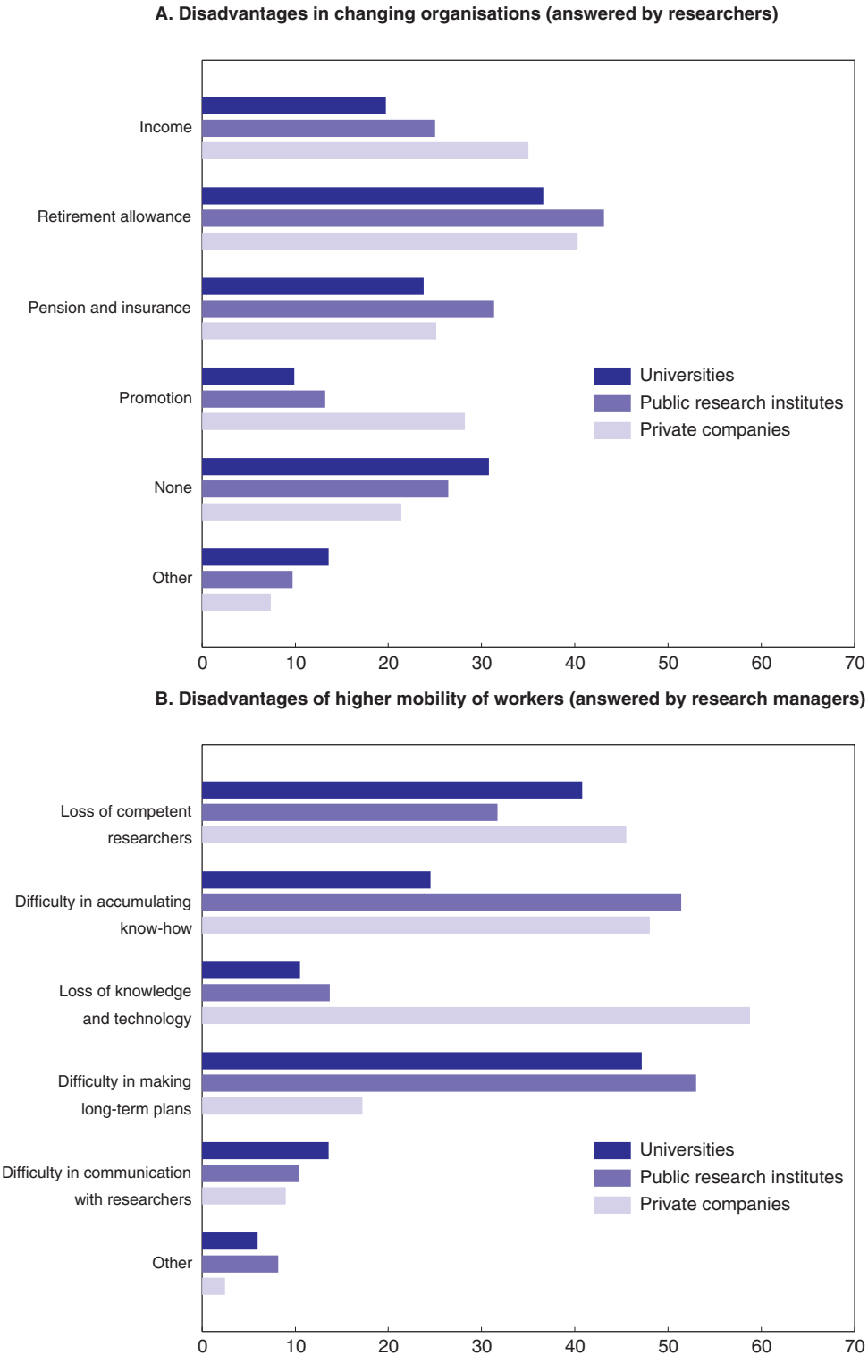
A lack of mobility of researchers is a key weakness of the innovation system in Japan, in part because it limits the scope of interaction between research institutes in the government, business and higher education sectors. According to a government survey, research managers replied that greater mobility of researchers would create a number of problems, including the loss of technology and competent personnel, and difficulties in accumulating know-how and making long-term plans (Figure 5.12). In practice, researchers are effectively tied to their institutes (Figure 5.5) through a number of employment practices. Over 40% of researchers responded that retirement allowances were the most important factor discouraging a move to a new organisation. Although there is no legal requirement to pay retirement allowances, almost all companies pay a lump-sum benefit that increases progressively according to the length of employment.[23] In addition, pension schemes discourage mobility due to the lack of portability and the length of time required to become eligible to receive payments.[24] Disadvantages in promotion and income were relatively important for private-sector researchers, suggesting that tenure-based pay and promotion are still dominant.

The government is taking measures to increase the mobility of researchers by: *i)* restructuring the national pension system to increase portability; *ii)* advising institutions to establish fair and transparent human resource management and evaluation systems; and *iii)* providing information on job opportunities. The proportion of national research institutes using external vacancy notes has been increased from 69% in 2001 to 81% in 2003. However, the share remains significantly lower at universities, leading to a problem of "inbreeding". In order to significantly enhance the mobility of researchers, the government should encourage the use of fixed-term contracts at universities and government research institutes[25] and the introduction of a performance-based pay system in the private sector.

In addition to the mobility of researchers, strict employment protection weakens incentives to innovate as the full benefit of cost-reducing technology often requires staff reductions or changes in the skill-mix of employees.[26] Employment protection for regular workers in Japan is above the median of OECD countries (see Chapter 4). Labour practices

Figure 5.12. **Reasons for low mobility of researchers**

Per cent



Source: National Institute for Scientific and Technological Policy (NISTEP) and Mitsubishi Research Institute (2005).

that limit the scope for organisational changes have thus reduced the productivity gains from investment in ICT (Motohashi, 2005).

Upgrading product market regulation and competition policy[27]

The productivity gains from diffusing existing technology to lagging sectors can be as important as the gains resulting from the introduction of new technology. Stronger competition is one key to promoting the diffusion of technology. Although some progress has been made in revising the regulatory framework in Japan in recent years, further efforts at regulatory reform are essential. Reform should be based on the following principles. *First*, the regulatory framework should be reviewed and reformed continuously in line with changes in technology and other factors. For example, as the distinction between traditional broadcasting and telecommunication services weakens, regulations should be re-designed to facilitate the commercialisation of new ideas. Emerging industries often face regulatory barriers to commercialisation due to resistance from existing producers, consumers and government ministries. In particular, healthcare and nursing, education, and safety and security, which have been identified as examples of potential ICT-based services (OECD, 2005c), often face such barriers.

Conflict most frequently arises in Japan in the medical and welfare area, where the introduction of new services is often delayed on safety grounds.[28] Japan has a relatively strong R&D base in pharmaceuticals, as indicated by the number of researchers and articles published. However, regulations on the development and approval of new drugs in Japan are the strictest among the major five countries, preventing the results of R&D from quickly benefiting society (Office of Pharmaceutical Industry Research, 2005b). The number of new medicines approved for sale in Japan is smaller than in other OECD countries and the delivery period of new drugs is more than two years longer than in the United States and the United Kingdom.[29] Other important examples include the restriction on the sale of over-the-counter medicines in convenience stores, which has been limited by safety concerns, and the rule against the combined provision of insured and non-insured medical services.[30] In sum, in order to maximise the benefits of innovation, regulations and standards should be reformed swiftly based on strong political leadership.

Second, the *Special Zones for Structural Reform* initiative launched in 2003 should be used effectively to advance nation-wide regulatory reform. The special zone approach allows geographically limited areas to act as a testing ground for the implementation of reforms that are blocked at the national level (see the 2005 *OECD Economic Survey of Japan*). By November 2005, 547 regulatory reform proposals had been accepted. Of them, 206 have been tried in 709 special zones while the remaining 341 proposals were implemented nationwide from the beginning (Table 5.2). The decision on whether to extend the reforms in the special zones to the rest of the country is based on recommendations by the "Evaluation Committee". Thus far, 78 out of 206 reforms have been evaluated and 64 of them have been accepted on a nation-wide basis. However, it is still too early to judge the success of this initiative, which faces a number of obstacles. *First*, special interests may stall the implementation of key reforms in special zones. For example, although the management of hospitals by corporations was allowed for non-insured advanced treatments in the special zones in 2004, the special measure has been little used because of remaining regulatory constraints. *Second*, there is a risk that the extension of reforms on a nation-wide basis will be delayed. Reforms allowed in the zones should be applied on a nation-wide basis in a limited time period, avoiding unduly long periods of evaluation.

Table 5.2. **Reform proposals accepted nation-wide under the special zone initiative**

Ministry or agency	Accepted in special zones	Accepted nation-wide	Total
National Public Safety Commission	4	3	7
National Personnel Authority	3	0	3
Financial Services Agency	2	11	13
Ministry of Internal Affairs and Communications	12	40	52
Ministry of Justice	15	20	35
Ministry of Foreign Affairs	2	9	11
Ministry of Finance	7	18	25
Ministry of Education, Culture, Sports, Science and Technology	35	33	68
Ministry of Health, Labour and Welfare	35	86	121
Ministry of Agriculture, Forestry and Fisheries	10	13	23
Ministry of Economy, Trade and Industry	52	46	98
Ministry of Land, Infrastructure and Transport	19	53	72
Ministry of the Environment	9	8	17
Cabinet Office	1	1	2
Total	206	341	547

Source: Office for the Promotion of Special Zones for Structural Reform.

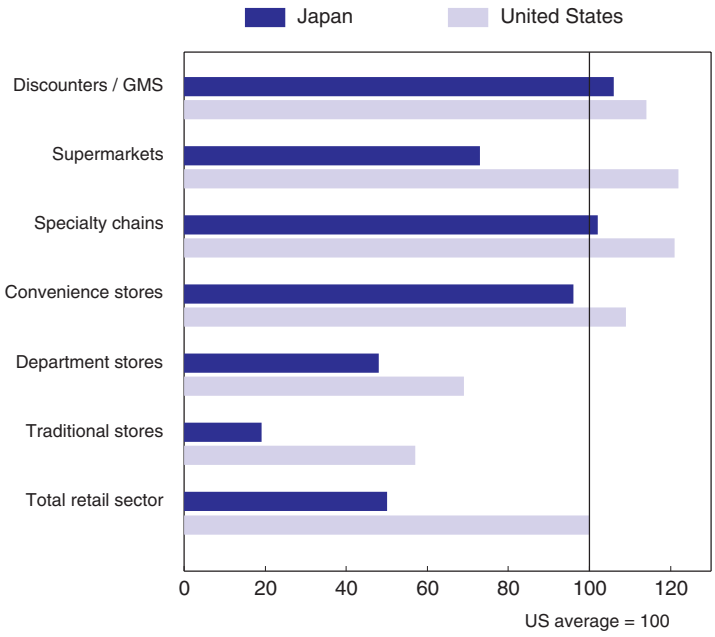
Third, there is also a possibility that the special zone initiative will not lead to enough regulatory reform on a nation-wide basis as it may be too much affected by regional development considerations. Indeed, the same chief secretary is responsible for both the special zone initiative and regional development policies. To maintain the focus on nation-wide regulatory reform, organisational links between the office for special zones and the office for regulatory reform should be strengthened.

Third, prices in network industries, which are fundamental to almost all economic activities, remain high in Japan (see the 2004 *Economic Survey of Japan*). The fact that the price for Internet access is one of the lowest in the OECD area suggests that a more appropriate regulatory framework can lead to better outcomes. The government has implemented some important reforms in network industries, such as the introduction of number portability in the mobile phone sector from FY 2006 and expansion of retail choice for electricity consumers from 26% of the market in 2000 to 63% in 2005. Such reforms are expected to reduce prices through enhanced competition. In order to ensure pro-active *ex ante* regulation, a necessary condition for competition in markets dominated by strong incumbents, most OECD countries have established sectoral regulators independent of the government, but Japan tries to achieve this through government ministries. The establishment of sectoral regulators independent of the government should be considered if the current approach does not work sufficiently well. In addition, previous *OECD Economic Surveys* recommended a number of reforms to enhance productivity in network industries, including: *i*) effective unbundling in the energy sector through legal or ownership separation; *ii*) reconsidering government ownership restrictions in the telecommunication sector; and *iii*) abolition of strict service obligation for new entrants in the postal sector, while ensuring the provision of universal postal services and preventing cream-skimming.

Fourth, there is significant scope for enhancing productivity in the retail and distribution industries. Despite a relaxation of regulations on the opening of large-scale retail stores, labour productivity in the retail sector in Japan is still only one-half of that in the United States (Figure 5.13). Low productivity is due to the small average size of retail

Figure 5.13. **Comparison of productivity in the retail sector by type of stores**

US average = 100



Source: McKinsey Global Institute (2000).

stores, which limits the scope for economies of scale, making it difficult to benefit fully from new technologies and global supply chains. The small size of retail outlets, in turn, reflects the large number of traditional "mom-and-pop" type stores. Moreover, the productivity of traditional stores in Japan is significantly lower than that in the United States, offsetting the rather high productivity of discounters and general merchandise stores in Japan. There are a number of policies responsible for the small average size of stores in Japan:

i) regulations on new large-scale retail stores limit entry;

ii) elements of the tax system, including the low property tax, high capital gains tax and the exemption of inheritance taxes in the case of land, discourage the exit of mom-and-pop stores;

iii) government debt guarantees provided for SMEs under easy conditions; and

iv) traditional shops have benefited from the City Centre Revitalisation Law, which provides financial support to build car parks and other facilities.

The decline of traditional shopping areas, particularly in regional cities, in recent years has raised considerable political concern, resulting in some policy changes. For example, although the regulation on the location of liquor shops was removed in 2003, a new law limits the opening of liquor shops in areas where competition is severe. Moreover, new zoning regulations on the location of large-scale stores in suburban areas will be introduced in 2007. If this leads to entry barriers for large-scale stores, it will reduce competitive pressure on such stores already in operation, thus reducing benefits to consumers.

Fifth, ensuring fair competition is another aspect of promoting innovation. The revised Anti-Monopoly Act that came into force in January 2006 has a number of positive features:

i) it raised the level of surcharges imposed on violations of the law;[31] *ii*) it established a leniency programme that provides total immunity to the first firm that voluntarily co-operates with the FTC in each case; *iii*) it introduced compulsory measures for criminal investigations; and iv) it improved investigation and hearing procedures. In addition, the staff of the Fair Trade Commission (FTC) has been increased by 5% at a time of budget cuts in other parts of the government. These reforms should allow the FTC to play a more active role, while strengthening the threat of criminal penalties. There have been only 13 criminal cases since 1950 and nobody has ever gone to jail for violating the competition law. There remains concern about whether the surcharges, which are still low by international standards,[32] are an adequate deterrent. These issues are being addressed by the study group on competition policy established in the Cabinet Office in July 2005.

Improving the system of intellectual property rights

Protecting intellectual property rights (IPRs) strengthens incentives for innovation. However, empirical research shows that the relationship between the IPR system and innovative activity is complex (OECD, 2006b). The key to an effective IPR strategy is to achieve an appropriate balance between patent protection and the diffusion of technology and knowledge.[33] In Japan, the patent system may err on the side of restricting diffusion as nearly two-thirds of the patents are idle (METI, 2002). Companies tend to hold a large number of patents simply to prevent their competitors from using certain technologies. In addition, the share of innovative patents in Japan is small, as patents are usually based on incremental changes in existing technologies (JPO, 1998). Another issue is the long waiting time for patent examination in Japan, partly due to a large number of requests for examination. METI has set an objective of reducing the exceptionally long waiting time for patent examination, which has recently increased to 27 months, to 11 months by 2013, primarily by hiring more staff (METI, 2006). In addition, it is considering discouraging companies from requesting examination of patents which may lack "novelty and inventive step". This objective, however, may require some increase in the cost of filing patents.

Strengthening human capital development

The supply of well qualified labour is a key ingredient in the generation and diffusion of innovation. The development of a labour force capable of adapting to new technology begins with a well-performing compulsory school system. Japan has a high rate of student enrolment at all levels of education. By 2003, the proportion of the population between 25 and 34 years old with an upper secondary school education was the fourth highest in the OECD area and the second highest for tertiary education. High enrolment rates were accompanied by a high level of student achievement on international standardised tests, such as the OECD's PISA study, at least until 2000.

The level of student achievement, however, has declined according to the latest test results. In the PISA Study, Japan's rank on mathematical literacy fell from first in 2000 to sixth in 2003, while its rank on reading dropped from eighth to fourteenth (OECD, 2004a).[34] Such results have provoked a debate on whether the decline was due to the introduction of "stress free" (*yutori*) education, which resulted in a 17% fall in class hours for secondary students between 1969 and 1998. In addition, an OECD study found that 15-year-old students who are frequent computer users tend to perform better in key school subjects, particularly mathematics. Somewhat surprisingly, Japan has one of the lowest percentages of frequent computer users at school, with only 25% using a computer at least a few times

a week, compared with more than 40% in 16 OECD countries (Figure 5.14). The attitude toward computers is also among the less positive group of countries in the OECD area (OECD, 2006a). The decline in test scores has not been stopped by the increase in the share of students attending private institutes for after-school tutoring (*juku*). By 2002, half of secondary school students, and 15% of second-year students in primary schools were enrolled in such institutes, according to one survey. The high and rising reliance on private tutoring at the primary and secondary level has a number of disadvantages (OECD, 2005h). *First*, it competes and overlaps with public education, thus raising total expenditures on education unnecessarily and imposing large financial burdens on families. *Second*, the high cost of private tutoring hinders equal access to educational opportunities, raising equity issues. *Third*, it makes it difficult for the public education system to cope with students of widely differing educational levels. Indeed, the OECD's PISA Study reported increasing stratification of results among students in Japan.

Moreover, the high dependence on private institutes for tutoring tends to hamper creativity and diversity in students. Such schools focus on techniques needed to get good scores on the entrance exams of upper secondary schools and universities, notably the nation-wide multiple-choice exam for university entry. Meanwhile, a government survey

Figure 5.14. **Percentage of students using a computer at least a few times each week**



Source: OECD (2006a), *Are students ready for a technology-rich world? What PISA tell us*.

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shows that the percentage of students in Japan who like science is only 55%, as compared with the international average of 79%, suggesting that standardised teaching methods may reduce student interest in some subjects.

The government has allowed greater diversity in education through various measures, such as decentralising decision-making while increasing the accountability of those who teach in and manage schools. In addition, there have been a large number of proposals from local governments and business groups to relax regulations in education in the special zones. Among the 709 special zones approved through November 2005, 140 were related to the education sector. Most reforms focused on relaxing regulations on school management, facilities, curriculum and teachers' licences. In nearly half of the 140 zones, local governments are allowed to set a special curriculum, with English classes in primary schools the most popular case.[35] Following positive results in the special zones, this measure was extended nation-wide. However, special zone initiatives must be funded by the responsible local authority. A more general approach that relaxes regulations imposed on spending funded by national grants is needed to enhance diversity in basic education and encourage competition among schools. At present, 370 local governments – about 15% of the total – have introduced or are considering a school-choice system that allows parents to choose elementary and lower secondary schools for their children.

The enrolment rate of tertiary education is high in Japan. However, based on a survey of business about their satisfaction with university education (IMD, 2005), Japan ranks only 56th out of 60 countries evaluated. The primary role of universities appears to be screening students to help firms employ the brightest young people. Firms then play the key role in the human capital formation of their employees. This has significantly weakened the incentive for universities to improve the quality of education, while instead pursuing a "department store" style approach that offers a broad range of conventional courses. Moreover, the shift of resources from departments and courses with decreasing demand to those with increasing demand had been slowed by the rigid control imposed by the central government, contributing to the widening mismatch in labour demand and supply in recent years.[36] However, flexibility has been enhanced since 2002 by allowing simple notification for re-organisation in certain cases. As the capacity of universities and junior colleges is expected to exceed the declining number of students by 2007, universities have to compete more vigorously for students by strengthening the courses in which they have a comparative advantage or which match local needs. Following recent reforms, universities are now allowed more flexibility to restructure, giving them the opportunity to become more relevant to the needs of in their specific regions.[37]

Opening the tertiary education market to accredited foreign providers would also be an effective way to stimulate competition and upgrade the competitiveness of Japanese universities. However, the number of branch campuses of foreign universities in Japan decreased from a peak of around 40 in the early 1990s to as low as four at present. Moreover, none have been recognised as a "university". The ministry created a new status of "foreign university" in December 2004 and so far four universities have been thus designated. However, except for one (which is recognised as a Japanese specialised training college), three of these foreign universities do not benefit from the preferential tax treatment granted to Japanese universities, including exemption from the corporate and consumption taxes and the tax credit for donations, as they are not recognised as Japanese universities or specialised training colleges (ACCJ, 2004 and Market Access Ombudsman Council, 2005). In order to encourage competition among universities, the government

should require greater disclosure about universities' management and performance so that students and businesses can evaluate the quality of universities more accurately and further reduce regulations, including those that prevent foreign universities from entering Japan.

As noted above, a key feature of human capital formation in Japan is the strong commitment of firms to job training. The practice of life-time employment, together with a steep wage profile based on seniority, penalises quits and effectively guarantees firms a return on their investment in the human capital of their employees. The government supports this approach by providing training subsidies to firms, while grants to individuals are very limited. Nevertheless, firms reduced the share of education and training in total labour costs from a peak of 0.38% in 1988 to 0.28% in 2002 (MHLW, 2003). While this reflects the impact of economic stagnation, an increasing number of firms consider human capital formation to be the responsibility of individual employees. At the same time, firms have expanded the share of part-time and other non-regular workers, a group that receives less training, raising both efficiency and equity concerns (see Chapter 4). The changing demand for job skills in the context of the shift to a knowledge-based economy suggests a rationale for a public role in lifelong learning. A coherent strategy, including a well functioning system of recognition and certification of learning, co-financing between public and private sources, quality control, and better policy co-ordination within government and between social partners is required (OECD, 2003a).

Innovation-specific policies should be well targeted

The government has implemented key reforms in recent years that have strengthened the links between the business sector and publicly-funded scientific research carried out in the 26 national research institutes, 51 independent administrative agencies and 89 national universities. The total size of the science and technology budget, including subsidies and grants to local governments and private institutes, was 3.6 trillion yen (0.7% of GDP) in FY 2004. One of the most important reforms was the introduction in 1998 of Technology Licensing Offices (TLOs), which obtain patents for university researchers and licence them to private companies. Thus far, 47 TLOs have been established. Some are privately owned, while others are public-private partnerships. The government encourages their activities by reducing patent fees, allowing them free use of national university institutes, and providing subsidies for their operating costs. The number of patent applications submitted by the TLOs increased from 691 in 2000 to 4 088 in 2003.

The government has also encouraged the creation of university-based venture firms by re-organising some government research institutes into "independent administrative agencies". The 51 research institutes given this status in FY 2001 have been granted increased autonomy in their financial and personnel decisions, while being subject to increased accountability through *ex ante* evaluations of plans, *ex post* evaluations of outcomes, and disclosure of financial statements. In addition, regulations on university professors have been gradually relaxed since 1997 to widen the possibility for them to work in private firms. Such opportunities were further enhanced by the re-organisation of the national universities into "national university corporations" in FY 2004. Professors, who were previously civil servants prior to the incorporation of universities, have much more freedom to interact with businesses and start their own firms. In addition, universities have more autonomy in hiring and promoting staff, and in making collaborative agreements with firms. Thanks to the establishment of TLOs and the incorporation of

universities, the number of university-related venture businesses has risen from around 100 in 2000 to 1 130 in 2005, exceeding the government's target of 1 000. Following their incorporation, national universities have been able to handle intellectual property rights by themselves, reducing the role for TLOs. In short, the important role played by the TLOs is being taken over by the universities themselves. It is thus necessary to streamline the TLOs and reduce their public subsidies.

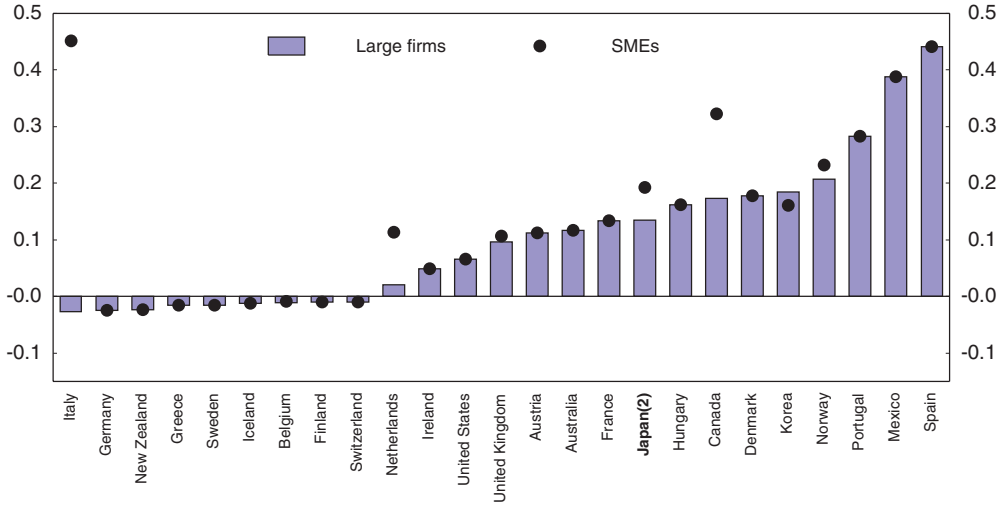
Given the large share of public R&D spending that is allocated to universities, a fair and transparent system to evaluate academic researchers is essential. Since the establishment of the National Institution for Academic Degrees and University Evaluation in 2000, the system has been improved by expanding capacity and improving evaluation methods. In order to increase transparency, the results of such evaluations should be made public as far as possible. However, given that the main obstacle to proper evaluation is the closed structure of the university employment system based on group loyalty, the key is to enhance the mobility of researchers as noted above.

In addition to funding public research, all OECD countries provide financial support to stimulate private-sector innovative activity via tax breaks for R&D spending and/or direct subsidies. Since both approaches may impose deadweight losses, *i.e.* supporting activity that would have taken place even without public support, policies should be carefully designed. The effectiveness of individual instruments for financing business R&D is highly contingent on their design and implementation, which vary significantly across OECD countries and even within individual countries (OECD, 2006b).

The tax subsidy for R&D in Japan in 2001 was close to zero but it had risen above the OECD average by 2004 (Figure 5.15). This is largely due to the introduction of a tax credit on

Figure 5.15. **Tax treatment of R&D in OECD countries**[1]

Rate of tax subsidy for one unit of R&D in 2004



1. Tax subsidies are calculated as 1 minus the B index, which is defined as the present value of before-tax income necessary to cover the initial cost of R&D investment and to pay corporate tax. For example, in Spain, 1 unit of R&D expenditure by large firms results in 0.44 unit of tax relief.
2. The 2004 B index for large firms in Japan applies to firms with a ratio of R&D to sales of less than 10%. The B index for large firms with an R&D-to-sales ratio above 10% is 0.831. The B index for research conducted in collaboration with universities is 0.782.

Source: OECD, *OECD Science, Technology and Industry Scoreboard 2005*.

R&D and investment incentives in FY 2003, including temporary measures for three years, resulting in an estimated 1.1 trillion yen (0.2% of GDP) of foregone tax revenue per year.[38] METI estimates that these tax cuts increased business investment by 3.7 trillion yen over the three-year period. In the FY 2006 budget, the temporary measures were largely terminated as scheduled. However, the R&D investment incentive for SMEs was extended for another two years, while new measures, including a temporary tax incentive for acquiring information infrastructure, were introduced.[39] As the foregone tax revenue from these measures is projected to be much smaller, at less than 0.2 trillion yen in total, than under the FY 2003 to FY 2005 scheme, the amount of corporate tax subsidies is likely to decline, particularly for large companies. This will widen the difference between the tax treatment of large companies and SMEs, who are already treated much more favourably. To promote innovation, tax subsidies for SMEs should be targeted on those facing difficulty in financing because of a lack of an established track record and tangible assets. However, current government support to SMEs, including subsidies and loans, is mainly targeted at revitalising existing enterprises or providing a safety net (OECD, 2005e). Although the government has expanded its support for start-ups, a further shift is needed in favour of newly established firms.

A more integrated policy approach is needed to enhance innovation performance

Given that the ultimate objective of innovation is to raise living standards, government programmes should be more focused on boosting productivity, rather than on upgrading technology itself. This requires greater linkages among policies for science and technology on the one hand and framework conditions, such as education, the product and labour markets, and competition policy on the other. *First*, the CSTP should emphasise the economic implications of science and technology policies while focusing more on framework conditions to enhance innovative activities. This would require increasing the number of economists in the expert panels and the secretariat. Furthermore, an additional expert panel should be created in the CSTP to analyse the economic impact of innovation in key areas and identify measures to increase its effectiveness through structural reforms and appropriate budget allocations. *Second*, stronger co-operation and co-ordination among ministries is required. For example, reports by the key advisory body on economic issues, the Council on Economic and Fiscal Policy (CEFP), have mentioned the importance of innovation in enhancing economic growth, while making few specific recommendations in this area thus far.[40] Although a number of ministers, including the prime minister, are members of both the CEFP and the CSTP, the linkage between these two councils is limited in practice. The same is true concerning co-ordination between the CSTP and the Council for the Promotion of Regulatory Reform.

Conclusion

Increasing the effectiveness of Japan's innovation system is essential to boost productivity growth to sustain the rise in living standards in the context of population ageing. Accomplishing this objective requires changes in science-related policies as well as in a wide range of framework policies. The recommendations made in this chapter are summarised in Box 5.4. Recommendations related to increasing international openness are found in Chapter 6.

Box 5.4. **Summary of recommendations to encourage innovation**

Reform framework conditions to support innovative activities

- Promote the development of venture capital markets by removing any obstacles to participation by pension funds, reducing the capital gains tax and focusing government policies on leveraging and diversifying private sources of capital, while moving away from public debt guarantees and finance.
- Scale back the size of public financial institutions and ensure a level playing field between the privatised Japan Post and private-sector financial institutions in order to reduce the flow of savings to the public sector, thereby enhancing the availability of funds for venture business and new start-ups.
- Enhance the mobility of labour, including researchers, in part through increasing the portability of pensions and reforming retirement allowances at public research institutes.
- Expand the use of open competition in hiring, performance-based pay and fixed-term contracts in order to enhance mobility and reduce "in-breeding" in public research institutes and universities.
- Reduce labour practices that limit the scope for organisational changes that would allow firms to benefit more fully from introducing new technology.
- Improve the regulatory framework continuously to reflect technological progress, particularly in the areas of medical and social welfare services, while further strengthening competition policy.
- Upgrade the regulatory framework for network industries.
- Boost productivity in the retail sector, in part by avoiding policies that favour small stores.
- Use the special zone initiative to quickly advance nation-wide structural reforms and provide greater information on the nation-wide implementation of reforms and their economic impact.
- Further accelerate the evaluation of patents while making the system more efficient.

Enhancing creativity in education and the diffusion of knowledge

- Give more autonomy to local governments and individual schools in setting curriculum, hiring teachers and setting wages to increase competition between schools and reverse declining levels of performance.
- Reform the entrance examination system for secondary schools and universities to cover a broader range of knowledge.
- Encourage competition among universities by allowing more flexibility in their management, enhancing transparency in evaluating performance and further reducing regulations, including those that prevent foreign universities from entering Japan, while ensuring high quality education.
- Enhance vocational training by establishing a well functioning system of recognition and certification of learning that is co-financed by public and private sources.

Upgrade the policy framework to improve innovation-specific policies

- Strengthen links between public research institutes and the business sector.
- Avoid mixing national innovation policies with measures to promote balanced regional development.
- Increase further the share of competitive grants in the allocation of public R&D funds.
- Attach greater importance to the non-manufacturing sector in the allocation of public R&D funds.
- Maintain flexibility in allocating public R&D funds, thereby limiting the risks inherent in concentrating R&D efforts in the sectors identified as priority areas.
- Focus support for R&D on new start-ups.
- Expand the CSTP's work to include framework measures to promote innovation. Strengthen the link with other councils, including the CEFP and the Council for the Promotion of Regulatory Reform, in formulating framework policies.

Notes

1. For example, *The Sources of Economic Growth in OECD Counties* (OECD, 2003c) found a positive link between R&D intensity in the private sector and the level of per capita GDP.
2. See Sakakibara and Tsujimoto (2003) for a description of this process.
3. See Sakakibara (2003), Sakakibara and Tsujimoto (2003), and OECD (2005e). The number of private research institutes in science and engineering increased from 196 (22.3% of total science and engineering research institutes including national and local public institutes) in 1975 to 239 (25.8%) in 1980, 485 (41.5%) in 1990 and 496 (42.7%) in 1995, before decreasing to 384 (42.0%) in 2003 (Kondo, 2006).
4. For example, the share of post-genome patents filed by start-ups is 12% in Japan, compared with 38% in the United States (OECD, 2005e).
5. See, for example, Goto (2000), Motohashi (2005), Ando and Motohashi (2002) and OECD (2005e).
6. The seven sectors are: aerospace; computers and office machinery; communications equipment; pharmaceuticals; medical instruments; precision instruments; and optical instruments (National Science Foundation, 2004).
7. This measure of international technology transfers includes licence fees, royalties and purchases of patents, research and technical aid. Unlike R&D outlays, these are payments for production-ready technology.
8. The US Council on Competitiveness (1999) ranked Japan in their outlook for 2005 at the top of its index of international patents. In addition, Japan has remained first or second in the IMD's ranking of science infrastructure, despite a significant deterioration in its overall ranking for national competitiveness during the 1990s.
9. In absolute terms, Japan was the second largest spender on R&D in the OECD area in 2003 with 17% of the total, after the United States, which had 42%. The data in this section are from the *OECD Science and Technology Scoreboard* (OECD, 2005j) unless otherwise indicated.
10. The Science Council of Japan (2005) obtained this result by analysing the relationship between inputs (R&D expenditure and the number of researchers) and outputs (numbers of papers, citations and patents and exports of high-tech products and technology). The OECD's Committee on Science and Technology Policy is developing indicators to compare R&D performance across countries.
11. Sakakibara and Tsujimoto (2003) obtained a similar result. Another report by the Cabinet Office (2002) found that the contribution of investment in technology and knowledge to economic growth decelerated in the 1990s.
12. According to Fukao and Kwon (2003), about half of the 0.43% decline in TFP growth between the periods 1983-91 and 1991-98 can be explained by the decline in the capital utilisation ratio, which should pick up with sustained economic growth.
13. Nishimura *et al*., (2003) and Fukao and Kwon (2003) both found that the efficiency of existing firms was lower than that of exiting firms in the late 1990s. According to Nishimura *et al*. (2003), this phenomenon was more commonly observed among younger and smaller companies and it negatively affected the overall TFP level after 1996. Fukao and Kwon (2003) reported that companies with higher productivity, but in industries with a higher level of debt, tended to exit, perhaps due to the malfunctioning of the financial system, including so-called "evergreening" of loans to keep weak firms in business.
14. In 2002, the share of foreign-controlled affiliates in total manufacturing turnover ranged from 75% in Ireland to less than 3% in Japan. In services, the share of foreign affiliates ranged from almost 40% in Ireland to less than 1% in Japan. Foreign affiliates also made a negligible contribution to labour productivity growth in Japan's manufacturing sector, compared with almost a quarter in the United States.
15. Ando and Motohashi (2002) based on 1996-99 for Japan and 1997 for the United States and Europe.
16. The telecommunications sector in Japan raised its productivity during the 1990s, albeit at a slower pace compared with that sector in the United States, and in some sectors, such as mobile commerce, they are leading the OECD. However, the electricity and air transport industries recorded declines in productivity during the 1990s in contrast to rising productivity in the United States (Ando and Motohashi, 2002).

17. In addition to the prime minister, the council is composed of six other ministers (including the Minister for Science and Technology Policy), seven private-sector experts and the president of the Science Council of Japan (an independent association of academic experts). Its work is carried out in monthly meetings chaired by the prime minister, as well as seven expert panels covering: *i)* basic policy; *ii)* promotion strategy for priority areas; *iii)* evaluation; *iv)* science and technology system reform; *v)* bioethics; *vi)* space development and utilisation; and *vii)* management of intellectual property. The CSTP has produced a wide range of reports through more than 50 plenary meetings and 230 expert panel meetings since 2001.

18. The 127-person staff (as of November 2005) is composed of 82 officials from various ministries (primarily the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Economy, Trade and Industry), 22 from public research institutes and universities and 23 from the private sector.

19. This partly reflects the traditional segmentation of "liberal arts" and "science" people, based on their university degrees, which has a crucial impact on salaries and promotions in both public and private-sector organisations. The link between science and technology and economic policy tends to be weakened due to insufficient interaction between the two groups.

20. In addition, METI is promoting "Knowledge Cluster Projects" to promote development in 19 districts. Meanwhile, MEXT's "Intellectual Cluster Project" is being implemented in 15 regions.

21. The "5-3-3-2" regulation required pension funds to diversify their assets, by holding: *i)* more than 50% in guaranteed assets such as government bonds; *ii)* less than 30% in stocks; *iii)* less than 30% in foreign assets; and *iv)* less than 20% in real estate.

22. In particular, the "Angel Tax System" provides a 50% tax cut for capital gains from the sales of venture companies' shares by individual investors under certain circumstances.

23. More than 95% of companies with over 100 employees pay a lump-sum retirement allowance, and 63% of them adopted a tenure-based calculation system (Ministry of Internal Affairs and Communications, 2001). In the case of mandatory retirement, the indexed amount of allowance was 41 for 10 years of tenure, 100 for 20 years and 212 for 40 years. It was even more progressive for the case of voluntary retirement (34 for 10 years, 100 for 20 years and 238 for 40 years).

24. The introduction of a defined contribution system in 2001 improved the situation somewhat, although only 2% of employees are currently covered by such a system and its portability is limited.

25. The share of researchers under a fixed-term contract was only 3.4% for universities in 2002 and 6.0% for government research institutes in 2004.

26. A negative correlation between the strictness of employment protection legislation and the share of investment spending devoted to ICT is pointed out in Jaumotte and Pain (2005a).

27. It should be noted that reforms in this area will enhance economic performance generally in addition to encouraging innovation.

28. Since 1982, 731 complaints regarding government regulations that hinder imports to Japan have been filed with the government's Office of Trade and Investment Ombudsman. The largest number of complaints, 243, concerned regulations by the Ministry of Health, Labour and Welfare.

29. Another report by the Office of Pharmaceutical Industry Research (2005a) ranked Japan 38th among 66 countries in the average delivery period of drugs following their introduction in the global market. The rapid development of new drugs is considered to be one of the most important factors in competitiveness (FTC, 2002).

30. In a new law (the Medical System Reform Law) prepared by the Minister of Health, Labour and Welfare together with the Minister of State for Regulatory Reform, the rules for the combined provision of insured and non-insured medical services have been reformed in order to make the process of introducing new technologies and drugs faster and less expensive.

31. The surcharge rate was increased to 6 to 10% for large manufacturers, 3 to 4% for small and medium-sized manufacturers, 2 to 3% for large retailers, and 1 to 2% for large wholesalers. In addition, a 50% surcharge was introduced for frequent violators.

32. In Europe, administrative fines can be as high as 10% of total firm turnover, rather than just the commerce affected, as in Japan. Fines in the United States may be up to two times the gain.

33. Japan introduced a new patent law in 2000 that was designed to make it easier for plaintiffs to prove patent infringement in court. A research group of METI recently reported that patents tend to discourage innovation in the software sector, and suggested the possibility of limiting patent rights in this area under certain conditions (METI, 2005).

34. The results of the Trends in International Mathematics and Science Study (TIMSS) by the International Association for the Evaluation of Educational Achievement (IEA) also show a decline in basic results in mathematics and science for primary and secondary school students (MEXT, 2004).

35. Despite the national emphasis on learning English, Japan is ranked at the bottom in international tests, such as TOEFL, and the gap with other countries, such as Korea, is widening (ETS, 2001-2005).

36. The job offer to applicant ratio has risen in recent years, surpassing unity, while the growth of employment has remained relatively modest.

37. For example, the establishment of management of technology (MOT) courses for employed people would increase the number of technology managers, who could play an important role in linking technology and management. METI is promoting an Entrepreneurship Promotion Programme to solicit proposals from universities to develop and evaluate MOT programmes in co-operation with industry (OECD, 2005e).

38. 1) *The R&D tax credit:* For corporate R&D activities, a proportional R&D tax credit of 8%, plus 2% for the period FY 2003-05, of the amount of R&D spending, was introduced. For corporations with a higher proportion of R&D expenses, up to 2% of additional tax credit was applied. For SMEs, a proportional tax credit of 12%, plus 3% for the period FY 2003-05, was introduced. For R&D activities conducted jointly by academic, business and the government, a proportional tax credit of 12%, plus 3% for the period FY 2003-05, was introduced. The scope of R&D expenses qualified includes labour expenses, non-personnel expenses and depreciation for machinery and buildings and expenses of overseas R&D activities. The amount of the R&D tax credit cannot exceed 20% of the amount of corporation tax, although the excess may be carried over for one year under certain conditions. 2) *The investment incentive for FY 2003-05 to promote IT investment in both hardware and software:* Corporations could select a tax credit (10%) or a special allowance for accelerated depreciation (50%). The amount of tax credit cannot exceed 20% of the amount of corporation tax, although the excess may be carried over for one year under certain conditions. 3) *Accelerated depreciation for R&D investment for FY 2003-05:* a special allowance (50%) for depreciation for R&D investment was applied.

39. Firms were able to receive the special tax credit for R&D expenses for either total or incremental outlays. Under the new approach, the tax credit is based on total outlays. During FY 2006-07, there is an additional credit for 5% of the amount of incremental R&D spending. As for the tax incentive for acquiring information infrastructure, firms can choose between special depreciation of 50% of the standard acquisition value or a special tax credit of 10% of that value for two years.

40. Since the spring of 2006, the CEFP has been discussing policies to enhance growth potential and international competitiveness through innovation, with a focus on human resource development and service sector productivity. Some specific recommendations were made in June as part of the *Basic Policies for Economic and Fiscal Policy Management and Structural Reform 2006*.

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ANNEX 5.A1

International comparison of innovation performance

The tables below show the individual country results for the indicators reported in Figure 5.2.

Table 5.A1.1. **Innovation indicators for individual countries**

A. Input-related indicators (As per cent of GDP in 2003[1])

	Gross domestic expenditure on R&D	Share of business R&D	Share of government R&D	Share of higher education R&D
Australia	1.6	0.8	0.3	0.4
Austria	2.2	1.5	0.1	0.6
Belgium	2.3	1.7	0.1	0.4
Canada	1.9	1.0	0.2	0.7
Czech Republic	1.3	0.8	0.3	0.2
Denmark	2.5	1.7	0.2	0.6
Finland	3.5	2.5	0.3	0.7
France	2.2	1.4	0.4	0.4
Germany	2.6	1.8	0.3	0.4
Greece	0.7	0.2	0.2	0.3
Hungary	1.0	0.4	0.3	0.3
Iceland	3.0	1.6	0.7	0.6
Ireland	1.1	0.8	0.1	0.2
Italy	1.2	0.6	0.2	0.4
Japan	3.2	2.4	0.3	0.4
Korea	2.6	2.0	0.3	0.3
Luxembourg	1.7	1.6	0.1	0.0
Mexico	0.4	0.1	0.2	0.1
Netherlands	1.8	1.0	0.2	0.5
New Zealand	1.2	0.5	0.4	0.3
Norway	1.8	1.0	0.3	0.5
Poland	0.6	0.2	0.2	0.2
Portugal	0.9	0.3	0.2	0.3
Slovak Republic	0.6	0.3	0.2	0.1
Spain	1.1	0.6	0.2	0.3
Sweden	4.0	3.0	0.1	0.9
Switzerland	2.6	1.9	0.0	0.6
Turkey	0.7	0.2	0.0	0.5
United Kingdom	1.9	1.2	0.2	0.4
United States	2.6	1.8	0.2	0.4
EU15	2.0	1.3	0.3	0.4
EU25	1.9	1.2	0.3	0.4
OECD weighted average	2.2	1.5	0.2	0.4

1. Or latest available year.

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Table 5.A1.1. **Innovation indicators for individual countries** *(cont.)*

A. Input-related indicators

	Number of researchers per 1 000 employed (2003[1])	Tertiary graduates as a share of employment (2003[1])	Share of degrees in science and engineering (2002[1])
Australia	7.6	31.7	21.6
Austria	5.8	15.2	28.0
Belgium	8.4	35.3	23.1
Canada	7.2	43.6	20.4
Czech Republic	3.2	13.0	25.9
Denmark	9.2	30.7	15.8
Finland	17.7	35.5	29.0
France	7.5	25.5	28.7
Germany	6.9	24.6	30.9
Greece	3.7	21.5	–
Hungary	3.9	18.8	12.0
Iceland	–	23.8	17.7
Ireland	5.3	29.2	25.9
Italy	3.0	13.0	22.8
Japan	10.4	40.6	25.9
Korea	6.8	31.6	38.6
Luxembourg	6.2	16.7	31.5
Mexico	0.6	17.1	23.6
Netherlands	5.2	24.8	16.0
New Zealand	9.1	28.6	19.8
Norway	9.1	30.7	14.8
Poland	4.5	18.3	11.0
Portugal	3.5	11.7	18.1
Slovak Republic	4.7	14.2	27.3
Spain	5.6	30.0	24.3
Sweden	10.6	33.3	31.0
Switzerland	6.3	27.4	28.5
Turkey	1.1	12.1	22.5
United Kingdom	5.5	28.9	28.1
United States	9.3	38.2	15.7
EU15	6.1	23.8	26.6
EU25	5.8	–	–
OECD weighted average	6.6	29.0	23.1

1. Or latest available year.

Table 5.A1.1. **Innovation indicators for individual countries** *(cont.)*

B. Output-related indicators

	Scientific articles per million population (2001)	Triadic patent families[2] per million population (2001)
Australia	785.5	19.2
Austria	563.5	34.9
Belgium	582.0	42.1
Canada	729.4	20.6
Czech Republic	256.5	1.2
Denmark	931.1	41.4
Finland	982.7	98.5
France	514.1	40.3
Germany	529.8	90.7
Greece	304.4	0.6
Hungary	243.3	2.7
Iceland	610.4	21.8
Ireland	431.5	19.1
Italy	385.4	14.8
Japan	451.1	92.3
Korea	233.1	10.6
Luxembourg	–	46.5
Mexico	32.1	0.2
Netherlands	785.5	61.9
New Zealand	742.1	9.5
Norway	720.6	24.0
Poland	148.7	0.2
Portugal	208.1	0.6
Slovak Republic	176.7	0.7
Spain	386.7	2.9
Sweden	1 159.4	91.8
Switzerland	1 116.7	118.6
Turkey	59.7	0.1
United Kingdom	807.4	36.7
United States	703.9	57.7
EU15	556.6	43.3
EU25	495.4	–
OECD weighted average	467.7	41.5

2. Patents filed at the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO) to protect the same invention.

Table 5.A1.1. **Innovation indicators for individual countries** *(cont.)*

C. International integration (Average of the period 1999-2001)

	Foreign ownership of domestic inventions[3]	Domestic ownership of foreign inventions[3]	Patents with foreign co-inventors[3]
Australia	24.4	12.2	18.6
Austria	37.8	25.0	25.3
Belgium	45.9	27.5	34.6
Canada	34.4	30.4	30.4
Czech Republic	–	–	–
Denmark	23.2	16.0	18.5
Finland	8.8	24.4	13.2
France	21.8	17.9	15.0
Germany	13.4	12.0	11.3
Greece	–	–	–
Hungary	52.4	15.7	34.4
Iceland	–	–	–
Ireland	37.7	40.8	30.7
Italy	18.1	5.9	9.6
Japan	3.7	3.7	2.9
Korea	5.6	5.7	6.0
Luxembourg	64.5	78.0	53.2
Mexico	–	–	–
Netherlands	20.5	30.5	14.9
New Zealand	24.4	13.8	21.5
Norway	23.6	19.4	21.3
Poland	–	–	–
Portugal	–	–	–
Slovak Republic	–	–	–
Spain	30.1	5.8	19.7
Sweden	18.2	27.5	16.4
Switzerland	23.6	47.8	29.9
Turkey	–	–	–
United Kingdom	37.5	18.4	21.5
United States	12.1	17.4	11.6
EU15	–	–	–
EU25	11.4	7.6	7.4
OECD weighted average	14.7	15.0	6.8

3. Patent applications filed at the European Patent Office.

Table 5.A1.1. **Innovation indicators for individual countries** *(cont.)*

D. Other indicators

	Share of business R&D that is government financed (2003[1])	Knowledge-intensive services[4] (2002)	Share of services in business R&D (2003[1])	Venture capital investment[5] (2000-03)
Australia	4.3	22.2	47.1	0.13
Austria	5.6	16.8	–	0.06
Belgium	5.9	20.4	15.0	0.11
Canada	2.6	17.4	37.4	0.29
Czech Republic	12.0	–	35.2	0.06
Denmark	3.1	15.3	40.0	0.12
Finland	3.3	14.1	13.7	0.19
France	10.3	20.6	11.6	0.12
Germany	6.1	20.1	8.6	0.10
Greece	1.2	11.7	–	0.05
Hungary	6.4	16.4	–	0.03
Iceland	1.4	15.8	–	0.51
Ireland	3.0	16.9	31.7	0.11
Italy	12.2	18.0	21.2	0.08
Japan	0.8	16.5	7.0	0.03
Korea	5.3	17.4	9.6	0.27
Luxembourg	1.6	36.5	–	–
Mexico	9.6	12.1	–	–
Netherlands	4.3	21.4	20.4	0.20
New Zealand	9.6	17.7		0.09
Norway	10.4	12.6	39.9	0.12
Poland	15.2	–	13.4	0.06
Portugal	2.1	15.4	–	0.08
Slovak Republic	22.1	–	–	0.02
Spain	11.1	14.5	28.5	0.12
Sweden	5.9	16.5	10.6	0.26
Switzerland	2.3	25.8	–	0.07
Turkey	2.9	–	–	–
United Kingdom	10.9	22.5	20.7	0.22
United States	10.0	24.3	39.8	0.38
EU15	7.3	18.9	15.2	0.13
EU25	7.4	18.9	15.2	0.13
OECD weighted average	7.2	20.3	25.4	0.26

4. Share of total gross value added.
5. As per cent of GDP.

Source: OECD, *Science, Technology and Industry Scoreboard* 2005.

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Chapter 6

Strengthening the integration of Japan in the world economy to benefit more fully from globalisation

Globalisation through international trade, foreign direct investment (FDI) and international movements of labour is a key force driving economic growth. However, Japan is an outlier among OECD countries, with the lowest levels of import penetration, stock of inward FDI relative to GDP and foreign workers as a share of employment, reflecting the legacy of past policies during its post-war development. Policy reforms would help Japan make greater use of goods, services, capital, technology and human resources from abroad. Given the close links among trade, investment and labour flows, it is important to pursue a comprehensive approach, including; i) *reducing barriers to FDI and imports, particularly in agriculture, through multilateral trade negotiations and regional trade agreements;* ii) *relaxing product market regulations, notably in the service sector;* iii) *fully opening the M&A market to foreign firms; and* iv) *easing controls on the inflow of foreign workers, including those in non-technical occupations.*

Economic theory and history demonstrate the benefits of integration in the world economy (Box 6.1). The process of globalisation is being driven through various channels, notably foreign direct investment (FDI), trade in goods and services, labour flows between countries and technology transfers. For Japan, the steady rise in its share of world trade until the 1990s was a key aspect of its rapid post-war development. At the same time, explicit rules restricting inflows of goods and investment, aimed at promoting and protecting local companies and industries, limited the degree of integration in the world economy. In addition, product market regulation had a negative effect on imports of goods and services and inflows of FDI. The impact of government policies may have been

Box 6.1. **The benefits of globalisation**

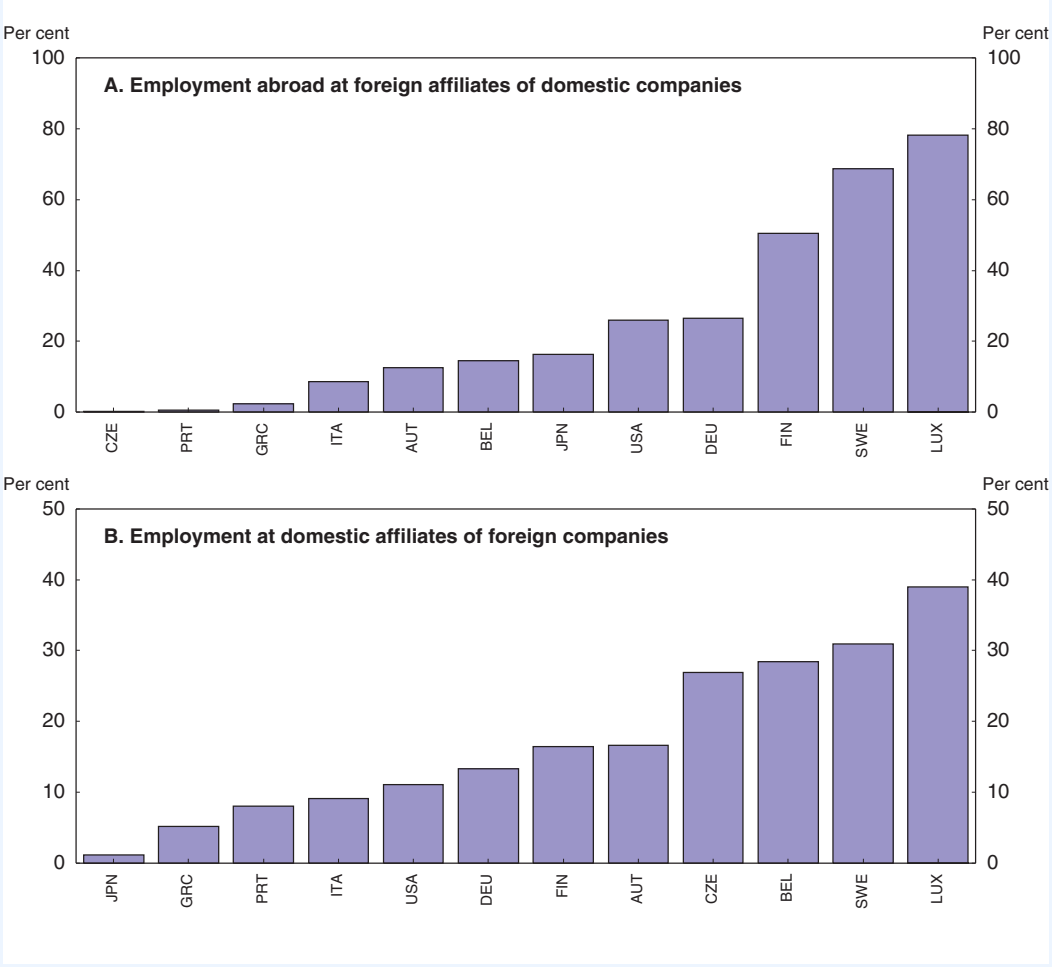
In addition to tariff and non-tariff barriers and FDI restrictions, domestic product market regulations can hinder international flows of goods and investment by distorting relative prices. This also distorts the relative rates of return from investing in different locations, even when regulations do not discriminate between local and foreign firms (Nicoletti *et al.*, 2003). Removing such barriers to globalisation strengthens competition, leading to both static and dynamic gains. Static gains arise from better allocation of existing resources in line with a country's comparative advantage. In addition, increased competition strengthens pressure on firms to operate more efficiently. Dynamic gains result from greater efforts to innovate and optimise production, and from more rapid diffusion of new technology, which is stimulated by openness to trade and investment (see Chapter 5). Moreover, firms are able to realise increasing returns to scale as larger markets allow them to expand production.

A recent OECD study estimated that GDP per capita in member countries would increase by between 2 and 5% if all external and internal barriers were reduced to the level in the least restrictive member country. Product market reforms were estimated to have the largest impact, increasing GDP per capita by 1.75 to 3.0%, with another 0.25 to 1.0% from cutting tariff rates and 0.75% from lowering restrictions to FDI. In the case of Japan, the gains in GDP per capita were estimated to be 4.4%, including 2.4% from regulatory reforms, 1.3% from bilateral tariff reductions and 0.7% from reductions in FDI restrictions (OECD, 2005a). In addition to these static gains, liberalisation would produce dynamic gains by stimulating R&D, innovation and technological progress on a sustained basis. Although there is much uncertainty about the size of dynamic gains, empirical research suggests that they could be quite large.

There have been concerns in Japan about the "hollowing out" of its manufacturing sector, even though its share of GDP has fallen only slightly from 22 to 20% over the past decade. FDI outflows are sometimes identified as a factor contributing to this decline. Employment in the foreign affiliates of Japanese parent companies in the manufacturing sector reached 2 million in 2002, equivalent to 16% of Japan's domestic manufacturing employment. Japan's overseas employment thus ranks in the middle of the 12 OECD countries for which data are available (Figure 6.1). In contrast, the 0.2 million workers employed by foreign affiliates operating in Japan is exceptionally low compared to 1.8 million in the United States and 1 million in Germany. This amounts to only 1% of manufacturing employment in Japan, the lowest among member countries surveyed (Panel B). Reforms to remove or relax obstacles to FDI inflows would provide significant economic gains for Japan, as discussed below.

Box 6.1. **The benefits of globalisation** *(cont.)*

Figure 6.1. **Foreign direct investment and employment**
Per cent of domestic manufacturing employment, 2002[1]



1. 2001 for Japan, Sweden, Austria and Portugal; 1999 for Italy and Luxembourg.

Source: ECD (2005c), *OECD Economic Globalisation Indicators*, 2005 and STAN database.

re-enforced by elements of Japan's unique economic system, such as lifetime employment, stable cross-shareholding, *keirestu* and the main bank system, which may have created additional entry barriers to the Japanese economy.

Since the collapse of the bubble in the early 1990s, Japan has accelerated its efforts to open further to the world economy by relaxing explicit restrictions on trade and investment, while pursuing reforms that lower implicit obstacles to foreign entry. The emphasis on closer integration with the world economy prompted the Council on Economic and Fiscal Policy[1] to present a "Globalisation Strategy" in 2006 (Box 6.2). While Japan's level of integration has increased, it still remains low by OECD standards in terms of FDI inflows, imports of goods and services and the number of foreign workers. Indeed, the stock of inward FDI and imports as a share of GDP and foreign workers in the labour

Box 6.2. **Japan's Globalisation Strategy**

In May 2006, the Council on Economic and Fiscal Policy (CEFP) published a "Globalisation Strategy" that aims at enhancing Japan's international competitiveness. This is to be accomplished by accelerating domestic reforms to raise productivity and by making full use of goods, services, capital, technology, information and human resources from abroad. In launching this initiative, the prime minister stressed that Japan has benefited greatly from globalisation. The report includes a wide range of proposals to increase such benefits:

A. Improve and expand human resources

- Establish an environment that attracts outstanding talent from other countries, including researchers and students.
- Improve the immigration system in order to increase the inflow of highly qualified human resources.
- Consider relaxing immigration restrictions in non-technical services, such as long-term nursing care, to cope with population ageing.
- Upgrade domestic human resources by improving the education system, with a goal of raising international test scores to the world's top level by 2010.

B. Strengthen international competitiveness

- Raise efficiency in agriculture, with the aim of doubling the amount of agricultural exports by FY 2009.
- Implement the third Basic Plan for science and technology (see Chapter 5).
- Double the stock of inward foreign direct investment to 5% of GDP by 2010.

C. Strengthen the global competitiveness of regions in Japan

- Create multicultural societies in Japan's regions.
- Increase the number of foreign tourists to Japan to 10 million by 2010.

D. Foreign policy and contribution to international society

- Accelerate negotiations of Economic Partnership Agreements (EPAs) in line with the timetable (Table 6.1), which is expected to expand the share of trade with EPA partners to more than 25% by 2010 at the latest.
- Create an East Asian Economic Zone.
- Work toward an OECD-style international system to provide policy advice and co-ordination in East Asia.
- Reform Overseas Development Assistance to boost its efficiency, while increasing outlays, including debt forgiveness, by $10 billion over the period 2005 to 2009.
- Pursue a strategic energy policy that includes raising energy efficiency by 30% and lowering the oil dependency ratio to below 40% by 2030.

E. Japan in the world in 2010

- Concentrate resources so as to maintain Japan's highly competitive position as a front-runner in global industry.
- It is expected that: *i)* the trade surplus will be maintained; *ii)* the service trade deficit, including travel services, will decline; and *iii)* the investment income surplus will expand.

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Box 6.2. **Japan's Globalisation Strategy** *(cont.)*

Table 6.1. **The timetable for Economic Partnership Agreements**

Status and goals as of July 2006

	Status	Goal
Malaysia	Took effect in 2006	
Thailand	Agreed on major points in 2005	Aim to sign as early as possible
Philippines	Agreed on major points in 2004	Aim to sign as early as possible this year
Indonesia	Started negotiations in 2005	Aim to agree on major points this year
ASEAN as a whole	Started negotiations in 2005	Aim to complete negotiations by 2007
Republic of Korea	Started negotiations in 2003 but stopped since 2004	Continue to make efforts to resume the negotiations
Chile	Started negotiations in 2006	Aim to agree on major points this year
Singapore	Signed and took effect in 2002 The negotiation for a partial revision of the EPA was agreed in 2006	Aim to agree on major points as early as possible, considering the progress of negotiations between Japan and ASEAN
Vietnam	The first Joint Study Group (JSG) meeting was held in 2006	Aim to start negotiations this year
Brunei	Started negotiations in 2006	Aim to agree on major points this year
Gulf Coast Countries[1]	Agreed to start negotiations in 2006	Aim to start negotiations this year
India	Agreed to start negotiations in 2006	Aim to start negotiations this year
Switzerland	The first JSG meeting was held in 2005	Accelerate the work of the joint study on which the decision will be made on whether to start negotiations
Australia	The first JSG meeting was held in 2005	Accelerate the work of the joint study on which the decision will be made on whether to start negotiations

1. The countries of the Gulf Co-operation Council (GCC). The GCC is comprised of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

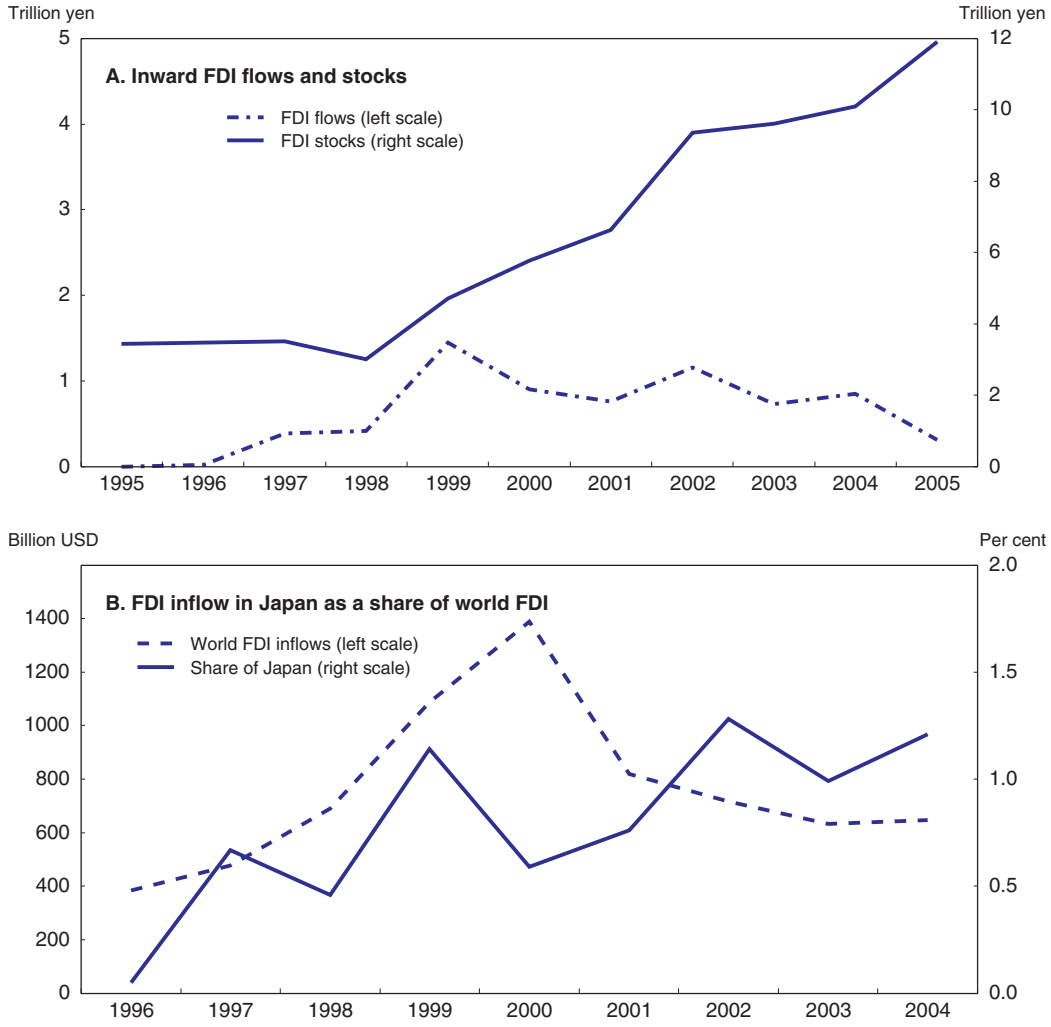
Source: Council on Economic and Fiscal Policy, Government of Japan, "Globalisation Strategy", May 2006.

force are all the lowest in the OECD area (Figure 1.8). This chapter discusses how Japan can increase its openness to FDI, trade and human resources and thereby accelerate productivity and growth. It concludes with policy recommendations shown in Box 6.5.

Improving the climate for FDI inflows in Japan

FDI has become an increasingly important driver of global integration as multinational companies implement global strategies. During the second half of the 1990s, the worldwide total of FDI tripled (Figure 6.2), led by a marked rise in cross-border mergers and acquisitions (M&As). Japan participated in this worldwide upswing, with its stock of inward FDI more than tripling from 3 trillion yen to 9.4 trillion yen between 1998 and 2002, thanks to a number of special factors. *First*, the failure of some major corporations and falling asset prices prompted restructuring, resulting in a number of large M&As, particularly in the financial sector. *Second*, there was progress in regulatory reform, notably in the service sector and some of the network industries. *Third*, restrictions on FDI inflows have been relaxed since 1998, when Japan was ranked as the eighth-most restrictive OECD country (Golub, 2003), reflecting relatively slow progress in liberalising regulations during the preceding two decades. Its composite score in 1998 was 0.23 (with zero indicating no restrictions).[2] By 2006, Japan's composite score had fallen to 0.15, encouraging FDI inflows even as the world total declined significantly after 2000.[3] Consequently, Japan's share of world FDI inflows increased from 0.5% in 1998 to 1.2% in 2004.

Figure 6.2. **Inward FDI in Japan and its share of the world total**



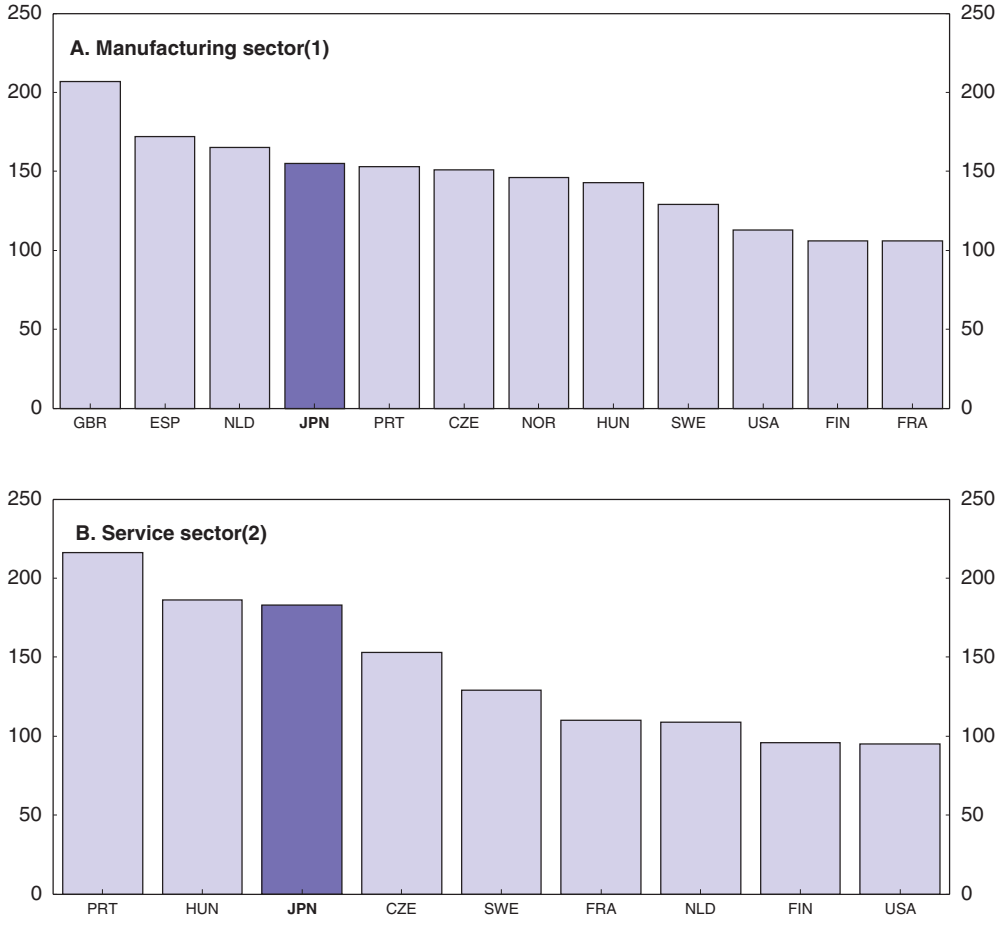
Source: Ministry of Finance, Japan External Trade Organization and UNCTAD (2005), *World Investment Report 2005*.

Potential benefits from foreign direct investment inflows are large

The surge in FDI inflows brought a number of benefits. In particular, labour productivity in foreign affiliates in Japan was 60% higher than the national average in the manufacturing sector and 80% higher in the service sector in 2002, a relatively large gap compared to other OECD countries (Figure 6.3). Moreover, foreign affiliates in the service sector in Japan recorded the highest labour productivity growth rate among OECD countries surveyed between 1995 and 2001 (OECD, 2005c). Another study found that the overall performance of foreign affiliates in Japan surpassed that of domestic companies in terms of total factor productivity (TFP), profitability, capital investment and spending on R&D (Fukao, 2003).[4] This reflects the fact that firms that undertake FDI are generally the most efficient in their industries.

However, the impact of foreign affiliates in Japan has been limited by their small size. Despite the three-fold increase between 1998 and 2002, the stock of FDI in Japan as a share

Figure 6.3. **Labour productivity of foreign affiliates relative to the national average**
In 2002, national average = 100



1. Manufacturing sector: 2000 for Spain; 1999 for the United Kingdom.
2. Service sector: 2001 for the Netherlands; 2000 for Sweden and Japan.

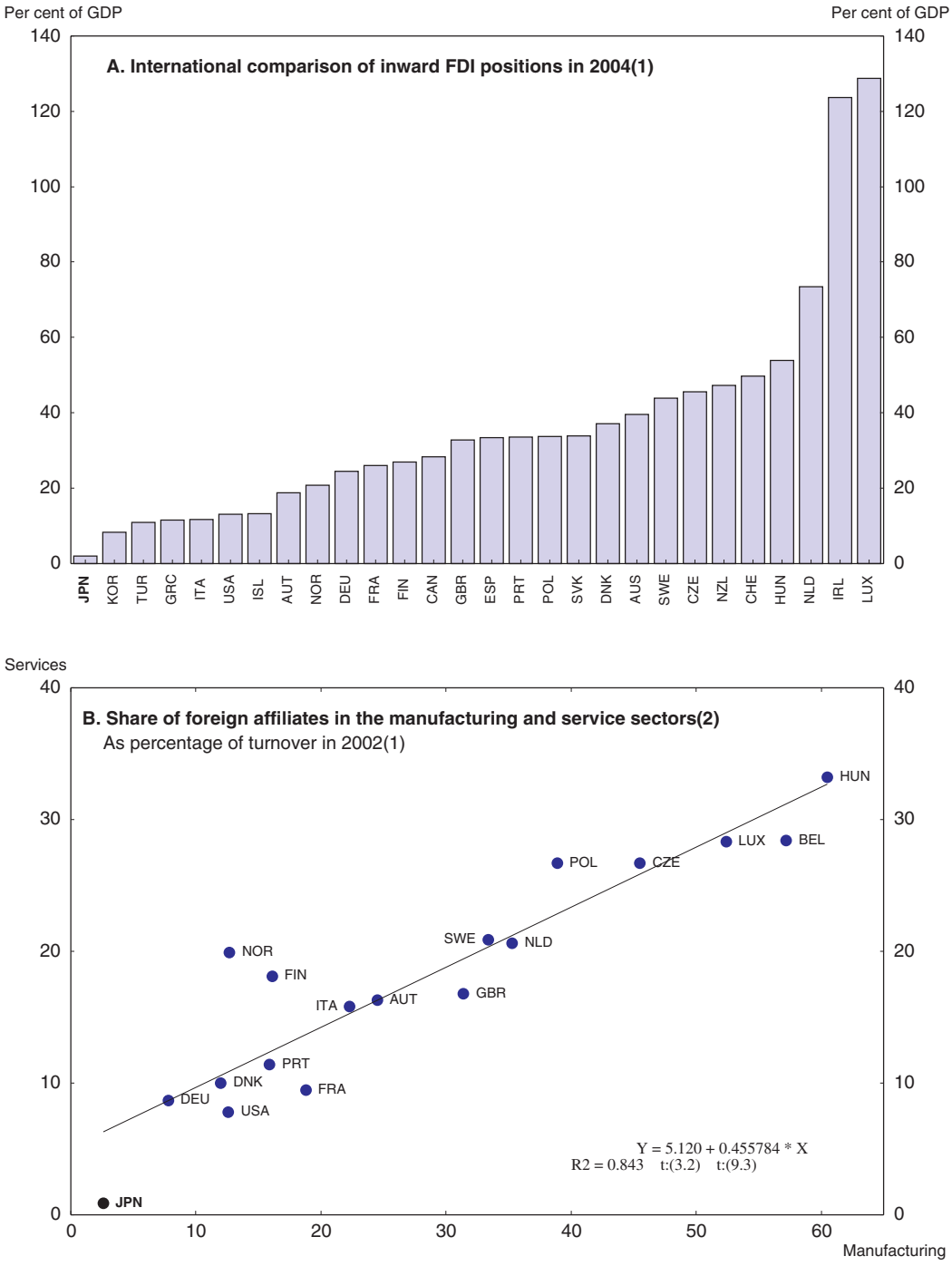
Source: OECD (2005c), *Economic Globalisation Indicators, 2005*.

of GDP remains the lowest in the OECD area at 2% (Figure 6.4). Consequently, the shares of foreign affiliates in manufacturing and service sector turnover, at 1% and 3% respectively, are also the lowest among OECD countries (Panel B). The share of FDI is particularly low in the service sector, which accounted for only 41% of the turnover of all foreign affiliates in Japan in 2002, the lowest in the OECD area.[5] Foreign investment in services is essential to boost the relatively low level of productivity in that sector. Indeed, Japan's average labour productivity in services fell from 88% of the US level in 1993 to 84% in 2003 despite a sharp rise in the finance, insurance, real estate and business service industries (Figure 5.8).

It is essential to further reduce barriers to FDI inflows

The special factors that drove the rapid inflow of FDI in the latter half of the 1990s are losing momentum. Despite government efforts in recent years to encourage inflows (Box 6.3), inward FDI fell to 0.3 trillion yen in 2005, the lowest figure since 1996 (Figure 6.2). The amount appears to be too low to have a significantly positive impact on the Japanese

Figure 6.4. **International comparison of inward foreign direct investment positions**



1. Or latest year. See the source for the exact year.
2. The data used for foreign affiliates are broken down by industry of sales to be compatible with national total data.

Source: OECD, International direct investment database and OECD (2005c), *Economic Globalisation Indicators, 2005*.

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Box 6.3. **Recent initiatives to improve the FDI climate in Japan**

In 2003, Prime Minister Koizumi set a target of doubling the stock of inward FDI in Japan within 5 years from its 2001 level of 6.6 trillion yen. To meet this objective, the Japan Investment Council (JIC), which is chaired by the prime minister, established the "Programme for the Promotion of Foreign Direct Investment in Japan" that included 74 measures with the following goals: *i)* provide information on investment opportunities in Japan; *ii)* improve corporate governance and labor market practices; *iii)* create a favourable living environment in Japan; *iv)* review administrative procedures; and *v)* enlarge the role of local governments in attracting FDI. The programme was expanded to include 12 additional policy measures in July 2005, focusing on the following areas: *i)* improvement of the environment for cross-border M&As; *ii)* regulatory reform of healthcare, and simplification of the application procedures for medicines, medical devices and food additives; and iii) strategic public relation strategies both inside and outside Japan.

The programme led to the creation in 2003 of the "Invest Japan Business Support Center", a one-stop office to provide information to foreign companies and potential foreign investors, located in the Japan External Trade Organization (JETRO). Information desks have also been established in all concerned ministries to help provide support for potential foreign investors navigating administrative procedures. In addition, the "Special Zones for Structural Reform" initiative launched in 2003 (see the 2005 *OECD Economic Survey of Japan*) has the potential to encourage foreign investment by relaxing regulations. In particular, the prohibition on corporations owning schools, hospitals and nursing homes has been waived and exemptions for visa requirements have been granted in some special zones. Finally, the "Advanced Areas to Promote Foreign Direct Investment" initiative launched in FY 2003 enables JETRO to provide special support to local governments that are trying to attract foreign capital. Five regions were selected in 2003.

Despite the slowdown in FDI inflows after 2002, the cumulative stock reached nearly 12 trillion yen in 2005. With the 2006 target within reach, the CEFP announced in May 2006 a new target of doubling the stock of inward FDI to 5% of GDP by 2010 (Box 6.2). With the OECD's second-largest economy and its location in the dynamic East Asian region, Japan has the potential to sharply increase its inflows of FDI. However, this is likely to depend on addressing the key issues discussed below rather than on action programmes and numerical targets. The political commitment at the top has to be matched by the ministries and agencies that implement the policies that influence actual inflows.

economy. Although the decline is due in part to the end of the global investment boom, the continued low share of Japan in world FDI suggests that there are still barriers to inflows. According to the OECD's FDI restrictiveness index, Japan is relatively open with an overall score that is well below the average of member countries (Koyama and Golub, 2006).[6] However, this index is based primarily on discriminatory regulatory restrictions and hence does not capture all of the obstacles that a potential direct investor may face. These obstacles include: *i)* rules limiting cross-border M&As; *ii)* product market regulations; and *iii)* labour market regulations.[7]

First, an open environment for FDI requires a competitive and non-discriminatory market for M&As, which have emerged as a main driver of FDI by allowing multinational companies to bypass entry barriers and respond quickly to changes in business conditions. M&As accounted for 59% of world FDI inflows in 2004 (UNCTAD, 2005). Between 1995 and 2001, there were 1 404 major M&A deals (valued at more than $100 million) between

the United States and Europe, with a total value of $1.4 trillion (American Chamber of Commerce in Japan, 2005). Most of the deals were done on a "non-cash" basis in which the acquiring company paid for the target company through an exchange of shares, and taxes on the transaction were deferred.[8] In contrast, there were only 138 major deals between Japan and the United States and Japan and Europe over the same period, with a total value of $116 billion. During the period 2002 to 2004, the sale of EU companies to foreign firms accounted for almost half of the world total of cross-border M&As in value terms, while the sale of US firms accounted for another one-fifth (Table 6.2). In contrast, the Japanese share was only 2.3%.

Japan's low share of cross-border M&As reflects several factors. One reason is that Japan's overall M&A market is small based on international comparisons.[9] Although the number has expanded five-fold from 531 in 1995 to 2 725 in 2005, its size has been limited by the practice of cross-shareholding, combined with entrenched, internally promoted boards of directors who control the voting rights of such shares through informal shareholder understandings (Box 6.4).[10] A second factor is the discriminatory treatment of foreign firms in M&As. In particular, non-cash transactions are not allowed in the case of foreign firms, even though this method accounted for 70% of M&As between domestic firms in 2002 (Fukao, 2003). Between 1999 and 2004, the share of cross-border M&As in Japan's overall M&A market fell from 11 to 9%, while the amount of these deals declined from 2.5 trillion yen to 0.7 trillion yen (Table 6.2, Panel B).

Allowing foreign firms the same rights as domestic firms in using non-cash transactions for M&As would significantly facilitate FDI inflows. The new Corporation Law

Table 6.2. **Cross-border mergers and acquisitions**

	2002		2003		2004	
	Billions of US$	Per cent	Billions of US$	Per cent	Billions of US$	Per cent
A. World total by seller						
United States	73.2	19.8	69.7	22.8	81.9	21.5
European Union	208.8	56.5	126.0	42.4	178.8	47.0
Japan	5.7	1.5	11.0	3.7	8.9	2.3
Other OECD[1]	27.7	7.5	20.9	7.0	39.1	10.3
Rest of world	54.4	14.7	69.4	23.4	71.9	18.9
Total	369.8	100.0	297.0	100.0	380.6	100.0

	Cases	Amount[2]
B. In Japan (trillion yen)		
1988-91	16	–
1992-96	30	–
1997	51	0.2
1998	85	0.8
1999	129	2.5
2000	175	1.5
2001	158	2.2
2002	129	1.1
2003	158	1.0
2004	207	0.7

1. Australia, Canada and New Zealand.
2. Based on public announcements.

Source: UNCTAD (2005) and Koo and Yang (2006).

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Box 6.4. **Cross-shareholding in Japan**

The ownership structure of firms has been characterised by a high level of cross-shareholding with financial institutions and other non-financial firms, such as business partners and the parent company. Indeed, until the mid-1990s, such shareholding accounted for nearly half of the value of listed companies, divided equally between banks, insurance firms and non-financial firms (Table 6.3). Stable cross-shareholding has been a key pillar of Japanese-style management and corporate governance. Banks' ownership of both debt and equity, it was argued, enhanced their ability to monitor client firms. However, a high level of bank ownership is associated with poor corporate performance as it reduces pressure from shareholders and the risk of hostile takeovers, thereby encouraging managerial entrenchment and raising the risk of insider control (Miyajima and Kuroki, 2005). Moreover, bank ownership of firms tends to relax financial constraints, allowing firms to undertake marginal investment projects with low rates of return.

However, the share of stable shareholding has fallen significantly in recent years to around a quarter. The decline was particularly marked after 1997 when the banking crisis worsened, prompting banks to become large net sellers of shares in order to dispose of non-performing loans and to meet capital adequacy rules. In addition, a new law in 2001 required banks to reduce their equity holdings to no more than 100% of tier I capital in order to weaken the impact of stock market swings on the financial soundness of banks. This law has been a major impetus for sales of shares by banks, although the original deadline of September 2004 was pushed back to September 2006. Following the creation of the Banks' Shareholding Purchase Corporation in 2002, the Bank of Japan began to buy stocks directly from banks under certain conditions. Stable cross-shareholding was also reduced from the corporate side as profitable firms turned to direct financing from capital markets, thus reducing their interest in holding shares of the troubled banks.

The declining level of cross-shareholding should continue to facilitate a further development of the M&A market in Japan, thus expanding the scope for cross-border deals that boost FDI inflows. However, the share of cross-border deals fell from a peak of 11% of total M&As in Japan in 1999 to 9% in 2004 (Koo and Yang, 2006). Moreover, cross-shareholding is likely to remain an important feature of the Japanese economy.

Table 6.3. **The proportion of stable shareholders in listed companies**

The value of shares held by each sector as a per cent of the market value of firms

At the end of FY	Number of listed firms	Banks	Insurance firms	Non-financial firms	Total
1987	1 924	14.9	16.4	14.4	45.8
1988	1 975	15.6	16.6	13.3	45.7
1989	2 031	15.6	15.7	13.4	44.9
1990	2 078	15.7	15.8	14.0	45.6
1991	2 107	15.6	16.2	13.7	45.6
1992	2 120	15.6	16.2	13.8	45.7
1993	2 161	15.4	15.8	14.0	45.2
1994	2 214	15.4	15.7	13.7	44.9
1995	2 279	15.0	14.7	13.5	43.4
1996	2 341	15.1	14.7	12.2	42.1
1997	2 389	14.8	14.1	11.6	40.5
1998	2 433	13.7	13.0	13.2	39.9
1999	2 487	11.3	10.6	15.9	37.9
2000	2 602	9.8	10.9	12.3	33.0
2001	2 668	8.7	10.1	11.4	30.2
2002	2 674	7.7	9.3	10.0	27.1

Source: Miyajima and Kuroki (2005).

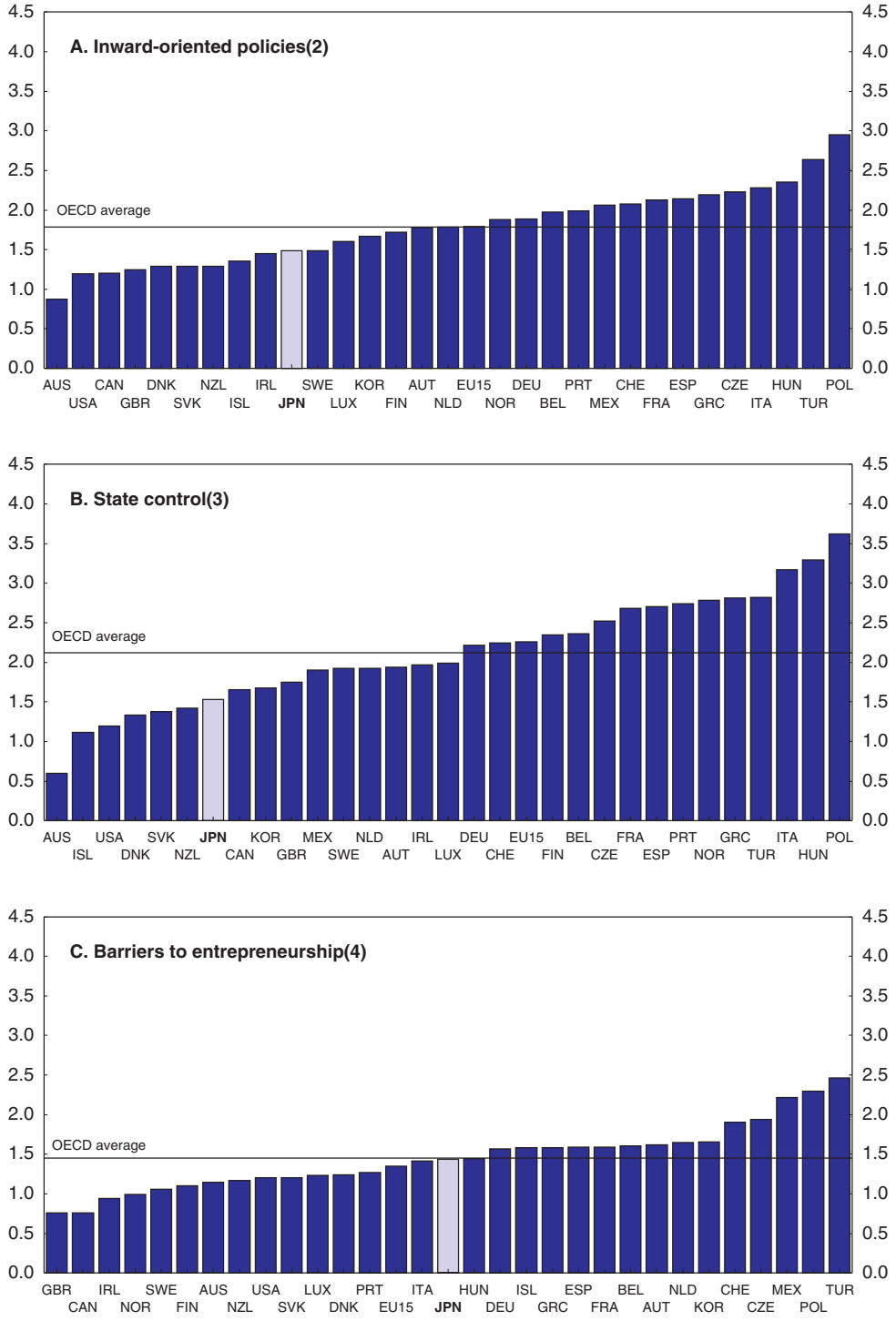
enacted in June 2005 allows "triangular mergers". Under this law, a foreign company can establish a subsidiary in Japan, which then uses its parent company's stock to acquire a Japanese company. Although the revised provision was originally scheduled to take effect in May 2006, it has been delayed until May 2007 in the wake of concern about a hostile takeover attempt in early 2005 involving domestic companies.[11] Moreover, there is concern over the proportion of shares owned by foreigners, which has risen from 10% in 1996 to 24% in 2005. However, triangular mergers would do little to encourage hostile M&As because, under Japanese law, it is required that mergers be approved by the management of the acquired firm and generally by shareholders' vote on an extraordinary resolution, with a "super majority" of those present. Finally, the crucial question of whether to allow tax deferral for cross-border M&As, as is generally the case at present for domestic M&As involving the exchange of shares, is still under discussion within the government. Without the tax deferral, Japanese shareholders would be reluctant to agree to the share exchange with the parent foreign company.

Second, product market regulations – defined as regulations that have the potential to reduce competitions in all sectors of the economy – have been found to impose significant barriers to FDI in OECD countries. Indeed, they have become more important as explicit restrictions have been gradually eliminated through successive rounds of multilateral trade negotiations, the rising number of regional trade agreements and investment accords. Given that potential foreign investors make decisions on the basis of expected returns, empirical studies show that countries with relatively restrictive and costly product market regulations tend to have lower stocks of foreign capital (Nicoletti *et al.*, 2003). In the OECD's measure of "inward-oriented regulations", Japan is rated as the tenth most liberal along with Sweden, although it still has some room for improvement (Figure 6.5). The inward indicator includes two components: state control (Panel B), where Japan is one of the least restrictive, and barriers to entrepreneurship (Panel C), where it matches the OECD average. This suggests product market regulations are concentrated in various entry barriers that affect all potential investors, particularly in services (Fukao, 2003). Indeed, some markets, including network industries such as transport and electricity, as well as agriculture, healthcare and education are not open, either to foreign or domestic investors.[12] Consequently, FDI in Japan's service sector is more concentrated in a limited number of industries (Ito and Fukao, 2003).

Third, labour market regulations also influence FDI flows. In particular, strict employment protection legislation has been found to reduce FDI inflows, in part by raising uncertainty about costs of restructuring (Nicoletti *et al.*, 2003). Employment protection for regular workers in Japan is ranked as the tenth strictest in the OECD area (see Chapter 4).

The determinants of FDI and international trade are related, as indicated by the correlation between a country's stock of inward FDI and its exports and imports as a share of GDP (Figure 1.8). Foreign investment usually occurs after a firm achieves a market presence through trade.[13] Once established, foreign affiliates tend to be more active in international trade, in part through intra-firm trade, than domestic firms (OECD, 2005c). Given the complementarity of trade and investment, easing barriers to trade should encourage FDI inflows. Similarly, liberalising barriers to FDI should promote trade.

Figure 6.5. **Product market regulation in 2003**[1]



1. The scale of indicators is 0-6 from least to most restrictive. OECD and EU15 are simple averages.
2. Excluding barriers to trade and investment.
3. State control covers public ownership of business enterprises and the government's involvement in business operations.
4. Barriers to entrepreneurship cover regulatory and administrative opacity, administrative burden on start-ups and barriers to competition, including entry barriers.

Source: Conway *et al.* (2005).

Accelerating international integration through trade

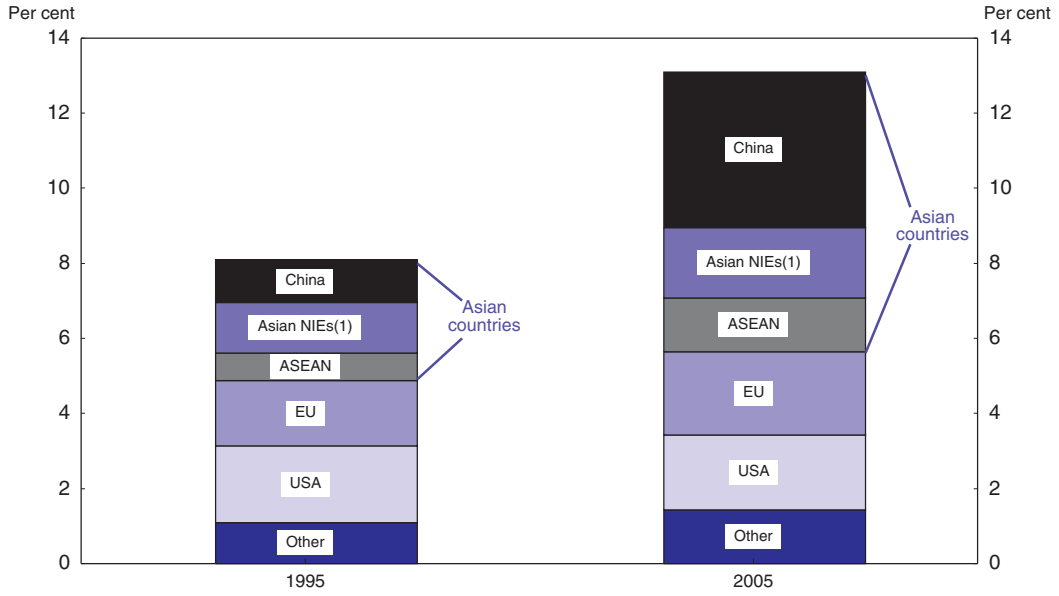
The rapid increase in international trade in recent years is another important aspect of globalisation. Trade intensity (defined as the average of exports and imports divided by GDP) in the OECD area increased from an unweighted average of 35% in 1995 to 47% in 2003 (OECD, 2005c). Meanwhile, Japan's trade intensity rose from 9 to 11% over the same period.

Rising trade intensity in Japan: the China factor

Over the past decade, imports of manufactured products increased from 8% of domestic demand to 13%, with China accounting for three-fifths of the increase (Figure 6.6). Japan is now China's second-largest export market, accounting for about 11% of total Chinese exports in 2004. The rapid rise in trade has been driven in part by growing foreign investment, as Japanese firms take advantage of their geographical proximity to China's huge domestic market and lower labour costs. Indeed, the cost of labour in China on average is only about 5% of that in Japan. After decreasing in the second half of the 1990s, Japanese FDI in China jumped from $0.8 billion in FY 1999 to $4.6 billion in FY 2004.[14] The expanding importance of China was accompanied by rising import shares for ASEAN and the Asian NIEs (Korea; Singapore; Chinese, Taipei; and Hong Kong, China). Consequently, Asia accounted for 85% of the increase in import penetration of manufactures in Japan over the past decade, despite the absence of formal agreements that have boosted trade in other regions, such as the North American Free Trade Agreement and the European Single Market initiative.

China has also accounted for Japan's rising export intensity in the manufacturing sector, which increased from 13% of domestic production in 1995 to 18% in 2003. With Japanese exports to China growing at a 16% annual rate over the past decade, China has

Figure 6.6. **Import penetration in Japan**
Imports of manufactures as a share of domestic demand



1. Hong Kong, China; Korea; Singapore; and Chinese Taipei.

Source: Japan External Trade Organisation.

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become the second largest market for Japanese exports, after the United States, with a share of 13% in 2005. China has clearly played a key role in Japan's current economic expansion, which was driven primarily by external demand between 2002 and 2004. Growing trade with China has offset Japan's falling export market share in the OECD area. Indeed, Japan's share of intra-OECD imports of goods and services has fallen by 24% since 1995, the largest decline in the OECD area.[15] Increased exports to China limited the decline in Japan's share of world exports, which fell from 7.5 to 5% over the past decade. In sum, Japan has been the OECD country most affected by China's growing role in the world economy, which has accelerated the re-organisation of production in East Asia and the expansion of trade. There appears to be a clear division of labour between Japan and China, with little competition between the exports of the two countries, as Japan's exports tend to be higher value-added products (Kwan, 2002). Indeed, in 2002, only 16% of Chinese exports to the United States competed with Japanese products, while 38% competed with Korean products, 49% with Malaysian products and 83% with Indonesian products.

Japan's level of import penetration remains the lowest in the OECD area

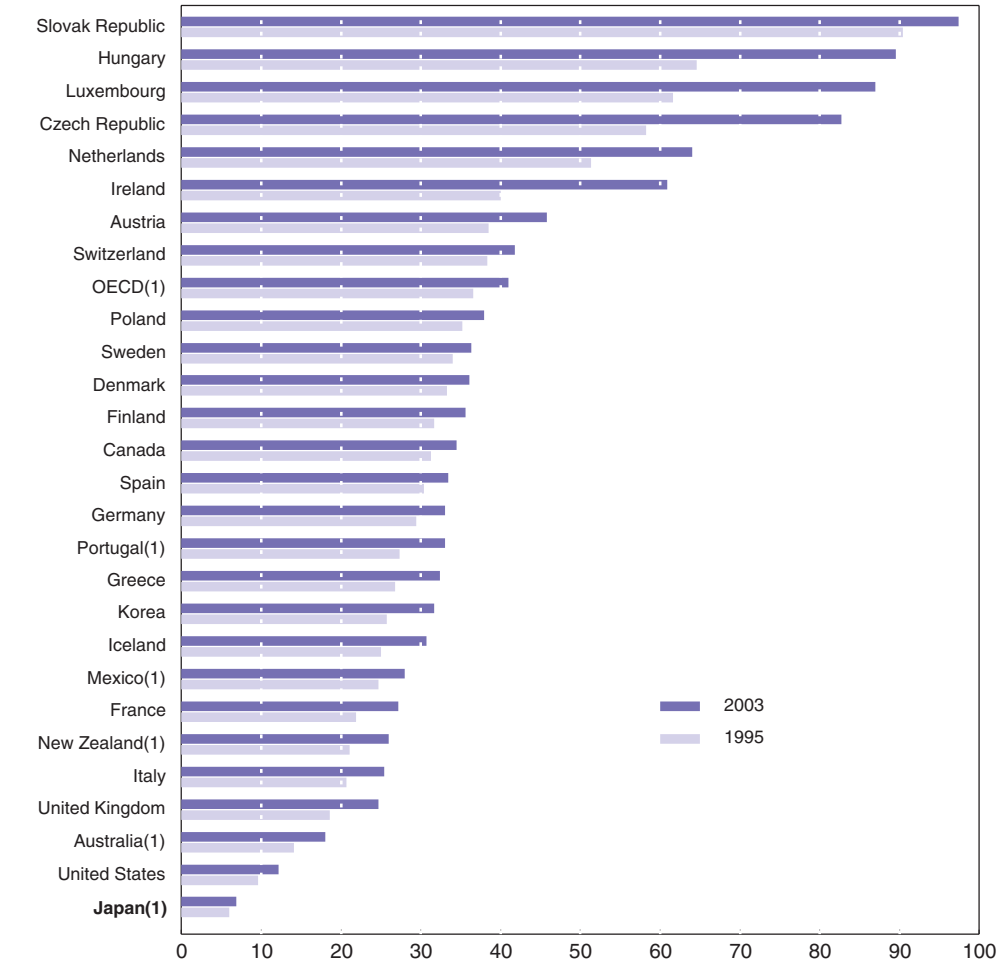
Despite Japan's growing investment and trade links with China and other Asian economies, the level of import penetration – defined as imports of goods as a share of domestic demand – remains the lowest in the OECD (Figure 6.7). The level of imports in Japan is surprisingly low, even after controlling for country size, transport costs and per capita income, although there may be other economic factors (Panel B). Explicit trade barriers are one possible explanation, although the simple average Most Favoured Nation tariff rate of 3.3% in Japan is below the OECD average of 5.5%.[16] As for non-tariff barriers, these applied to 5.6% of total imports, a level of coverage similar to other major OECD countries according to UNCTAD (Bora *et al.*, 2002). However, the restrictive effect of tariff and non-tariff barriers, according to research done at the World Bank (Kee *et al.*, 2006), is relatively high. The combined effect of tariffs and non-tariff measures is given by the Overall Trade Restrictiveness Index, which shows the tariff level that keeps imports at their observed level (second column of Table 6.4). According to this broad estimate, the level of trade protection is 14.3% in Japan, compared to 12.6% in the European Union and 8.2% in the United States. In addition to formal trade barriers, the low import penetration appears to result from other factors, including product market regulation and the low stock of FDI in Japan. Moreover, the upward trend in Japan's import penetration ratio has been slowed by the country's small number of regional trade agreements. These factors are discussed below.

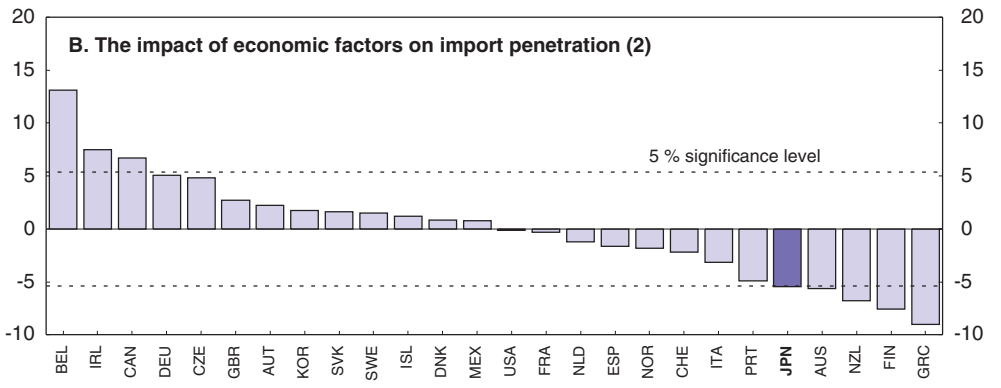
Restrictive product market regulations reduce imports, in part by making market access more difficult and by distorting relative prices and rates of return (Nicoletti *et al.*, 2003). While the impact is larger for services, it also influences trade in manufactures. As noted above, although Japan ranks as the tenth most liberal country in inward-oriented regulations, it has some room for improvement (Figure 6.5).

The small role of foreign affiliates in Japan appears to be another factor contributing to low import penetration. Indeed, there is a strong correlation between the stock of FDI and imports of manufactures, given that foreign affiliates play a key role in the globalisation process, in part through intra-firm trade (Figure 1.8).[17] As noted above, the share of foreign affiliates in Japan's manufacturing and service sectors is the lowest in the OECD in terms of turnover (Figure 6.4, Panel B). Correspondingly, they played only a minor role in Japan's international trade, accounting for 7% of total exports and 9% of total imports in 2001. In France, for example, the corresponding ratios are 29% and 39% (OECD, 2005c).

Figure 6.7. **Indicators of openness in trade**

A. Import penetration rates for goods as per cent of domestic demand





1. Data for Australia, Japan, Mexico, New Zealand and Portugal refer to 2002.
2. Import penetration (the 1995-2004 average for goods and services) is estimated as a function of population, per capita income and transport costs. A negative (positive) residual indicates that import penetration is below (above) the level predicted by economic factors. For Japan and four other countries, these residuals are significant at a 5% level.

Source: OECD (2005c), *OECD Economic Globalisation Indicators 2005* and National Accounts.

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Table 6.4. **Trade barriers in OECD countries**[1]

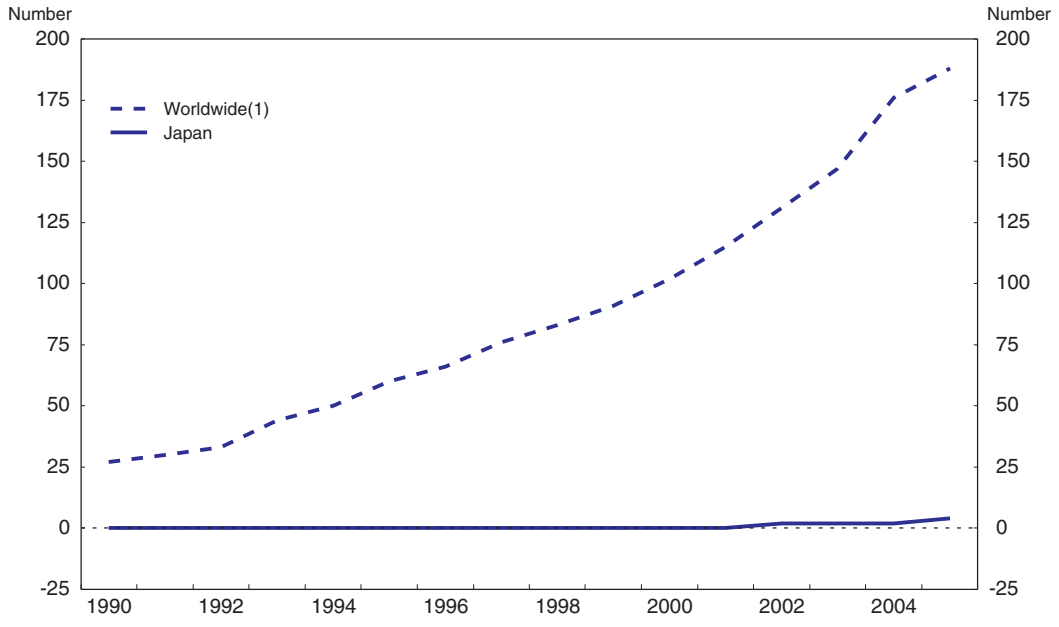
Country	OTRI using tariffs	OTRI using tariff and non-tariff barriers
Australia	4.7	11.6
Canada	3.1	6.1
Switzerland	5.7	9.0
Czech Republic	4.0	5.0
European Union	3.0	12.6
Hungary	6.1	11.3
Iceland	3.2	5.6
Japan	**5.8**	**14.3**
Mexico	14.8	28.7
Norway	4.6	7.5
New Zealand	2.4	12.7
Poland	10.8	15.2
Turkey	7.1	11.8
United States	2.7	8.2
OECD (13 countries above)	**5.8**	**11.0**

1. Overall trade restrictive index (OTRI) is the uniform tariff that would leave aggregate imports unchanged. It is defined as the weighted sum of tariff and non-tariff barriers. Non-tariff-barriers include price control measures, quantity restrictions, monopolistic measures and technical regulations.

Source: Kee *et al.* (2006), "Estimating trade restrictiveness indices", Centre for Economic Policy Research Discussion Paper No. 5576, London.

Finally, an actor limiting the rise in import penetration is that Japan has not participated in the worldwide surge in regional trade agreements (RTAs) – which include bilateral trade agreements – during the past 15 years. Indeed, the number of such agreements increased from 27 in 1990 to 188 in 2005 (Figure 6.8). Japan is a relatively recent

Figure 6.8. **The number of regional trade agreements**



1. The number of agreements in force that have been notified to the GATT/WTO.

Source: World Trade Organisation.

participant, with no such agreements prior to 2002. This may have had negative implications for FDI as well as trade. In Canada and Australia, 64% and 34% respectively of inward FDI is covered by a RTA or a Bilateral Investment Treaty (BIT), compared to only 4% in Japan (OECD, 2005c). Meanwhile, 12% of Japan's outward investment is thus covered, well below the 47% for Australia and 44% in Canada.

Promoting trade liberalisation

Expanding trade through multilateral trade negotiations and WTO consistent regional trade agreements thus appears to be essential. Japan's trade policy has traditionally given priority to the multilateral approach, which is indeed the optimal approach to reducing trade barriers. It is only in recent years that Japan has pursued regional trade arrangements as a second track. Although there is debate as to whether regional agreements are building blocks or stumbling blocks to multilateral liberalisation, the World Trade Organisation allows such agreements as long as they cover substantially all trade. Currently, Japan has bilateral agreements – which it calls Economic Partnership Agreements (EPAs)[18] – with Singapore, Mexico and Malaysia (Table 6.5). In addition, Japan plans to sign agreements with Thailand and the Philippines as early as possible.[19] Meanwhile, negotiations are under way with Indonesia, ASEAN as a whole, Chile and Brunei. Japan also agreed to launch negotiations with India and the GCC (Gulf Cooperation Council) in 2006. Finally, Japan has had joint study group meetings with Vietnam to examine the possibility of launching negotiations and also with Australia and Switzerland to explore ways to strengthen economic relations. However, the negotiations with Korea that began in 2003 have been suspended.

Table 6.5. **Overview of Japan's regional trade agreements and expected economic impact**[1]

	Share of Japan's exports in 2005		Share of Japan's imports in 2005		Status	Impact on real GDP	Impact on agricultural production
	Ranking	Share (%)	Ranking	Share (%)			
Singapore	8th	3.1	20th	1.3	Signed and took effect in 2002. Negotiations for a partial revision of this EPA were agreed in 2006.	0.00	–0.03
Mexico	19th	1.2	30th	0.5	Signed in 2004 and took effect in 2005	0.06	–0.13
Malaysia	11th	2.1	11th	2.9	Signed in 2005 and took effect in 2006	0.06	–0.04
Philippines	14th	1.5	16th	1.5	Agreed on major points in 2004	0.01	–0.03
Thailand	6th	3.8	10th	3.0	Agreed on major points in 2005 and expected to be signed in 2006	0.14	–0.32
Indonesia	13th	1.6	7th	4.0	Started negotiations in 2005	0.03	–0.02
Australia	12th	2.1	5th	4.7	The first Joint Study Group (JSG) meeting was held in 2005	0.15	–1.71
ASEAN[2]	3rd	12.7	2nd	14.0	Started negotiations in 2005	–	–
Chile	48th	0.2	23rd	1.0	The first JSG meeting was held in 2005 and four meetings have been held thus far	0.00	–0.03
Switzerland	31st	0.4	24th	1.0	The first JSG meeting was held in 2005	0.00	0.00
India	26th	0.6	28th	0.6	Agreed to start negotiations in 2006	0.06	–0.06
Korea	3rd	7.8	6th	4.7	Started negotiations in 2003 but stopped since 2004	0.10	–0.02
China	2nd	13.4	1st	21.0	–	0.50	–0.86
European Union[2]	2nd	14.4	3rd	11.2	–	0.20	–0.73
USA	1st	22.6	2nd	12.4	–	0.24	–3.72
Canada	15th	1.5	14th	1.7	–	0.08	–1.38
New Zealand	29th	0.4	31st	0.5	–	0.01	–0.07

1. Economic impact of regional trade agreements is based on estimates of the static gains using a computable general equilibrium model of global trade (Kawasaki, 2005).
2. Ranking is based on the combined share of member countries: The European Union is based on 25 countries.

Source: Ministry of Foreign Affairs, Japan External Trade Organization and Kawasaki (2005a).

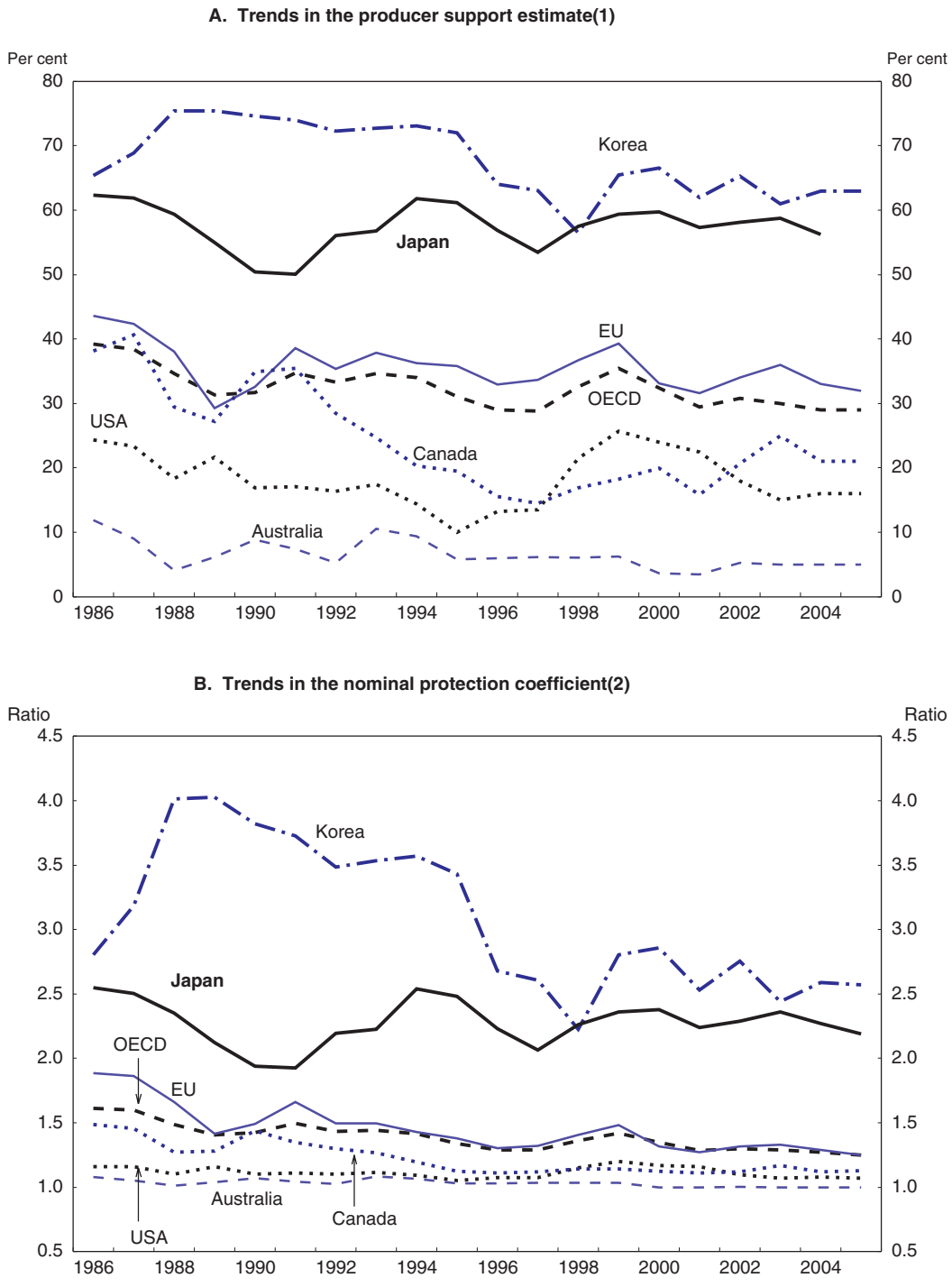
These trade agreements are likely to increase income in Japan through the usual static and dynamic gains that result from increased international trade (Box 6.1), assuming that the impact of "trade creation" exceeds that of "trade diversion". Using a computable general equilibrium model of global trade, Kawasaki's study (2005a) estimates the static gains. The result of this study suggests that the static gains from each of the five agreements that are in effect or already agreed are positive but extremely small at around 0.1% of GDP (Table 6.5). The result also suggests that the impact from potential EPAs with Australia, China, the United States and the European Union is likely to be much larger, reflecting the trade structure, market size and income level of these potential counterparts. However, there are currently no plans for bilateral agreements with the United States, the European Union or China,[20] while progress with Australia is limited to a joint study for enhancing economic relations. Kawasaki's study estimates that EPAs with major trading partners would likely be accompanied by reductions of 1 to 4% in Japan's agricultural production. Currently, out of five countries holding joint study meetings with Japan, three are relatively important in Japan's agricultural imports – Australia (8.2%), Chile (2.8%) and Vietnam (1.8%) – while the other two account for a relatively small share in Japan's agricultural imports – India (1.0%) and Switzerland (0.1%).[21]

In addition to hindering the negotiation of EPAs with some key trading partners, the high level of protection accorded to agriculture is preventing Japan from reaping larger benefits from regional trade agreements. In the case of Mexico, Japan increased the proportion of total imports that are duty-free from 70 to 87%, but the tariff liberalisation ratio[22] was less than 50% for agricultural products. The impact is likely to be smaller than other countries such as Thailand and the Philippines, as Mexico supplies less than 1% of Japan's agricultural imports.[23] In the case of Thailand and Malaysia, sensitive products, such as rice and pork, are excluded from liberalisation. The exclusion of "sensitive areas" appears to be an obstacle to regional trade agreements. This limits exports of industrial products where Japan has a competitive advantage.

The high level of agricultural protection thus limits the scope for income gains from trade agreements, while imposing heavy burdens on consumers. Although agricultural support, as measured by the Producer Support Estimate, has fallen from 64% of the value of agricultural production in 1986-88 to 58% in 2003-05, it is still almost double the OECD average (Figure 6.9). Such protection more than doubled farm income (Panel B). The Japanese government estimates that the monetary cost borne by consumers, which is defined as the difference between domestic and foreign prices of agri-food commodities, amounted to as much as 2.1% of GDP in 2000 (Cabinet Office, 2004).

A more market-oriented agricultural policy in Japan is a key to promoting the success of multilateral trade negotiations and the creation of regional trade agreements. This requires shifting farm policies away from targeting output of individual commodities through price policy and border measures. Such market price supports, which account for 91% of the support provided to farmers, measured on a Producer Support Estimate (PSE) basis, distort trade and production decisions. Beginning in 2006, the government is shifting towards a multi-commodity system in which support will be concentrated on larger, more efficient farms. Such an approach should aim at replacing market price supports with direct support for farmers, thus limiting distortions in trade and production, and encouraging the consolidation of farms. The average farm size, currently about 1.6 hectares, limits productivity gains. The recent decision to allow companies to rent and manage agricultural land should help boost efficiency. Finally,

Figure 6.9. **International comparison of agricultural support**



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.
2. The NPC is a measure of market protection defined as the ratio between the average prices received by producers and border prices.

Source: OECD (2006), *OECD Agricultural Policies 2006: At A Glance*.

the 2005 Basic Plan for Food, Agriculture and Rural Areas set a target of raising self-sufficiency in food from 40 to 45% by 2015. This may raise the concern that this goal will be accomplished through protectionism. Such concerns could be reduced if policies would focus primarily on reducing costs to consumers by eliminating distortions to trade and production decisions.

Liberalising the inflow of workers to Japan

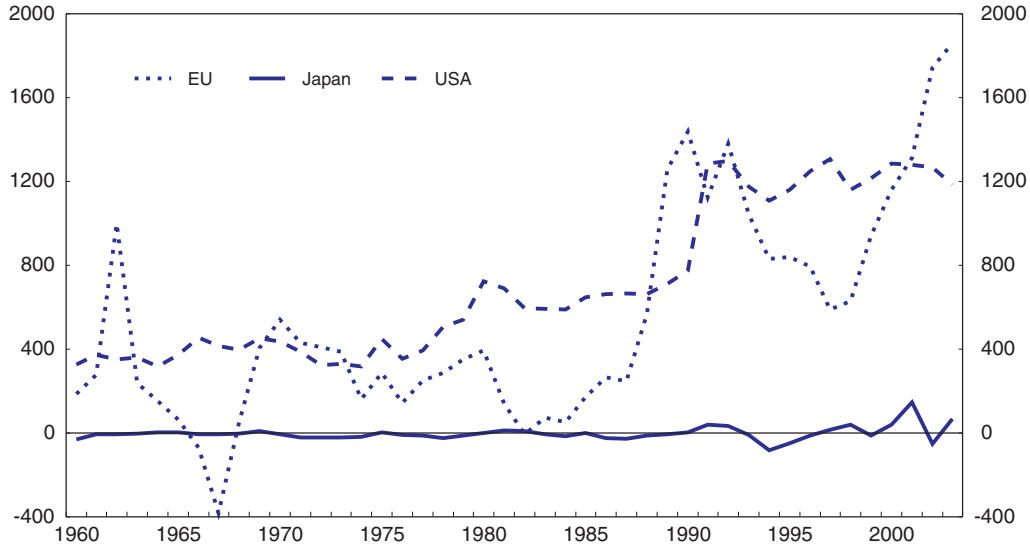
Increasing the number of foreign workers is a major issue in regional trade agreements, given that some Asian countries wish to see improved opportunities for their nationals to work in Japan as part of such agreements. Labour mobility was included in the agreement with Singapore, although its coverage was very limited.[24] This topic was a difficult issue in negotiations with Thailand and the Philippines, which wanted their nationals to be allowed to work in Japan, notably as nurses and care-givers for the elderly. In principle, Japan agreed to allow Philippine nurses and care-givers to work in Japan, provided that they pass qualification exams in Japanese. However, the number and selection process for allowing such workers have not been determined and it remains to be seen if the qualification criteria will act as an entry barrier (Ahearn, 2005).

In addition to hindering the creation of regional trade agreements, restrictions on foreign labour may also discourage inflows of FDI. One of the difficulties that foreign firms face in doing business in Japan is securing internationally qualified employees, particularly in the areas of legal services, engineering, biotechnology, financial accounting and IT.[25] Domestic business groups also see a need for more foreign workers who are specialists in technical fields and in areas where there are labour shortages (Keidanren, 2005). However, there are others who argue that careful consideration is necessary before substantially increasing immigration. For example, the Ministry of Health, Labour and Welfare expressed concerns during the formulation of the Globalisation Strategy that expanding the inflow of manual workers would have a negative impact on the domestic labour market, social security expenditures, the educational level and public safety.

During the post-war era, Japan has had very small inflows and outflows of population, leaving net migration at close to zero, in contrast to significant inflows to the United States and the European Union (Figure 6.10). The low number of inflows reflects the fact that employment is officially limited to foreign workers who are allowed to stay one to three years in Japan.[26] Foreign residents with work permits totalled 180 thousand in 2002 (Table 6.6), accounting for only 0.3% of the labour force in 2002, the lowest in the OECD area and well below the average of 9% (Figure 1.8). Moreover, nearly one-third of that total consists of the not very well-defined category of "entertainers". If other types of foreign workers are included – the descendants of Japanese emigrants who have returned to Japan, illegal workers, foreign students with part-time jobs and trainees, the total foreign labour force is substantially larger at around 760 thousand in 2002, but is still only 1.1% of the labour force.

Liberalising the inflow of foreign labour will have positive effects both on productivity, by attracting highly skilled workers to Japan, and on labour inputs. Regarding the latter, it is important to meet labour shortages, particularly for long-term nursing care, where demand is growing rapidly due to population ageing. This requires expanding the occupational areas open to foreign workers to include fields, such as nursing care, which are classified as non-technical. Another aspect of increasing foreign labour is greater

Figure 6.10. **Net migration in major OECD areas**
Thousand persons[1]



1. Net migration is measured as the difference between the total population on 1 January and 31 December for a given calendar year, minus the difference between births and deaths.

Source: OECD, *Labour Force Statistics*.

recognition of foreign qualifications and diplomas. Although larger inflows will help attenuate the impact of a falling working-age population, it is not capable of fully offsetting demographic changes.

Instead, policies to encourage female labour force participation are more important in terms of limiting the decline in the labour force. Female labour force participation is currently close to the OECD average but well below the level in the other major countries apart from Italy. If female participation rates were boosted to the current level for men by the year 2030, the decline in the total labour force would be limited to 4% over the next 25 years (see the 2005 *OECD Economic Survey of Japan*). However, if female participation rates remain at their current level, the labour force would fall by nearly a fifth, significantly boosting the burden of population ageing. A number of policy initiatives recommended in the previous *Survey* to encourage female labour force participation remain important: *i)* Reducing dualism in the labour market would help expand regular employment – at a significantly higher salary – enhancing the attractiveness of employment for women; *ii)* The tax and social security systems should be reformed to reduce disincentives to work by spouses, in particular by lowering or removing the thresholds at which income of second earners is exempted; *iii)* Increasing the importance of performance assessment in pay and promotion decisions would reduce the importance of seniority and tenure, thus tending to narrow wage gaps between genders; *iv)* The use of age limits in recruiting should be discouraged; and *v)* The availability of childcare facilities should be increased by easing the licensing regulations and encouraging more private-sector firms to enter this sector.

Expanding the availability of childcare facilities may also help boost the rate of fertility, which has fallen from 2.1 children per women in 1970 to 1.3 in 2000, one of the

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Table 6.6. **The foreign population in Japan**

Thousands

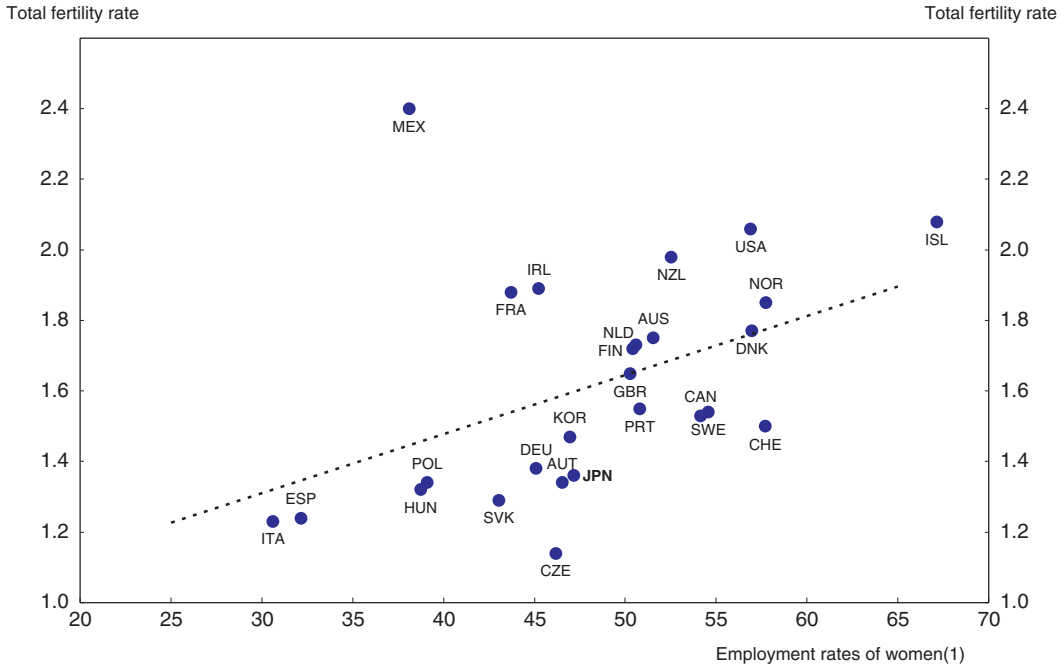
	1999	2002	Per cent[1]
A. Total foreign population			
Inflows of foreign nationals[2]	281.9	343.8	0.3
Stock of foreign nationals, by status of residence	1 556.1	1 851.8	1.5
Permanent residents[3]	635.7	713.8	0.6
Long-term residents[4]	492.5	522.7	0.4
Foreign workers with permission of employment	125.7	179.6	0.1
Other (accompanying, student, trainee, etc.)	302.1	435.6	0.4
Naturalisations	16.1	14.3	0.0
B. Labour force			
1. Foreign residents with permission of employment, by visa category:	125.7	179.6	0.3
Entertainer	32.3	58.4	
Specialist in humanities or international services	31.8	44.5	
Engineer	15.7	20.7	
Skilled labour	10.5	12.5	
Intra-company transferee	7.4	10.9	
Instructor	8.1	9.7	
Professor	5.9	7.8	
Investor and business manager	5.4	6.0	
Religious activities	5.0	4.9	
Researcher	2.9	3.4	
Journalist	0.4	0.4	
Artist	0.4	0.4	
Medical services	0.1	0.1	
Legal and accounting services	0.1	0.1	
Total	125.7	179.6	
2. Trainees	23.3	46.4	0.1
3. Estimates of foreign students engaged in part-time jobs	47.0	83.3	0.1
4. Estimates of Japanese descendents engaged in gainful activities[4]	220.5	233.9	0.3
5. Illegal workers[5]	251.7	220.6	0.3
6. Total foreign labour force[6]	670.0	760.0	1.1
Number of foreign nationals deported	55.2	41.9	

1. Of total population in 2002 for Panel A. Of total labour force in 2002 for Panel B.
2. Excluding temporary visitors (*i.e.* less than 90 days) and re-entries.
3. Essentially Korean nationals. There are no restrictions on their employment.
4. Primarily the descendents of Japanese who emigrated to South America. There are no restrictions on their employment.
5. Estimates made by the Ministry of Justice on the basis of the number of persons who overstayed their visa.
6. Excluding permanent residents.

Source: OECD (2005f), *Trends in International Migration*.

lowest in the OECD area. The government's objective is to increase the fertility rate while boosting female employment. The positive correlation between fertility and female employment among OECD countries suggests that it is possible to accomplish both objectives (Figure 6.11). Indeed, a cross-country analysis found that expanding the availability of childcare and lengthening parental leaves somewhat can increase the fertility rate (D'Addio and Mira d'Ercole, 2005), while at the same time encouraging women to work (Jaumotte, 2003). There is scope to expand childcare in Japan, as only 33% of the children between three and the age of mandatory schooling were attending formal childcare, compared to the OECD average of 73%. Other policies that reduce the direct cost of children, such as child benefits, also boost fertility rates in OECD countries. However, such policies have also been found to lower female employment by reducing the need to

Figure 6.11. **Female employment rates and total fertility rates**
2000



1. Refers to women aged 15-64.
Source: D'Addio and Mira d'Ercole (2005).

work (Jaumotte, 2003). Given the importance of mitigating population ageing through greater female labour force participation, policy measures to increase fertility should focus on those likely to also boost female employment. While higher fertility may have many advantages in the long run, it would do little to ease the impact of population ageing during the next 25 years.

Conclusion

Despite improvements in recent years, Japan's import penetration, FDI inflows and immigration of labour remain low compared to other OECD countries. Reducing direct and indirect barriers to strengthened integration with the world economy would increase productivity and living standards and help Japan to cope with population ageing. Specific recommendations are shown in Box 6.5. It is important to address policies related to international trade, FDI and labour flows in a comprehensive manner as they are closely linked together. Hence, policies that succeed in expanding one channel of globalisation would have a positive effect on the others. For example, a more open policy on foreign workers would also facilitate the creation of more complete economic partnership agreements that promote trade, and thus FDI inflows. Similarly, resolving the cross-border M&A issue would increase FDI inflows and hence trade.

The government's effort to increase FDI inflows is a positive signal, although the rationale for numerical targets is less clear. The key to expanding the role of foreign affiliates in Japan is to provide a business-friendly environment and ensure transparency, equal treatment and free competition based on market principles. Inflows of FDI would be

likely to increase in such an environment, though that should not be the only objective of such reforms, which would also benefit domestic firms. Pursuing reforms that enhance Japan's integration in the global economy will thus boost productivity in the domestic economy as well, thereby helping to sustain the rise in living standards.

Box 6.5. **Summary of recommendations to strengthen integration in the world economy**

FDI, international trade and flows of labour are closely linked. In particular, improving the climate for FDI inflows depends on measures to boost import penetration. At the same time, a better climate for FDI encourages international trade. Other specific policies to enhance globalisation in Japan are listed below.

Improving the climate for inflows of foreign direct investment

- Use the FDI doubling objective as a spur to create a more open and transparent climate for FDI and as a guide in decisions by ministries and agencies that have implications for potential foreign investors.
- Fully open the M&A market to foreign firms by allowing them to use their own shares to finance mergers and granting them the same tax deferrals that are available in the case of domestic M&As.
- Further lift specific restrictions on FDI, especially in the service sector and network industries.
- Accelerate regulatory reform in product markets, such as removing entry barriers for both foreign and domestic firms, notably in medical care, education, transport, electricity and professional services.
- Relax employment protection for regular workers, which tends to also help encourage foreign investment.

Removing obstacles to international trade

- Pursue the liberalisation of trade barriers, giving priority to multilateral trade negotiations, complemented by regional trade agreements, to further reduce the level of trade restrictions, including tariff and non-tariff barriers.
- Strengthen market pressures in the agricultural sector, in part by reducing market price supports, thereby promoting trade liberalisation in a multilateral context and broadening the scope for regional trade agreements.
- Allow greater flexibility in the inflow of human resources, including both specialists and non-specialists, which would also facilitate comprehensive regional trade agreements with major trading partners.
- Pursue further regulatory reform in product markets in part to improve access for imports.

Encouraging the inflow of human resources to Japan

- Improve the immigration control system to allow more highly qualified persons to work in Japan.
- Expand the range of qualifications that permit foreign personnel to work in Japan and increase recognition of qualifications and diplomas acquired overseas.
- Increase the number of occupational categories where foreigners are allowed to work to include non-specialised and non-technical professions, such as providing long-term care for the elderly.

Notes

1. The Council on Economic and Fiscal Policy is the key policy making institution in the government. It is chaired by the prime minister and includes five key economic ministers, the governor of the Bank of Japan and four private-sector experts.
2. These restrictions have had a significantly negative impact on the stock of inward FDI in OECD countries, according to Nicoletti *et al.*, 2003. Reducing FDI restrictions to the level of the least restrictive country (the United Kingdom) would have boosted the stock of inward FDI in the OECD area during the 1990s by 26%.
3. The composite score is from an updating of Golub (2003).
4. Compared to domestic firms, the level of TFP at foreign-owned firms is about 10% higher and the current profit-sales ratio is 2 percentage points higher.
5. See OECD, 2005c. The low proportion of services in Japan reflects the fact that almost all FDI regulations in the manufacturing sector, excluding the petroleum and leather industries, were lifted by 2003.
6. Japan had a score of 0.098 compared to an OECD average of 0.157. These scores are not comparable to those in Golub, 2003.
7. A number of other factors, including low expected rate of return, *keiretsu* and cross-shareholding, weak corporate governance and heavy reliance on internal finance have been cited as factors limiting FDI inflows, but are beyond the scope of this chapter. In addition, negative public sentiment toward foreign investment may be another significant factor. Fukao (2003) argues that the historically restrictive policy stance toward foreign investment has created misunderstanding and negative public sentiment in Japan.
8. The target company's shareholders are allowed to defer recognition of gains, thus delaying their tax liability until they dispose of the shares of the parent company.
9. Stock transactions as part of M&As amounted to over 6% of market capitalisation in the United States and the European Union, compared to less than 2% in Japan (Bank of Korea, 2005).
10. The top ten shareholders have a controlling position of 50% of shares in the majority of listed companies, with the largest shareholder having around 20%. A successful M&A, therefore, is usually not possible without their support. As a result, successful hostile bids in Japan are rare.
11. These concerns have led to proposals for far-reaching "poison pills" to enable companies to frustrate any takeover bids. Such a reaction may be counterproductive with respect to other policy objectives.
12. The 2004 *OECD Economic Survey of Japan* examined regulatory issues that substantially limit competition and boost prices in air transport, harbours and road transport.
13. However, trade barriers may stimulate "tariff-jumping" FDI aimed at bypassing trade barriers. On balance, though, the removal of obstacles to trade has been found to boost FDI flows (Nicoletti *et al.*, 2003).
14. Among OECD countries, Japan is the largest source of FDI in China, accounting for more than a quarter of the total stock of FDI in China from the OECD area.
15. Japan's share of OECD exports to the United States declined sharply from 24% in 1995 to 14% in 2003 while it remained at around 33% in China and Hong Kong, China (OECD, 2005c).
16. According to the World Trade Organisation, the simple average applied tariff rate (including *ad volorem* equivalents of non-*ad valorem* duties) was 6.3% in 2004 in Japan, compared to 4.9% in the United States and 6.5% in the European Union. This is due to the higher rate for agriculture – at 17.7% – in Japan.
17. In Japan, the share of intra-firm trade in imports of foreign affiliates was 72.3% in 2001 (OECD, 2005c).
18. The name reflects the fact that the agreements go beyond the removal of tariff and non-tariff barriers to include the liberalisation of FDI and flows of human resources and economic and technical cooperation.
19. Japan aims to sign the agreement with the Philippines as early as possible in 2006 and the agreement with Thailand as soon as the political situation in Thailand will allow.

20. Discussions with China will likely occur in the context of ASEAN+3 (Japan, China and Korea). An EPA that includes the ASEAN+3 countries is estimated to increase consumer welfare in Japan by 0.3% of GDP (Scollay and Gibert, 2001).

21. The data on import shares are found in the Trade Data Base of the Japan External Trade Organization.

22. The tariff liberalisation ratio is calculated as the value of Mexico's agricultural products exempt from import tariffs as a percentage of Mexico's total agricultural exports to Japan. In addition to the abolition of tariffs, there were additional market access improvements for both manufactured and agricultural products through tariff rate reductions and tariff rate quota expansions.

23. In Japan's other EPA now in effect – that with Singapore – agriculture is largely irrelevant (Ahearn, 2005). Thailand and the Philippines account for 4.8% and 1.8%, respectively, of Japan's agricultural imports.

24. Only short-term visitors for commercial purpose, intra-firm transferees, investors, and engineers with high technological knowledge are included, and then only temporary stays are permitted.

25. According to the European Business Council in Japan (2005), "One of the greatest difficulties European firms continue to face doing business in Japan is securing internationally qualified Japanese employees for their Japanese operations. Unfortunately, Japan's education and certification system does not effectively address the widening gap between competency levels and the needs of employers in today's increasingly global economy, especially for skills in areas such as legal services, engineering, biotechnology, financial accounting, and IT. Moreover, the market for mid-career professionals is still underdeveloped, which inhibits the expansion of European businesses in Japan."

26. Foreign wokers are allowed to renew their period of stay if they satisfy certain requirements.

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