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Australia

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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– to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and

– to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

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Publié également en français.

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BASIC STATISTICS OF AUSTRALIA

THE LAND

Area (1 000 sq. km)	7 682.3
Agricultural area, 1986-87, per cent of total	61
Urban population, 1991, per cent of total	85

Population of major cities, 30 July 1997 (1 000):	
Sydney	3 935
Melbourne	3 322
Brisbane	1 548
Perth	1 319
Adelaide	1 083

THE PEOPLE

Population, 2000 (1 000)	19 157
Number of inhabitants per sq. km	2.5
Natural increase, 2000 (1 000)	107
Net migration, 2000 (1 000)	99

Civilian employment, 2000 (1 000):	9 068
of which:	
Agriculture	439
Industry*	1 990
Other activities	6 639

PARLIAMENT AND GOVERNMENT

Composition of Parliament following latest elections:

Party	Senate	House of Representatives
Australian Democrats	7	–
Australian Labor Party	29	49
Independent	1	5
Greens	2	–
Liberal Party of Australia	31	75
National Party of Australia	5	18
Country Liberal Party	1	1
Total	76	148

Present government: Liberal/National Party coalition
Next general elections for House of Representatives is expected by the end of 2001.

PRODUCTION

Gross domestic production, 2000 (A$ million)	631 810
Gross fixed capital formation, 2000 percentage of GDP	23.9

GENERAL GOVERNMENT SECTOR, PER CENT OF GDP, 2000

Current disbursements	32.1
Current transfers	13.8
Current revenue	32.5
of which: Direct taxes	16.6

FOREIGN TRADE

Main exports, 2000, per cent of total:	
Food, beverages and tobacco	18.5
Raw materials	19.5
Fuels	20.8
Machinery and transport equipment	11.3
Other manufactured products	29.8

Main imports, 2000, per cent of total:	
Food, beverages and tobacco	4.2
Raw materials	2.0
Fuels	8.1
Machinery and transport equipment	46.6
Other manufactured products	39.2

THE CURRENCY

Monetary unit: Australian dollar

Currency units per US$, average of daily figures:	
Year 2000	1.726
April 2001	1.997

* Including mining, electricity, gas and water, and construction.

This Survey is based on the Secretariat's study prepared for the annual review of Australia *by the* Economic *and* Development Review Committee *on* 14 *June* 2001.

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After revisions in the light of discussions during the review, final approval of the Survey for publication was given by the Committee *on* 5 *July* 2001.

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The previous Survey of Australia *was issued in January* 2000.

Assessment and recommendations

Nine years of rapid and balanced growth…

By the end of the 1999-2000 financial year, the Australian economy had completed its ninth year of continuous growth, the longest economic expansion since the 1960s. Over this period, the growth of output averaged just over 4 per cent and that of real per-capita income just under 3 per cent, which compares favourably with the performance of most other OECD countries. The upswing was accompanied by solid employment gains and a substantial reduction in unemployment to a low of 6 per cent, which is near to the OECD estimate of the structural unemployment rate. There has also been a marked pick-up in the trend growth of labour and multifactor productivity, which even outperformed the high-productivity episodes in the late 1960s and early 1970s. The expansion took place in an environment of significantly lower inflation than in the preceding two decades, the underlying rate of price increase being in the region of 2 per cent. GDP growth was fuelled by strong domestic demand, which also contributed to a widening of the current account deficit up to mid-1999, but the external deficit has since contracted as growth has become more export-oriented.

… have given way to a slowdown

The economy slowed abruptly in the fourth quarter of 2000 and there was a marked shift in perceptions about the strength of the economy. This was due, in part, to the negative impact of higher world energy prices on household spending power. In addition, the weakening of the US economy depressed the Australian business climate. The profile of growth was also heavily influenced by the Olympics and by the introduction of the new tax system on 1 July 2000. The higher tax on dwellings implied by the new goods and services tax (GST) created a strong financial incentive to bring forward housing investment into the first half of last year, with substantial negative consequences for the second half. Business sentiment may have also been adversely affected by the transitional compliance costs from the implementation of the GST. Employment growth has fallen sharply and the unemployment rate rose to 6¾ per cent in early 2001. Current indicators suggest a recovery of domestic demand in the first half of 2001 and, aided by a competitive exchange rate, exports are providing a boost to economic activity. Nevertheless, GDP growth is projected to slow to 2 per cent in 2001, dampening the demand for labour and raising the unemployment rate, although this development is likely to be cushioned by a decline in labour force participation.

With no major economic imbalances, the pause should be short-lived…

With no major economic imbalances apparent, the slowdown should be short-lived. Company profitability is strong and corporate balance sheets are in good shape. Consumption growth may be damped by the adverse effect of slowing house price increases on household wealth and the capacity to borrow; but personal spending growth should gradually gather strength as the adverse effects on consumer confidence and housing investment unwind. The household debt burden is manageable despite its substantial increase, especially after the Reserve Bank's (RBA) recent interest rate cuts. Consequently, GDP growth is projected to pick up to 3½ to 4 per cent in 2002. This is contingent upon the slowdown in the US economy being temporary. There is a risk of an exaggerated negative interpretation of incoming economic data, which could further depress business and consumer confidence. But conversely private consumption and housing investment could be stronger, based on the significant income tax cuts and higher social transfer payments introduced with the tax reform, as well as by the substantial fall in interest rates.

… low inflation having allowed monetary conditions to become more supportive

The prevailing favourable macroeconomic environment has allowed a prompt monetary response to the recent weakening of activity. Headline inflation jumped to an annual rate of around 6 per cent in the second half of 2000, but abstracting from the effects of GST and oil prices on the consumer price index, underlying inflation is estimated to have run at

2 to 2½ per cent during the second half of 2000 and into 2001. With moderate wage increases suggesting that there have been no major second round inflation effects from GST, inflation is expected to come back to within the RBA's 2 to 3 per cent inflation target band over the 2001-02 period. The sharp fall in inflation expectations has allowed the RBA to take action despite the weakness of the Australian dollar, its target cash rate being cut by a cumulative 125 basis points between February and April. As a result, monetary conditions, which were not excessively tight even before these moves when taking account of the significant decline in the Australian dollar and the improvement in the terms of trade since late-1999, are unambiguously expansionary. While there would be scope for further cuts if the downturn should be prolonged, the continued low level of the exchange rate and a steepening of the yield curve suggest that the advisability of additional easing would need to be carefully assessed to ensure consistency with inflation objectives.

Fiscal consolidation has been significant, but is not immune to cyclical and structural pressures

The 2001-02 Commonwealth Budget incorporates a cyclical decline in the budget surplus, although over the medium term fiscal policy remains focused on preserving the significant consolidation gains achieved in recent years. The reduction in the underlying cash surplus from 2.0 per cent of GDP in 1999-2000 to an estimated 0.3 per cent of GDP in 2000-01 mainly reflected the cost of tax reform. It implied a cyclically-opportune fiscal relaxation during the second half of 2000. After falling to 0.2 per cent of GDP in 2001-02, the surplus is programmed to rise to 0.9 per cent of GDP by 2004-05. In accrual terms, the fiscal balance is projected to move into a small deficit in 2001-02, returning to a surplus in 2003-04. The weaker fiscal outlook reflects new revenue and expenditure initiatives as well as the effects of the slowdown in output growth. The underlying budget position is sound and Commonwealth net debt has fallen sharply from a peak of almost 19 per cent of GDP in the mid-1990s to an estimated 6.4 per cent of GDP in 2000-01 – thereby surpassing the government's target to halve the ratio from its 1995-96 level. The significant fiscal consolidation in recent years is seen as providing the scope for allowing the automatic stabilisers to work, without threatening the medium-term fiscal objective of a balanced budget over the course of the economic cycle. It is important that this objective be maintained, in major part because of the need to assure that the public sector does not become a drain on national saving. In addition it is critical that discipline be maintained over public expenditure as discretionary increases in spending are difficult to unwind. The need for a continued prudent fiscal policy is reinforced by the ageing of the Australian population which will increase outlays on pensions, aged care and health care.

Longer-term spending pressures arise from an ageing population, especially from health-care related outlays

In comparison with most other OECD countries, Australia is well prepared to cope with the prospective increase in pension outlays. The compulsory funded superannuation scheme will be slowly maturing, thereby reducing entitlements to the tax-financed and means-tested public pension scheme ("Age Pension"). Nevertheless, a problem arises because superannuation benefits can be taken earlier and dissipated in order to maximise Age Pension entitlements (a practice known as "double dipping"). But to reduce the scope for this practice, the government is raising the age at which superannuation benefits can be taken while preserving their concessional tax treatment. There is a strong case for increasing the age to that required for access to the Age Pension, and individuals should be further encouraged to use their superannuation benefits to generate a sustainable retirement income stream, rather than as a lump-sum. Finally, the taxation of superannuation – which is preferential but very complex – could be simplified. Health care outlays pose a much greater challenge to the public finances, as the projected increase in real age-adjusted expenditure per person will take place in the context of rising social expenditure on the aged, most notably on acute hospital care. Recent reforms have focused on increasing participation in private health insurance schemes, while providing greater choice for consumers and improving the quality of services. However, containing the growth in outlays and preserving the sustainability of the health care system in the longer run will require additional reforms in areas where a high growth in real age-adjusted expenditure per person is occurring. This applies particularly to care provided on a fee-for-service basis under Medicare and in the Pharmaceutical Benefits Scheme.

Substantial progress has been made towards completing the tax reform agenda

Major economic benefits should accrue from the comprehensive tax reform, the first major step of which came into effect on 1 July 2000. The core feature of the reform, the introduction of the broad-based 10 per cent goods and services tax (GST), imposed on a value-added base, to replace the narrow-based wholesale sales tax (WST), will substantially reduce the efficiency costs of taxation, with the unfortunate exception of the exempted food sector. There are also measures to reduce high effective marginal tax rates. The gradual abolition of a range of inefficient state indirect taxes and the substitution of commonwealth grants by GST receipts should improve fiscal-federal relations and provide the States with a secure, reliable and growth-indexed source of revenue. The benefits of tax reform could be further exploited by the accelerated abolition of activity-distorting state indirect taxes, especially the tax on bank account debits. Efforts should also be undertaken to reform the narrow-based payroll tax, which is also under the jurisdiction of the States. The lower company tax rate and elimination of accelerated depreciation allowances should contribute to greater investment neutrality; but a number of unresolved issues remain on the business tax reform agenda, among them the need to address tax avoidance through discretionary trusts. Another problem which needs to be addressed is the widening gap between the top personal marginal income tax rate and the company tax rate, which risks encouraging the redefinition of personal income as company income. Nevertheless, even as it stands, the tax reform so far should increase efficiency and thereby help to raise Australia's economic potential.

Structural reforms have raised the trend growth of multifactor productivity…

The benefits of a comprehensive approach to structural reform have become apparent in the pick-up of Australia's multifactor productivity growth, by about 1 percentage point, to an average of around 1¾ per cent in the 1990s. A more efficient allocation of investment, greater specialisation, as well as better management practices and work arrangements have improved capital productivity, enhancing the impact of capital deepening. The intensive use of latest information and communication technology is likely to have helped to raise the productivity of the capital stock. But the importance of these technologies in the Australian economy is small in terms of production, and the timing of the productivity improvement, together with its sectoral distribution, suggests that structural reforms undertaken in Australia during the past two decades were the principal factors underpinning the pick-up in productivity growth. The effects of such reforms may not yet have emerged in full, nor has the scope for further reform been exhausted. Continuation of strong trend productivity over the longer term will depend crucially on the determination of the government to continue with its labour-, product- and financial-market reform agenda.

… and lowered the structural rate of unemployment

The progress made in structural reform has also resulted in a marked reduction in the structural rate of unemployment to around 6 per cent. However, despite the progress made, the rate remains too high. This points to the existence of continuing impediments to the effective operation of the labour market affecting industrial relations, labour-market assistance, welfare-to-work and school-to-work transitions.

Enterprise bargaining has increased labour market flexibility but there is scope for further improvement

Since the implementation of the *Workplace Relations Act* 1996 in 1997, Australia's industrial relations system has moved away from the regulation of wages and conditions of work by a complex set of extremely prescriptive and centrally-determined awards, towards a largely decentralised and more flexible industrial relations system. The opportunities for enterprise bargaining have expanded with the reduced complexity of awards and the restriction of their role to a safety net of minimum wages and other core conditions of employment. The easier access of enterprises to collective agreements and, to a lesser extent, individual agreements has also helped. There is, however, need for further improvement in the areas of wage-bargaining and employment conditions. Many of the newly-concluded enterprise agreements are still linked to awards, which have a continuing role as benchmarks around which wages and other employment conditions are negotiated. Comprehensive agreements, which determine all work conditions and pay requirements and thus completely replace awards, cover approximately 12 per cent of all federal agreement covered employees. In order to speed up the move towards comprehensive enterprise agreements, the regulatory requirements for collective and individual agreements should be eased further. Flexibility in the workplace could also be enhanced, and the individual situation of enterprises better taken into account when negotiating agreements, if the number of "allowable matters" covered by awards were further reduced and if they were limited to core employment conditions. The overall success of industrial relations reform also depends on the harmonisation of federal and state legislation. More light needs also to be shed on the controversial issue of the current unfair dismissal regulations as a hiring disincentive on firms, especially small businesses. Careful empirical analysis could help to strike an appropriate balance between the benefits and costs of employment protection legislation.

A contestable placement market has improved job-provision, while more active job search has been encouraged

A reformed labour market assistance system has been in operation since May 1998, which appears to have improved the quality of service to job-seekers and facilitated job placement. The centrepiece of the system is *Job Network*, a contestable employment placement market, with full competition between private, community and government contracted service providers. The rationale underlying the 1998 reform is that competition encourages a high level of service and that fees paid to *Job Network* organisations provide a supply-side incentive to match jobs to job-seekers. A differential fee structure applies, with the highest fees being paid for those who are most at risk and hardest to place in a job. Fees are paid on the achievement of outcomes and are generally available when a job-seeker gains employment that removes their reliance on income support for a sustained period. Service providers must not refuse clients, which limits their ability to "cream" job-seekers. A first stage evaluation in early 2000 concluded that the *Job Network* has been implemented well, but that there are issues relating to equity of access, particularly for indigenous job-seekers, and the balance of service quality and flexible delivery. At the same time, incentives to job search have been intensified via the introduction of the *Mutual Obligation* initiative, which represents a major change in activity-tested income support. The initiative seeks to promote more active job search by the unemployed and participation in activities which improve work skills and habits. If job-seekers fail to undertake an agreed activity, they may be subject to penalties, which may include reduction or loss of benefit payments. A comprehensive evaluation of the employment and incentive effects of the Mutual Obligation has only recently commenced. It will be completed as part of the evaluation of the recent welfare reform initiatives. However, preliminary reviews suggest a widespread acceptance of the principle that eligibility for benefits should be conditional on participation in an approved activity.

The planned welfare reform should move people out of welfare into work

Accepting the broad thrust of the McClure Report on reducing the impediments which face people in moving from welfare to work, the government announced a major reform of welfare arrangements in its 2001-02 Budget. This extends the mutual obligation requirements to 35 to 49-year old job seekers (although 40 to 49-year olds have lower requirements and will not have to undertake Work for the Dole projects). It will also phase in additional requirements for Parenting Payment receipts. By encouraging economic and social participation on the part of welfare recipients, the aim is to minimise social and economic exclusion and to avoid entrenching welfare dependency. This principle could be extended further, and the government has announced that, as the necessary research base is developed, it will examine ways to improve incentives for people on income support. As a first step, the Working Credit initiative was announced in the 2001-02 Budget. This initiative will allow the effects of income tests on variable, intermittent earnings to be smoothed out over time, and so increase returns from this type of work for benefit recipients. While the welfare reform initiatives will have a budgetary cost in the short-to-medium term, moving people out of welfare and into work and addressing possible intergenerational impacts of children growing up in workless families should have strongly positive economic and budgetary effects in the longer run.

Human capital can be augmented...

There could also be problems at the interface between education and work. Despite the encouraging growth in structured education, scope remains to improve school to work transition. A recent positive step in this direction is the development of a broader framework for vocational education in schools which, by spanning all years of school education, improves the integration of vocational education and training with broad education sectors and helps to reduce early school dropout rates.

… and innovation capacity improved

Another issue is Australia's performance in R&D, which suggests the presence of barriers to innovation. Empirical evidence is encouraging in suggesting that local spending on R&D can facilitate the technology transfer and the speed of absorption of ICT from abroad, raising growth and employment potential. In this respect, the *Backing Australia's Ability* programme, launched in January 2001, is designed to provide a comprehensive and integrated package boosting infrastructure and research funding. It is too early to make an assessment of the effectiveness of this programme, or of the new educational framework, but both vocational and R&D initiatives are aimed at weaknesses which need to be addressed.

Implementation of the National Competition Policy is advancing…

Important progress has been made in implementing the *National Competition Policy* (NCP) reform programme of 1995, which mainly aims at improving the productivity of infrastructure service provision. The reforms of the electricity and gas industries are significantly advanced in most jurisdictions and have led to substantial cuts in prices paid by customers. However, to achieve a fully competitive national electricity market, the interconnections of some state markets need to be completed. Other issues which need to be confronted are the remaining competitive advantages of some government-owned electricity businesses by virtue of their public ownership, the ongoing nature of a number of derogations and transitional arrangements, and delays in allowing customers a choice of supplier. In the gas market, retail contestability is also not fully achieved and there remain significant barriers to competition in gas exploration and production. Reforms of water and road transport are also well under way while rail reform, which is not directly addressed by the NCP programme, is lagging. Major problems of rail transport services are the continuing involvement of the states in the sector, the lack of nationally uniform operational requirements on the interstate rail network and the insufficient attention paid to resolving interstate access questions. As regards the reform of postal services, draft legislation to reduce the scope of services reserved to Australia Post and to provide a postal services regime consistent with the *Trade Practices Act* has been withdrawn because of lack of support, but action in this direction is still needed. While substantial liberalisation has already been achieved in the above areas, the full benefits will accrue only on condition that the reform process is rapidly completed.

… and progress has been made in removing competition restraints from existing legislation

As an integral part of the *National Competition Policy* reform process, deregulation has led to a level of product market regulation which is low by international comparison. The overwhelming majority of larger government business enterprises are now required to apply competitive neutrality principles, which means fairer competition with the private sector. More than half of the 1 700 pieces of legislation which have been identified as containing competition restraints have been reviewed or are being reviewed with a high likelihood of reform. The legislative reviews also cover regulations imposed by the professions where they imply anti-competitive practices, these coming under the umbrella of the Trade Practices Act since the NCP came into effect. The new competition policy appears to have established a culture of rigorous justification of the need for, and design of, new business regulation. At a macroeconomic level, product market reforms have been crucial for the pick up in total factor productivity growth during recent years. At the micro level, the dividends of reform have become clearly visible in the form of lower charges and better services to consumers. Nevertheless a number of political and resource constraints have implied that some state governments have fallen seriously behind their commitments. Completion of the economic deregulation process, particularly *vis-à-vis* the professions, offers the prospect of further substantial efficiency and welfare gains.

Financial market reform aims at better prudential regulation, consumer protection and promotion of competition

The ongoing reform of product markets is complemented by a comprehensive set of financial system reforms, based on the recommendations of the *Financial System Inquiry* of 1997, which focused on prudential supervision, depositor protection and the promotion of competition. A new organisational framework, structured around three objectives-based agencies whose responsibilities extend across the entire financial system, has replaced the previous institution-based regulation system. The *Australian Prudential Regulation Authority* (APRA) has the power to set standards on prudential matters in relation to deposit-taking institutions and to use these powers quickly and flexibly in the event of a crisis, to prevent contagion effects in the financial system. The *Australian Securities and Investments Commission* has responsibility for the regulation of conduct and disclosure in financial markets, as well as for consumer protection and market integrity in the areas of insurance, superannuation and aspects of banking and the payments system. The *Reserve Bank* was given regulatory responsibility for the safety and efficiency of the payments system and retains responsibility for the overall stability of the financial system. Effective co-ordination mechanisms have been established between the three regulatory authorities. Since its implementation in mid-1998, most progress has been made in developing a set of consistent prudential standards that apply to all deposit-taking institutions. Similarly, APRA is working towards greater consistency in the treatment of life and general insurance by strengthening the prudential supervision of general insurers. In April 2001, the *Financial Services Reform Bill* introduced a harmonised licensing, disclosure and conduct framework for all financial service providers, a consistent and comparable framework for financial product disclosure, and a streamlined regulatory regime for financial markets and clearing and settlement facilities. The recent collapse of a major insurance company highlights the urgency of implementing this legislation. The ongoing process of financial rationalisation should increase the economic efficiency of the financial markets while also ensuring their integrity, allowing financial institutions in Australia to play a greater role in the consolidation taking place among world markets.

Environmental policy is becoming more co-ordinated

Environmental protection policy and natural resource management policy in Australia have come to focus on four issues: the preservation of Australia's unique biodiversity in the face of land-development patterns imported from Europe; the inefficient use of scarce water resources; the long-term effects of land degradation, in the form of increasing salinity; and the issue of global warming, given that Australia is a country which originally built its economy on large non-renewable resource availability. It has begun to develop a coherent response to these issues only after much environmental damage has been done. The Constitution has left most environmental responsibilities to the states, but their interests differ depending on energy production patterns, biodiversity concerns and water-use. To deal with national issues, cross-state spillovers and the need to implement commitments made under international agreements, as well as to ensure that there is a sufficient range of instruments available to deal with environmental problems, a more co-ordinated regional and national approach has been developing. Following a Council of Australian Governments' (COAG) review of roles and responsibilities and a subsequent review of Commonwealth environment legislation, a new *Environment Protection and Biodiversity Conservation Act* came into force in July 2000. This will have an impact on the balance of decision making, clarifying the respective roles and responsibilities of the States and Commonwealth, to whom it delineates a leadership role on national environmental issues while reducing its duplication of state activities. It should lead to a more efficient co-ordination process. It should be noted, however, that neither the state nor central governments have used the taxation powers that they have at their disposal. Whatever the model of Commonwealth-State relations that evolves from the Act, substantial scope exists for achieving greater environmental policy coherence via the extended use of economic instruments, by which environmental externalities can be priced into decision-making.

Water reform is progressing, but needs to be accelerated in rural areas

Agriculture is not directly subsidised, as it is in most OECD countries. However, as elsewhere, it is a sector where environmental externalities have not been incorporated into resource allocation decisions. Water has been systematically underpriced. The situation is changing with the implementation of the *Australian Water Reform Framework*, as part of the overall competition policy. The reform aims to improve the efficiency of water management through pricing and trading, while trying to take account of the effect of flow regulation on the environment. It provides a good example of integration of micro-economic reform and environmental policies. Water trading is now the widest in the OECD, but it is still limited compared with what could be achieved. To increase the benefits from the trading of water rights, restrictions on trading need to be removed. In particular, all potential users should be able to buy water rights. Water entitlements should continue to be separated from land property rights, so that non-agricultural water users can buy them. Allowing the development of intermediaries in water markets could also increase efficiency and allow the spreading of risks associated with the inherent unreliability of water supply. However, gains from trading water rights will be limited unless charges for water use are structured to reflect both infrastructure and identifiable environmental costs and scarcity rents, as well as clear rules on defining environmental flows, where progress has so far been very uneven. Such pricing will bring to the fore some of the distributional issues, between holders of water rights and water users, and between agricultural and non-agricultural users, which currently hinder the development of more efficient water management.

Dealing with the problem of salinity could be more cost-effective

A legacy of Australia's agricultural development pattern, based on irrigation and clearance of native vegetation, is the degradation of agricultural land and watercourses with salt. The salinity problem is the result of complex interregional and intergenerational effects, which make it difficult to define the links between land management actions and salinity. Now a widespread problem, the response so far has been mainly to reduce the salinity build-up in rivers due to irrigation, through engineering salt-interception schemes funded jointly by the states concerned and the

Commonwealth. Cost-benefit analysis shows that these works have provided net benefits, but cost-effectiveness could be improved by water pricing which took account of the salinity impact of water transfers. To deal with dryland salinity, which will be the main source of future salinity increases, more long-term land management measures, including re-vegetation with native plants and the prevention of land clearing will be essential. The recently launched *National Action Plan for Salinity and Water Quality* seeks to address these issues. The physical complexity of the problem and the long time lags involved mean that the direct use of economic instruments is limited to industrial discharges, as in the Hunter River scheme. However, the planned pilot schemes to refine the allocation of subsidies for revegetation, through better targeting their location and to introduce competitive bidding for them, is a good example of how economic instruments can be applied to intermediate targets, thus improving cost-effectiveness. The relative prices that emerge from bidding for subsidies would provide information useful for cost-benefit analysis (whose wider use is necessary in setting targets and allocating resources) and perhaps taxes on land clearing.

The cost-effectiveness of climate-change policy could be improved by greater use of economic instruments

There is a synergy between salinity and climate change policy in that reductions in land clearing, and revegetation programmes considerably reduce net emissions of CO_2. Australia remains committed to the pursuit of emission reductions, as well as to unrestricted international trading of greenhouse gas emission allowances within a global agreement. But neither emissions trading nor taxes are currently used for mitigating greenhouse gas (GHG) emissions. The government views an international scheme as a prerequisite for the introduction of domestic emissions trading. To date, policies have relied on a mix of regulatory, market-based and voluntary measures. The latter are high-profile but are administratively burdensome and of uncertain effectiveness. Liberalised energy markets are working more efficiently than the former state-based markets, but the immediate consequence has been increased use of coal-fired electricity generating capacity, which has raised CO_2 emissions in the short run. The reforms should, however, lead to a substitution towards cleaner fuels in the longer run, as and when the impact of energy-market liberalisation on the relative cost of renewables- and gas-fired electricity feeds through to investment decisions, thus encouraging fuel switching. The modification of fuel prices and increasing fuel tax rebates resulting from the recent tax reform are encouraging emissions. The recent abolition of the indexation of fuel excise duties will have a similar effect. To achieve significant GHG emission reductions, structural adjustment towards a less GHG-intensive economy is required, and putting a price on emissions, either through an economy-wide tax or a permit trading scheme, would be the most efficient way to achieve this. Ideally, such schemes should apply uniformly to all sources of emissions and sinks. Among other factors, the government is, however, concerned that such mandatory economy-wide measures would reduce the competitiveness of Australian energy-intensive industries and result in "leakage" of these activities to developing countries if implemented ahead of an international emissions trading scheme. OECD analysis, on the other hand, suggests that it could be possible to devise compensation mechanisms to alleviate competitiveness losses for energy-intensive industries, while providing the same marginal abatement incentives to all sectors of the economy. Emissions trading or taxes could be integrated with land clearance and revegetation programmes – sink enhancement (as provided for under the UN Framework Convention on Climate Change) being an important option for Australia given its potentially significant ancillary benefits in terms of salinity control – as well as being linked to the renewable energy market.

To sum up

In summary, Australian growth performance was remarkable over the nine years to the middle of 2000, accompanied by an improving labour market and stable prices. Economic growth slowed in the second half of 2000 but has begun to recover and is expected to strengthen further in 2002. There is a downside risk to the outlook if there is a prolonged weakness in the US economy. But, in the absence of major economic imbalances which have curtailed growth in previous business cycles, and with a supportive macroeconomic policy environment, the slowing is likely to be temporary. Underlying inflation has been low, allowing a flexible monetary response, although the potential inflationary consequences of the weakness of the Australian dollar will need to be carefully monitored. A sound budget situation has meant that the automatic stabilisers have been able to work to support growth, even though continued vigilance and firm discipline over public spending are needed to ensure medium-term budget objectives are met. The large number of structural reforms undertaken in recent years have prepared Australia well to cope with adverse external shocks. The flexibility of the labour market has increased by the move to a more decentralised system of setting wages and other conditions of employment, but there is a need for more effective decentralisation. Industrial relations reforms have been complemented by the introduction of competition into labour-market assistance and by measures to promote more active job-search of benefit recipients. These measures have been complemented by reforms which assist the transition of the young from school to work and by initiatives to strengthen the economy's innovative capacity, two of the country's most pressing weaknesses. Product market competition has been enhanced by introducing contestability in the provision of infrastructure services and by removing restrictions on competition implicit in a large number of Commonwealth and State legislation. The recent tax reform should contribute to a further improvement in economic performance, a broader and more efficient tax base reinforcing the benefits of fiscal consolidation. The reform process needs to be completed in the light of Australia's level of structural unemployment and the need to sustain the improvement in productivity performance. An area where progress is only recently being made, but where much still remains to be done, is with respect to the use of tax and related pricing instruments to incorporate environmental externalities into resource allocation patterns. In particular, consideration should be given to introducing a domestic emissions and sinks trading regime. The combination of continued macroeconomic stability, completion of the structural reform agenda and greater emphasis on economic instruments in sustainable development would serve to keep trend productivity and overall economic welfare on the high growth path attained in recent years.

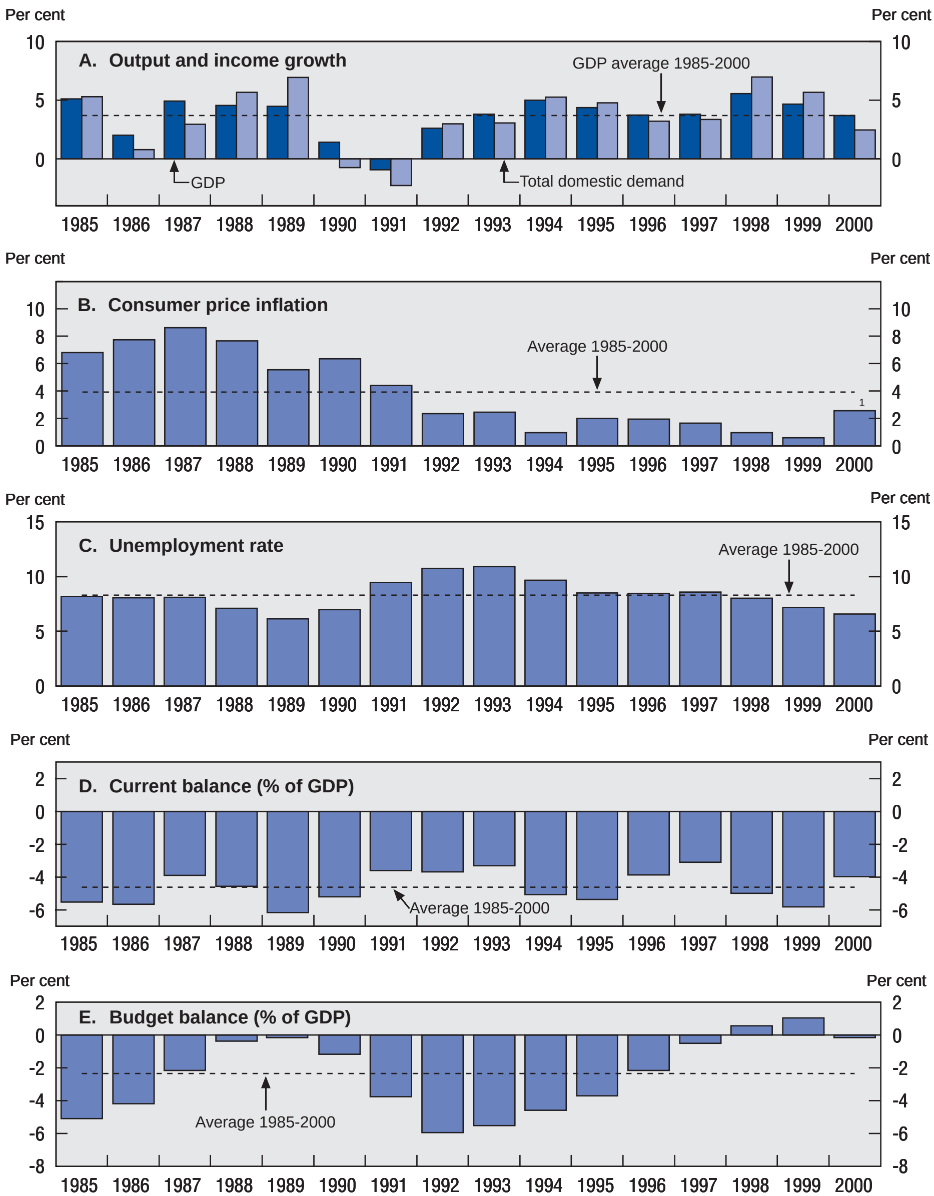
I. Recent developments and prospects

The Australian economy completed the ninth year of its expansion in the middle of 2000 and the September quarter marked the longest run of continuous growth in Australia's post-war history (Figure 1). The expansion of the 1990s compares favourably with the growth performance of most other OECD countries (Figure 2), and survived the decade in spite of Australia's strong trade links with the economies involved in the Asian financial crisis. The upswing was not initially as steep as that in the 1980s, both in terms of output and employment creation, but it took place in the context of a prolonged pick-up in productivity (Figure 3). Underlying inflation has remained low, despite the temporary increase in headline inflation induced by the goods and services tax (GST), and there has been an absence of major imbalances. Nevertheless, real GDP growth slowed quite sharply in the second half of 2000 and fell in the fourth quarter, for the first time since mid-1991. The relapse was induced mainly by the bringing forward of housing investment in the first half of 2000, ahead of the introduction of the GST in July. But business confidence has weakened, employment growth has stalled and unemployment has increased. This has created some uncertainty for the short-term outlook.

The macroeconomic environment

The external environment and domestic policy settings were both conducive to robust economic activity in the first half of 2000. Export market growth was strong and the relative price and cost competitiveness of the external sector was improving substantially, entailing a swing in the real foreign balance from a negative to a positive contribution to economic growth. Monetary policy was on a tightening course from late 1999 to mid-2000, reflecting an unwinding of the easy conditions which had prevailed during the Asian crisis. Even so the effect on overall monetary conditions was partly offset by the depreciation of the Australian dollar and improving terms of trade. The stance of fiscal policy was broadly neutral until mid-2000, but became distinctly supportive of economic activity with the implementation of the tax reform package on 1 July 2000. Finally, construction investment was stimulated by major infrastructure projects undertaken in the run-up to the Olympic Games, while the event itself exerted a stimulus to aggregate demand through additional revenues from tourism expenditure and the sale of broadcasting rights. These effects, were, of course reversed after the third quarter.

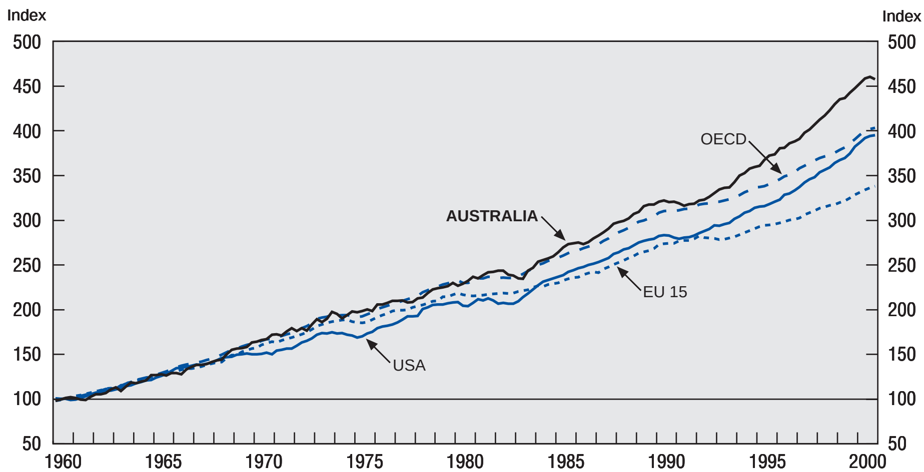
Figure 1. **Macroeconomic performance**



1. Includes the shift in the consumer price index from the introduction of the Goods and Services Tax (GST) on 1 July 2000.

Source: OECD.

Figure 2. **Long-term growth performance**[1]
Real GDP, index 1960 = 100



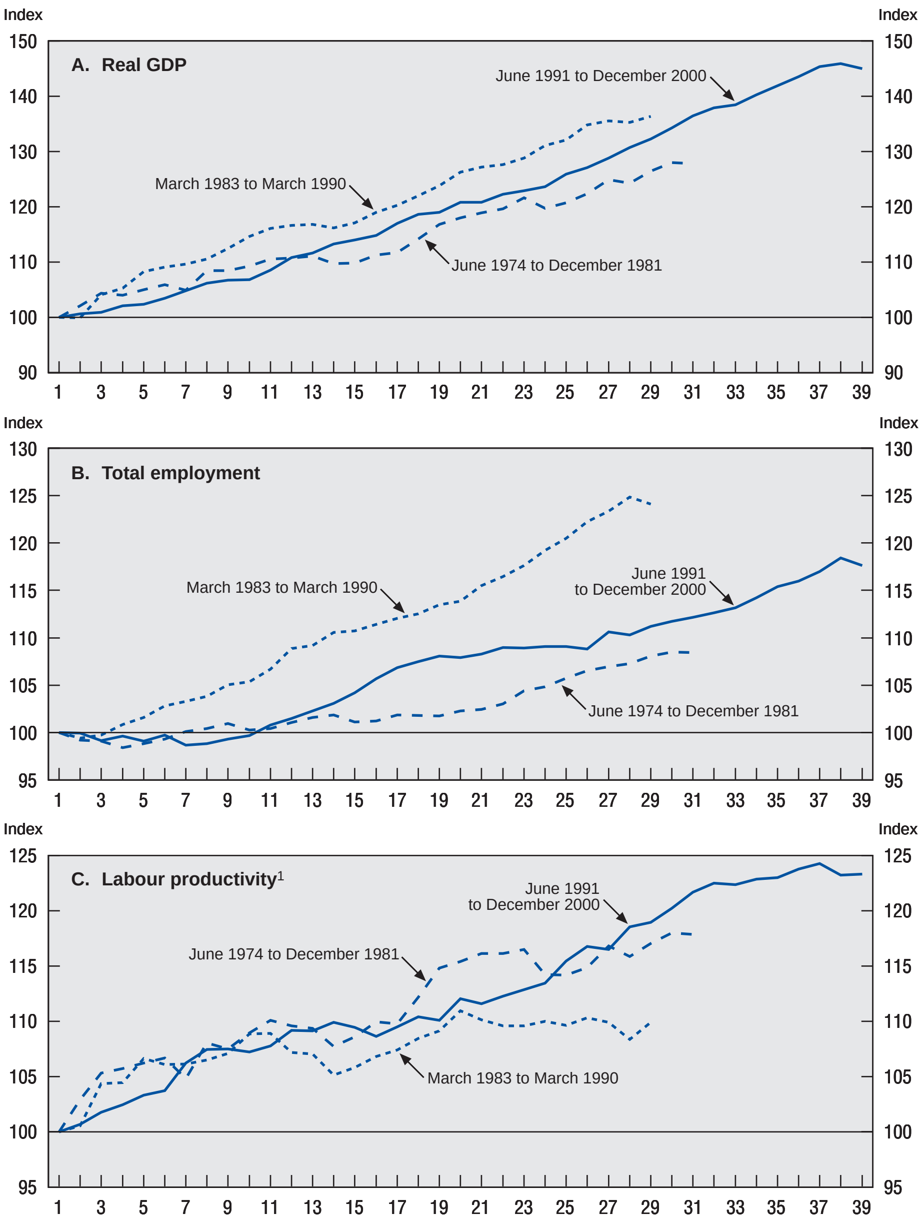
1. Seasonally adjusted data.
Source: OECD.

Impact of tax reform and the Olympic Games on the economy

In line with the underlying favourable conditions for economic activity, real GDP grew at an annual rate of 4¾ per cent in the first half of 2000 (Table 1). But economic growth slowed sharply in the September quarter of 2000 before turning negative in the December quarter. The profile of domestic demand was heavily distorted by two special factors. The most important event was the introduction of the new tax system on 1 July 2000, which *inter alia* replaced the old Wholesale Sales Tax (WST) by the goods and services tax (GST). The transition to GST created a strong financial incentive to bring forward residential investment and service expenditures which were not taxed under WST, or taxed at a lower rate than under GST. The shift was most pronounced for residential investment, which contributed heavily to the strong growth in the first half of 2000, but weakened substantially thereafter. While beginning to recover, dwelling activity was still at a low level in the first quarter of 2001. Recent declines in interest rates and the more generous subsidy to first home owners should support dwelling activity in 2001-02.

Some components of retail spending (clothing and footwear, for example) are also likely to have been brought forward to the first half of 2000, although their quantitative impact was not as important as that of housing investment. Taxation of motor vehicle purchases fell under GST and this resulted in a deferral of

Figure 3. **The current expansion in perspective**



1. GDP per employee.
Source: OECD.

Table 1. **Demand and output**
Percentage changes, FY 1997-98 prices

	From previous year				From previous year, seasonally-adjusted annual rate		
	Calendar years		Fiscal years[1]		2000		2001
	1999	2000	1998-99	1999-00	I	II	Q1
Consumption							
Private	5.2	3.5	5.0	4.5	3.8	2.1	9.0
Public	4.9	4.9	4.9	5.6	6.5	0.1	13.2
Gross fixed capital formation	6.4	1.4	5.8	6.5	6.8	–13.0	7.1
Public sector	14.0	5.0	19.3	–2.5	25.6	–3.8	6.9
General government	15.7	9.0	7.7	17.2	–8.6	21.4	–19.5
Public enterprises	11.6	–1.2	36.6	–25.2	125.8	–35.6	72.4
Private sector	5.7	2.0	6.1	6.0	7.7	–11.4	–12.3
Dwellings[2]	7.4	1.1	11.0	12.4	30.3	–45.4	3.2
Other building and structures	–1.4	–22.3	1.9	–0.3	–45.8	–9.2	3.1
Machinery and equipment and intangible fixed assets	7.5	10.7	0.6	10.0	15.1	7.6	8.8
Machinery and equipment	5.3	9.7	31.0	8.4	17.1	3.9	8.8
Intangible fixed assets	18.5	15.4	19.3	17.9	6.2	25.8	8.7
Livestock and transfer costs	5.3	2.9	2.1	8.5	15.3	–20.4	15.4
Livestock	6.9	7.0	18.9	–3.1	0.0	37.9	0.0
Ownership transfer costs	5.0	2.0	–1.0	11.0	18.5	–29.5	19.7
Final domestic demand	5.5	3.2	5.3	5.2	5.0	–2.0	9.4
Increases in stocks[3]	0.3	–0.5	0.8	–0.5	–1.2	1.6	–7.8
Total domestic demand	5.8	2.7	6.1	4.6	3.7	–0.4	1.3
Exports of goods and services	4.2	10.8	2.0	9.2	10.4	8.5	2.1
Imports of goods and services	9.4	7.4	4.9	12.5	8.9	–2.5	–12.5
Change in foreign balance	–1.2	0.4	–0.7	–0.9	0.0	2.2	3.4
Statistical discrepancy[3]	0.2	0.6	0.0	0.7	0.5	–0.2	–0.1
GDP	4.7	3.8	5.3	4.5	4.8	1.4	4.3
Farm	7.0	0.8	8.5	4.0	4.1	–6.1	2.1
Non-farm	4.6	3.8	5.2	4.4	4.7	1.6	4.4

1. Fiscal years begin 1 July.
2. Including real estate transfer expenses.
3. Contributions to changes in real GDP (as a percentage of real GDP in the previous year).
Source: Australian Bureau of Statistics.

spending into the September quarter, which is reflected in soaring automobile sales in that quarter. It continued into the final quarter of 2000, but appears to have unwound in 2001. Moreover, the replacement of WST by GST reduced the prices of machinery and equipment investment, which is likely to have contributed to the robust growth of this demand component in the September quarter of 2000, following near stagnation in the June quarter.

The other event disturbing the profile of growth was the Olympic Games in September 2000. Non-residential construction activity was boosted by Olympics-related private and public infrastructure investment, such as the redevelopment of the international terminal at Sydney Airport, although this effect had started to wane by early 2000. Moreover, public authorities' inventories were built up prior to the Olympics and run down in the September quarter. Most importantly, exports were buoyed by the Olympics through tourism-related services exports (for example, ticket sales to non-residents) and the sale of overseas broadcasting rights; Olympics related services exports are estimated to have contributed 0.9 per cent to GDP in the September quarter 2000.

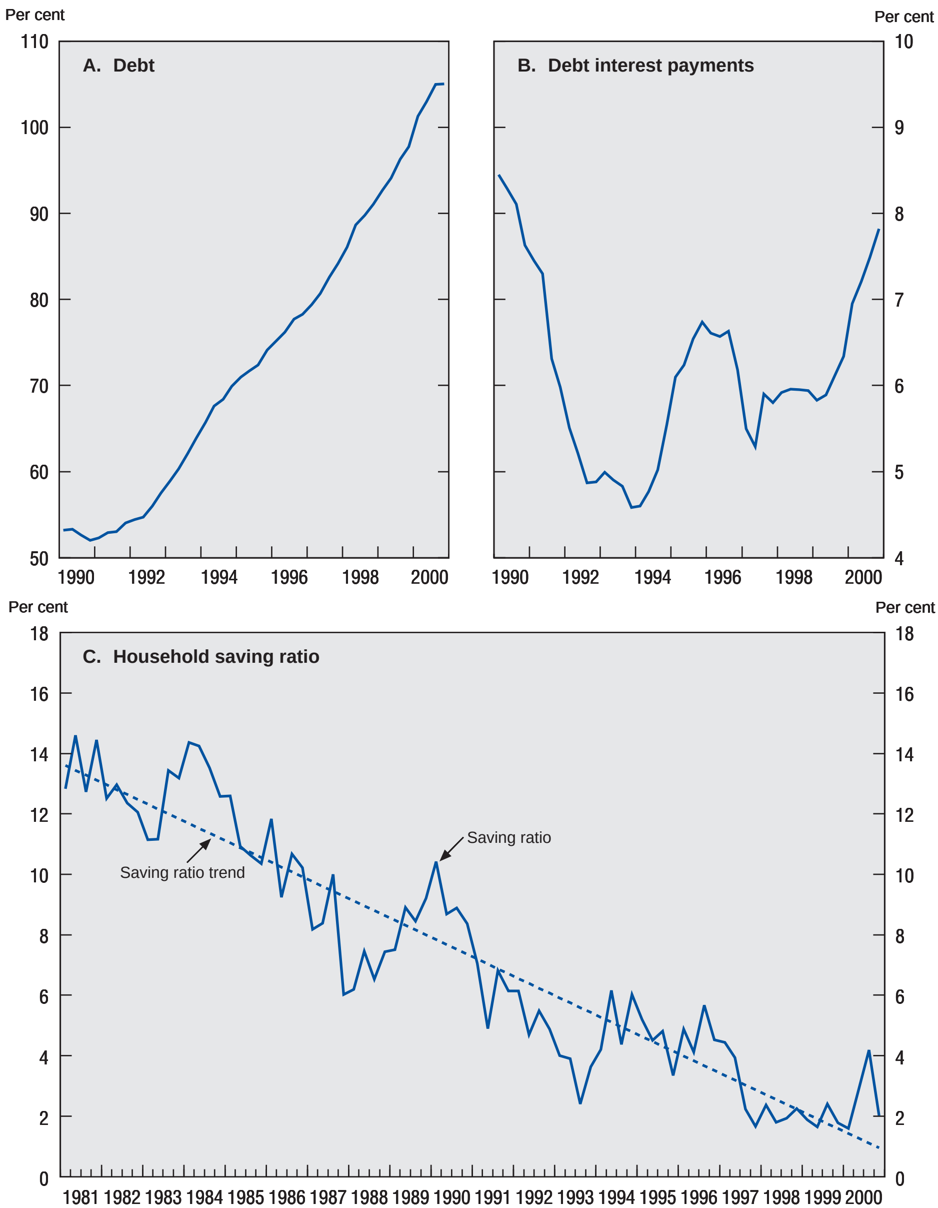
The cyclical development of domestic demand

The growth rate of real household consumption declined substantially in 2000, being most pronounced in the second half-year. The weakening occurred in spite of robust growth of real disposable incomes, which were boosted by solid wage growth and gains in employment. From mid-2000, household incomes were strengthened further by higher social transfer payments and reduced personal income taxes as part of the tax reform. Household consumption grew very strongly in the March quarter of 2001. On the other hand, the slowing of house-price increases had a dampening effect on the growth of household wealth and the capacity to borrow. In addition, the increase in lending interest rates in response to the monetary tightening added to the increase in household indebtedness and a sharp rise in the debt-service burden (Figure 4, upper panels). However, the debt-to-asset ratio was rather stable, at around 13 per cent, at least up to mid-2000, when it is likely to have risen on account of the continuing increase in household indebtedness and weaker dwellings prices (residential housing forming more than half of Australian household assets).

Slower growth of household consumption entailed a reversal of the long-term trend decline in the household saving ratio in 2000 although it fell again in early 2001 (Figure 4, lower panel). It was accompanied from early 2000 by deteriorating consumer sentiment from the high levels recorded in 1999. Consumer confidence seems to have been adversely affected by rising fuel costs as a consequence of higher world petrol prices, the lower Australian dollar and higher interest rates. Exaggerated fears of the possible inflation consequences of the change to the GST are also likely to have played a role. Retail trade data are consistent with a firming of household consumption volumes in the first half of 2001.

Public spending on goods and services remained a mainstay of domestic demand. It has been boosted over the past two years by Australia's peace-keeping commitments in East Timor, the start-up costs of the tax reform and increased spending on refugees. Government investment was supported by

Figure 4. **Household debt, debt-service burden and saving**
Per cent of household disposable income



Source: Reserve Bank of Australia, OECD.

Olympics-related infrastructure investment and strong capital expenditure of public enterprises. Due to the majority public ownership of Telstra, the telecommunications company's substantial capital expenditure is counted as government investment in the National Accounts.[1]

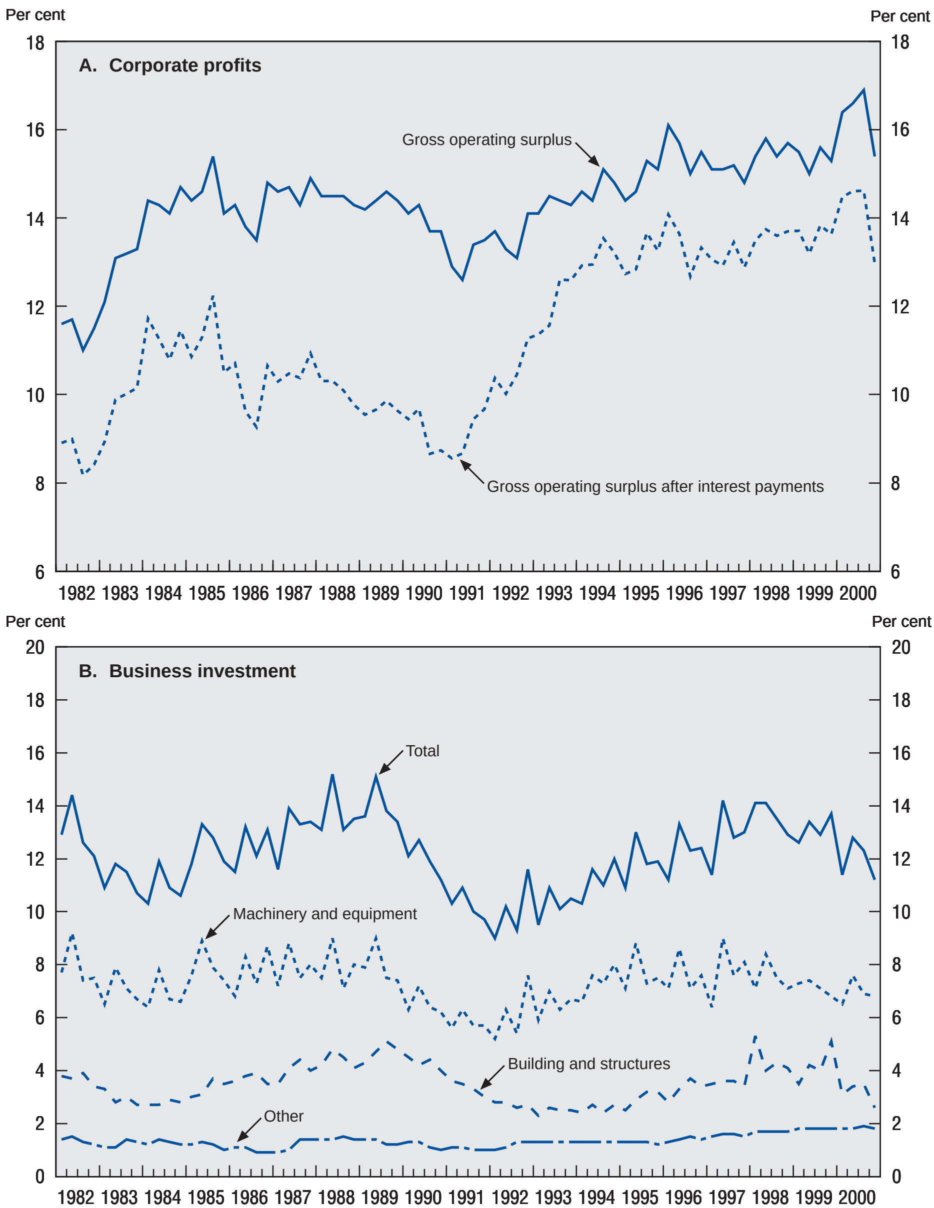
Aggregate business profitability was very high in 2000, the gross operating surplus of the corporate business sector reaching a record share in GDP (Figure 5, upper panel). There was a sharp reversal in the December quarter. Business confidence and survey measures of "trading conditions" have generally declined from their high levels of late 1999, although they have remained above their 1990s average. There was a substantial dispersion across sectors. In general, large exposed businesses, like mining, benefited from buoyant export markets and currency depreciation and thus reported a very positive outlook for sales and profits. On the other hand, smaller firms appear to have suffered from a sharp deterioration in sales and profit growth in 2000 and into 2001; this holds especially for companies that use or sell imported products and were unable to pass higher import costs on to sales prices, thus having to accept a squeeze on profit margins.

Against this background, real business investment was flat in 2000, with a sharp decline in business construction being offset by a marked pick-up in machinery and equipment investment. The fall in business construction in part reflects the completion of several large engineering projects in the mining sector, while the buoyancy of machinery and equipment investment is more in line with overall profitability. The share of business investment in GDP declined somewhat, although from a very high level (Figure 5, lower panel). *Ceteris paribus*, it should have been stimulated by the investment-cost-reducing effect of the tax reforms, but this is likely to have been more than offset by higher prices of imported capital goods on account of the weakened Australian dollar. As in previous years, disparate sectoral conditions are likely to have been a major cause of the volatility of quarterly business investment data, which makes it hard to identify an underlying trend. The recent introduction of input tax credits as part of the tax reform is likely to have added to that volatility. However, real business investment appears to have recovered in the March quarter of 2001.

Foreign trade and the current account

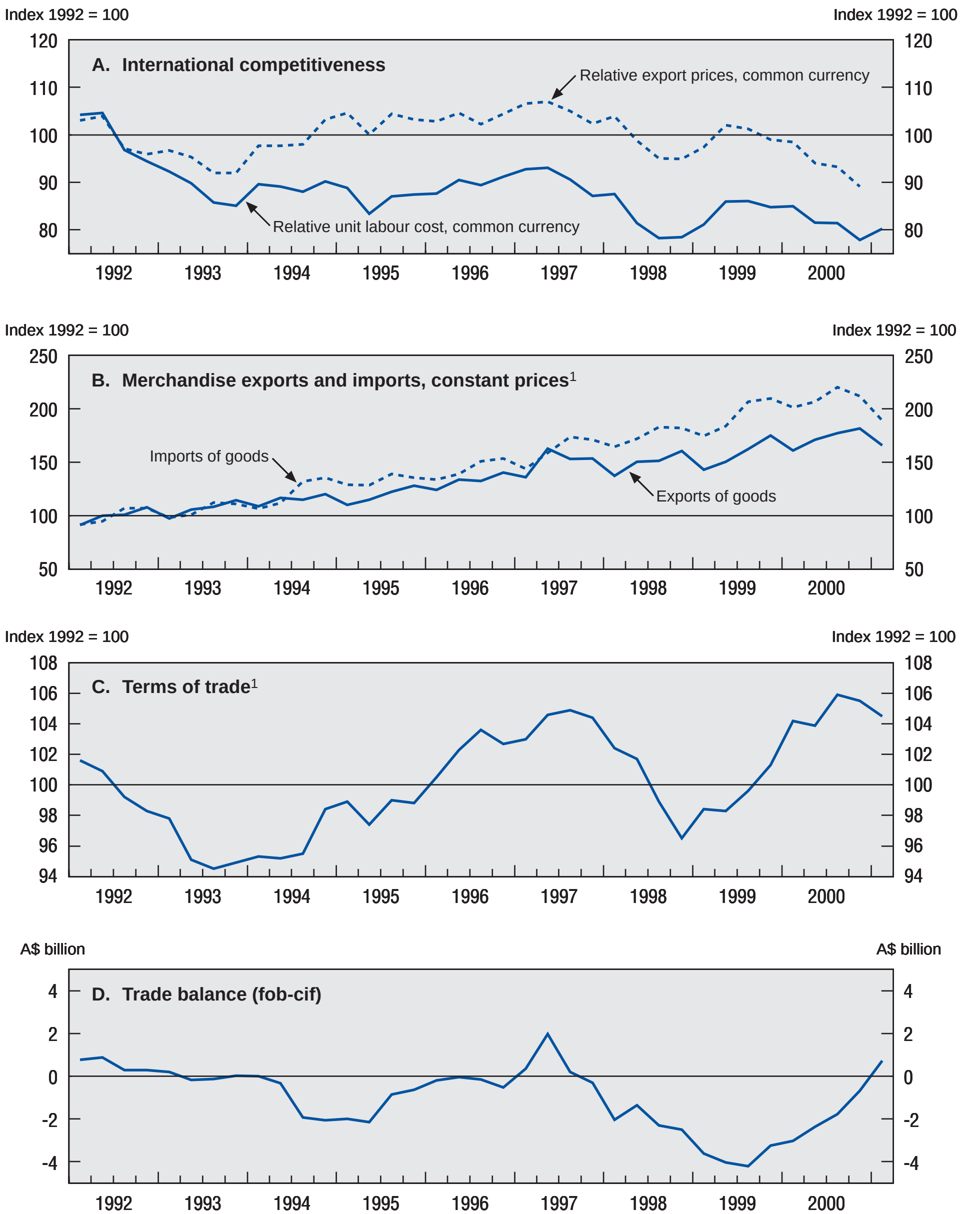
In line with strong global demand, Australia's export markets grew by an estimated 10 per cent in 2000, nearly double the growth rate of 1999, while the Australian dollar lost on average about 7½ per cent of its value in effective (trade-weighted) terms. This translated into a real effective exchange rate depreciation of close to 5 per cent, measured in terms of relative consumer prices and 7 per cent in terms of relative unit labour costs. Hence there was a significant gain in price and cost competitiveness (Figure 6). In consequence, the growth of goods and services export volumes accelerated from 4.5 per cent in 1999 to 10.2 per cent

Figure 5. **Corporate profits and business investment**
As a percentage of GDP



Source: Australian Bureau of Statistics.

Figure 6. **Foreign trade indicators**



1. Seasonally adjusted balance of payments basis.
Source: Australian Bureau of Statistics and OECD.

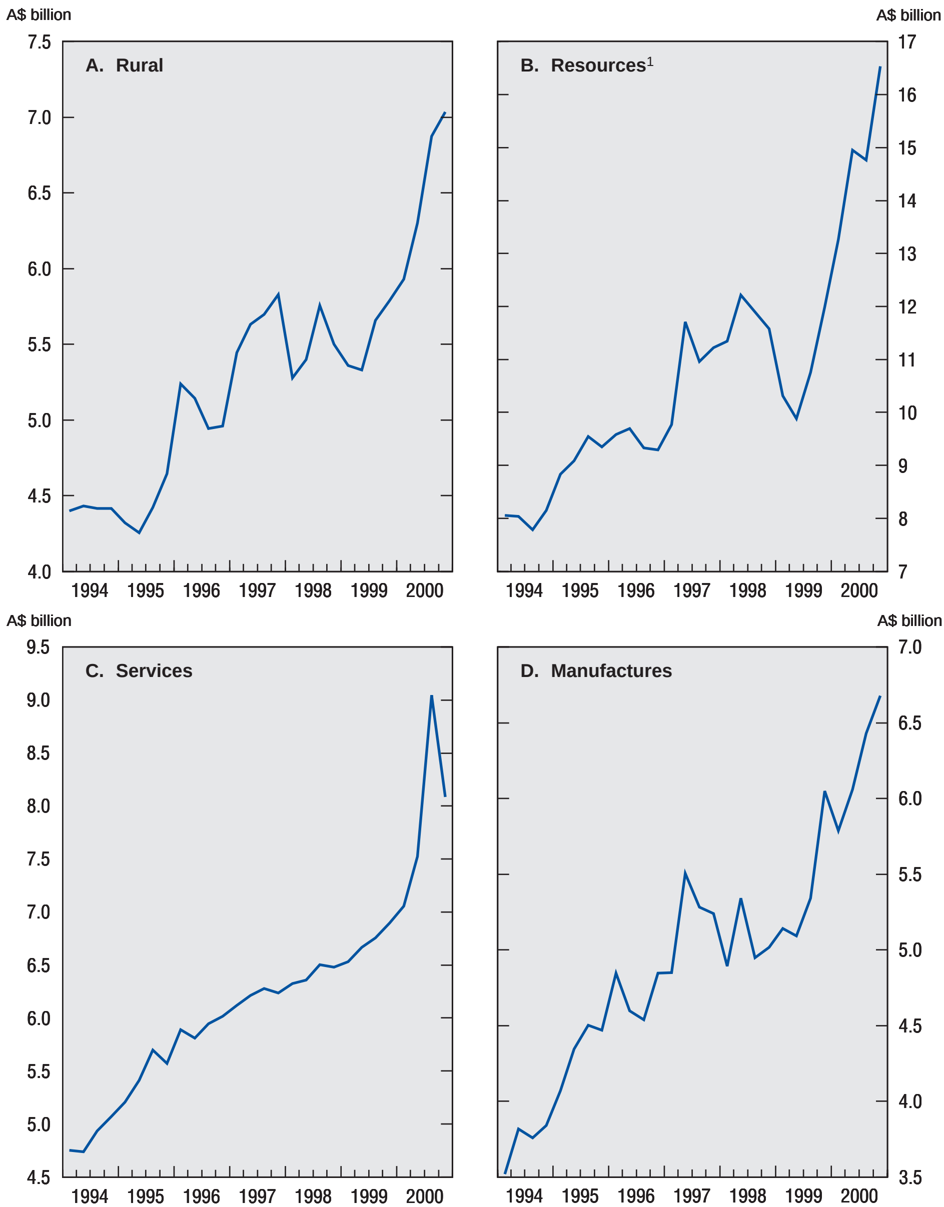
in 2000. With the exception of agricultural export volumes, which rose by 7.5 per cent, all other major export categories (resources, manufactures, and services) grew at average rates of more than 10 per cent in real terms in 2000. Export growth has been strong to all major destinations, but most pronounced for shipments to Japan and other East Asia. The growth of import volumes slowed somewhat in response to weakening domestic demand and higher import prices from the exchange rate depreciation. The deceleration was most noticeable for imports of capital goods and occurred despite the extraordinary rise in motor vehicle purchases (some 30 per cent in the course of 2000), due in large part to the replacement of the wholesale sales tax by the goods and services tax. As a result, the foreign balance swung from being a large negative contributor to real GDP growth to being a significant positive factor in 2000. In the March quarter of 2001, net exports contributed 0.8 percentage points to GDP growth, reflecting modest growth in export volumes and a further marked fall in import volumes.

With Australian dollar export prices increasing rapidly, the growth of export values in 2000 was spectacular and broad based (Figure 7). Import prices also increased markedly but less so than export prices, implying a substantial gain in Australia's terms of trade in 2000 (Figure 6). This contributed heavily to the narrowing of the trade deficit, from 2½ per cent of GDP in 1999 to 1¼ per cent in 2000, and the net services balance remained in surplus. Exports of goods and services remained very buoyant during the first months of 2001, although they may have lost some of their momentum. During the same period, the value of imports declined so that the trade balance moved to a substantial surplus in early 2001.

Some of the recent positive swing in the trade balance can be ascribed to the turnaround in world commodity prices in late 1999, after a three-year decline. The RBA index of commodity prices rose by more than 11 per cent in SDR terms and about 4 per cent in US dollar terms from the December quarter of 1999 to the March quarter of 2001. They remained distinctly below their levels before the outbreak of the Asian crisis in mid-1997 but, given the substantial exchange rate depreciation, average commodity prices expressed in Australian dollars have risen by 26 per cent since the December quarter 1999. The increase in world oil prices in 2000, contributed to inflation and thus depressed real incomes. Australia's position as a (small) net importer of oil rules out any significant direct effect of higher oil prices on the terms of trade. But Australia is a large net exporter of gas and coal. The price of gas is linked by contracts to that of oil, and there is a medium-term tendency of coal prices to follow general energy price trends. Hence a sustained rise in oil prices sets in train a net transfer of income from international consumers of gas (and with a lag, of coal) to Australian producers.[2]

In spite of the substantial depreciation of the Australian dollar, the net investment income deficit was almost unchanged in 2000. Australia's gross foreign-currency liabilities now exceed its holdings of foreign-currency assets. Hence

Figure 7. **Value of exports**
Seasonally adjusted, A$ billion



1. Includes non-rural commodity exports (including sugar) plus non-monetary gold.
Source: Australian Bureau of Statistics.

Table 2. **Current account of the balance of payments**[1]
A$ billion

	1997	1998	1999	2000	1999		2000		2001
					I	II	I	II	Q1
Trade balance	2.2	–8.2	–15.2	–7.9	–7.7	–7.5	–5.4	–2.5	0.7
Exports	87.2	89.2	86.7	110.6	41.1	45.6	52.3	58.3	29.9
Imports	–85.0	–97.4	–101.9	–118.5	–48.8	–53.1	–57.7	–60.8	–29.2
Services, net	–19.2	–19.8	–20.4	–18.3	–10.1	–10.3	–10.3	–8.2	–5.6
Non-factor services, net	–0.5	–1.8	–1.5	0.6	–0.8	–0.7	–0.7	1.1	–0.5
Investment income, net	–18.7	–18.0	–18.9	–18.9	–9.3	–9.6	–9.6	–9.3	–5.1
Current transfers, net	–0.3	–0.5	0.0	–0.1	0.2	0.2	–0.1	0.0	0.1
Current balance	–17.3	–28.5	–35.6	–26.3	–18.0	–17.6	–15.8	–10.7	–4.7
As a percentage of GDP	–3.3	–5.2	–6.1	–4.3	–6.0	–5.7	–4.9	–3.2	–1.4

1. Seasonally-adjusted.
Source: Australian Bureau of Statistics.

changes in debt-servicing costs in Australian dollars resulting from currency variations are more than offset by a corresponding change in the return on foreign assets held by residents. Altogether, the current external deficit, which had peaked at over 6 per cent of GDP in 1999, declined to a rate of about 3 per cent of GDP in the second half of 2000 (Table 2).

The labour market

The pace of employment growth increased further in 2000, to an annual rate of 3.2 per cent (Table 3). This implied a significant fall in labour productivity growth in terms of output per hour worked, from 2¼ per cent in 1999 to 1 per cent in 2000. The pick up in employment growth was due to an acceleration in both full-time and part-time employment. Employment rose particularly strongly in the services sector, most notably in property and business services, hospitality, transport and storage. Employment losses were recorded in manufacturing, wholesale trade and construction. It is noteworthy that employment growth in 2000 was somewhat stronger in regions outside the capital cities although unemployment in the regions is generally at higher levels.

After the very strong growth in the September quarter of 2000, total employment declined in the remainder of the year, the weakening being more pronounced in full-time jobs (Figure 8, upper panel). Much of the pick-up and subsequent reversal was attributable to the combined impact of the Olympic Games and the introduction of GST, associated with the surge in employment in the construction sector up to August 2000 and the sharp fall thereafter. Employment data for early 2001 show a mixed picture, with a recovery in January being followed by a moderate fall

Table 3. **The labour market**

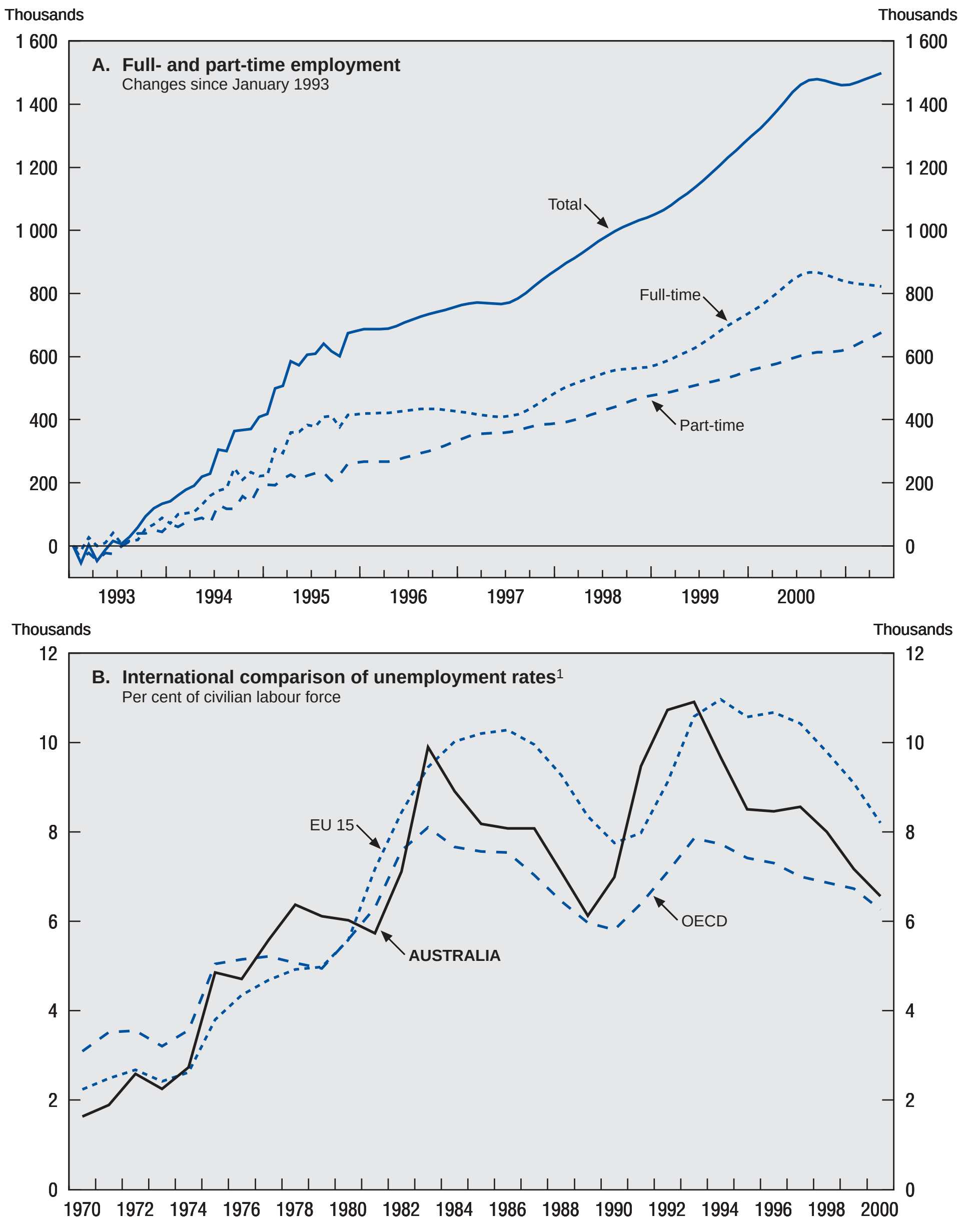
Seasonally-adjusted

	1997	1998	1999	2000	1999		2000		2000				2001
					I	II	I	II	Q1	Q2	Q3	Q4	Q1
Employed persons[1]	0.9	2.1	2.2	3.2	1.8	2.9	3.4	2.3	3.2	3.7	2.9	–0.2	0.2
Full-time	0.0	1.8	1.6	3.0	1.2	2.8	3.2	2.0	2.9	3.8	2.5	0.8	–1.1
Part-time	3.6	3.0	3.7	3.7	3.5	3.4	3.8	3.2	4.0	3.7	3.9	1.3	3.9
Labour force[1]	0.9	1.5	1.3	2.4	0.7	2.2	2.7	1.6	2.6	3.0	1.7	0.1	1.6
Males	0.7	1.3	1.1	1.6	1.0	1.1	1.9	1.5	1.9	2.7	1.7	0.2	0.2
Females	1.2	1.8	1.6	3.5	0.3	3.5	3.7	1.8	3.4	3.5	1.8	0.0	3.3
Unemployment rate[2]	8.3	7.7	6.9	6.3	7.1	6.8	6.5	6.2	6.5	6.4	6.1	6.2	6.5
Males	8.5	8.0	7.1	6.5	7.3	6.9	6.6	6.4	6.6	6.5	6.4	6.5	6.8
Females	7.9	7.4	6.7	6.1	6.9	6.6	6.4	5.8	6.5	6.3	5.8	5.8	6.1
Job vacancies[1]	6.1	16.5	2.2	14.7	–8.5	12.9	25.1	6.4	36.1	14.8	7.5	5.2	–15.3
Participation rate[2]	63.2	63.2	63.1	63.6	63.0	63.2	63.6	63.7	63.4	63.7	63.8	63.5	63.6
Males	73.1	72.9	72.6	72.6	72.7	72.5	72.6	72.6	72.5	72.7	72.7	72.5	72.3
Females	53.6	53.9	53.9	54.9	53.7	54.2	54.9	55.0	54.7	55.0	55.0	54.9	55.1
Average weekly hours worked[3]													
Total	34.6	34.6	34.5	34.6	33.7	35.3	34.0	35.2	32.8	35.2	35.0	35.3	32.0
Full-time	41.1	41.3	41.2	41.3	40.3	42.2	40.6	42.0	38.9	42.2	41.9	42.1	37.9
Part-time	15.4	15.6	15.6	15.7	15.3	15.9	15.6	15.9	15.1	16.0	15.7	16.1	15.2

1. Percentage change from previous period at annual rates.
2. Per cent.
3. Not seasonally adjusted.

Source: Australian Bureau of Statistics.

Figure 8. **Employment and unemployment**



1. National definitions; OECD estimates for 2000.
Source: Australian Bureau of Statistics and OECD.

in February, a mild fall in March and a strong bounce back in April. Forward-looking indicators of labour demand suggest rather subdued employment growth to come. Job vacancies have mirrored the deterioration in newspaper job advertisements over the second half of 2000 and to date in 2001.

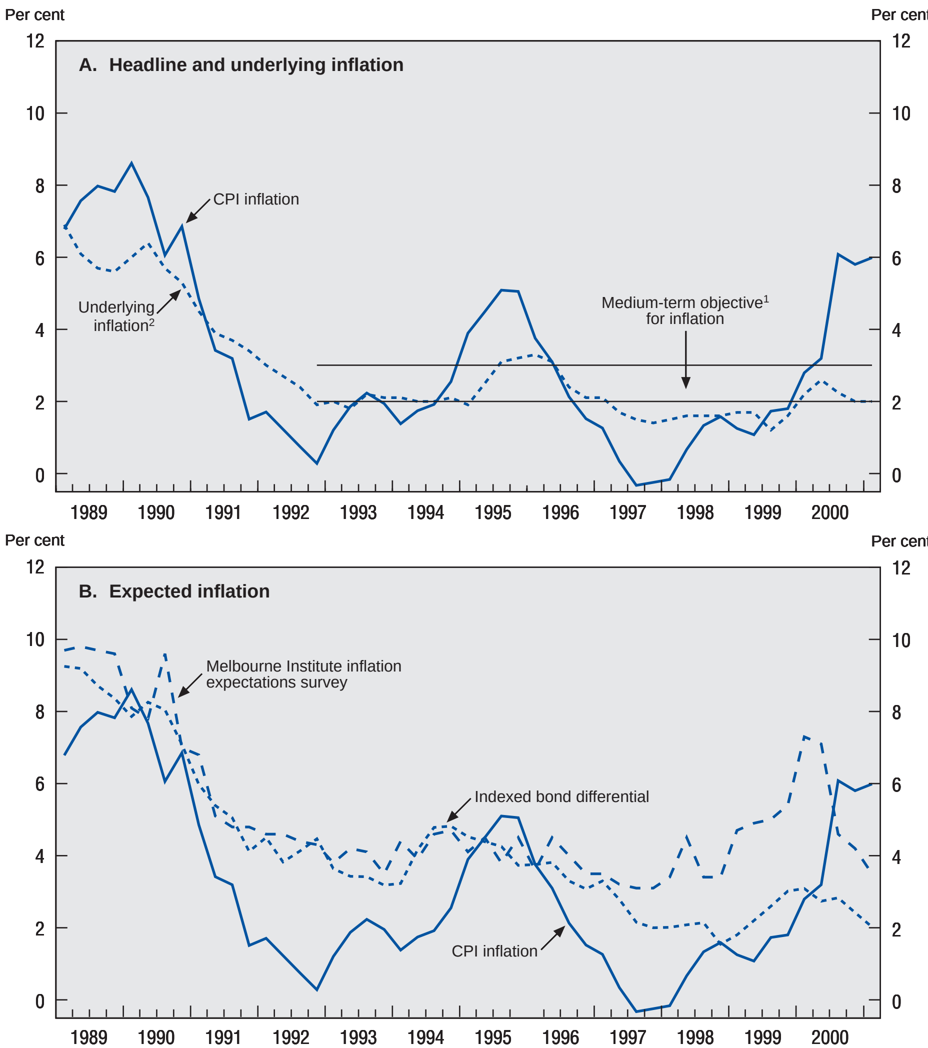
With the gains in employment exceeding the increase in the labour force by a large margin through much of 2000, the unemployment rate fell to 6.0 per cent in September and October. It thus converged with the OECD average, having exceeded it substantially at the beginning of the upswing when unemployment had peaked at 10.9 per cent in December 1992 (Figure 8, lower panel). The OECD estimate of the non-accelerating inflation rate of unemployment (NAIRU) is around 6½ per cent. The proportion of long-term unemployed (persons unemployed for 52 weeks or more) in the total number of unemployed also fell substantially, to about 22 per cent in early 2001, the lowest in about a decade and more than 10 percentage points below the share at the beginning of the economic upswing. The stronger demand for labour in 2000 encouraged increased female labour-force participation, after three rather flat years, but this declined somewhat towards the end of 2000 and in early 2001. Nevertheless, the rate of unemployment increased again, to 6.9 per cent in May 2001.

Price and wage inflation

Up to the middle of 2000, consumer price inflation adjusted for the effect of higher petrol prices had increased mildly, but remained well within the Reserve Bank's (RBA) 2 to 3 per cent target band over the business cycle. This was despite robust economic growth and the depreciation of the Australian dollar. Import price increases at the wholesale level and higher costs of imported production inputs appear not to have been passed on at the consumer level to any significant extent, a notable exception being the rapid pass-through of higher crude oil prices. While this may be because of longer lags, increasingly competitive markets seem to have forced retailers to accept a squeeze on profit margins, at least temporarily.

Consumer price inflation jumped in the September quarter of 2000 as a consequence of the replacement on 1 July of the wholesale sales tax (WST) by the 10 per cent goods and services tax (GST), which applies to a much broader base (Figure 9, upper panel). But the twelve-monthly increase in the overall consumer price index (CPI) of some 6 per cent in the September quarter of 2000 and a little less in the following quarter, was significantly lower than expected. This may be partly explained by the price monitoring exercise of the Australian Competition and Consumer Commission, which induced businesses to pass on savings from the new tax system. Headline CPI inflation remained at 6 per cent in the March quarter of 2001, while the CPI excluding volatile items, among them fuel, has varied between 5 to 5½ per cent since mid-2000. The upward shift in this index is consistent with an initial price level effect of GST of the order of 3 per cent. The

Figure 9. **Actual and expected inflation**



1. The inflation target was expressed in terms of the "Treasury underlying inflation rate" up to late 1998. Following the move from an outlays to an acquisitions approach to measuring consumer prices, the inflation target is now expressed in terms of the new "headline" CPI.
2. Underlying inflation is defined as the "Treasury underlying rate" until its discontinuation in June 1999. Thereafter, it is defined as the "CPI excluding volatile items". For the three quarters from mid-2000 to March 2001, estimates of the GST-effect have been deducted from the series which result in estimates of twelve-monthly rates of underlying inflation of 2.25, 2 and 2 per cent, respectively.

Source: OECD; Reserve Bank of Australia; University of Melbourne, Institute of Applied Economic and Social Research.

RBA estimates underlying (core) inflation, excluding both the first-round GST effect and the impact of higher petrol prices, at 2 to 2½ per cent in the second half of 2000 and the first quarter of 2001.

Lower than expected post-GST headline inflation helped to reduce inflation expectations, to 3.5 per cent in the March quarter of 2001, according to the Melbourne Institute (Figure 9, lower panel). This brought this measure of consumer inflation expectation back to levels prevailing in 1997 and 1998. Financial market estimates of expected inflation over the fiscal year 2001-02 are around 2 per cent, while longer-term inflation expectations, as measured by the difference between nominal and indexed ten-year bond yields, have declined from a peak of about 3½ per cent in early 2000 to around 2½ per cent in May 2001.

In general, low underlying inflation has been underpinned by moderate labour cost growth, although recent wage increases give a mixed picture (Table 4). Average weekly ordinary-time earnings of adults working full-time increased by

Table 4. **Costs and prices**

Percentage change from corresponding period of previous year

	1997	1998	1999	2000	2000				2001
					Q1	Q2	Q3	Q4	Q1
National accounts deflators									
Private consumption	1.6	1.0	0.6	2.6	0.9	1.3	3.9	4.0	4.3
Total domestic demand	1.5	0.8	1.0	2.8	1.8	2.3	3.5	3.5	3.6
GDP	1.6	0.1	1.0	3.3	2.0	2.5	4.4	4.1	3.9
Exports of goods and services	–0.1	2.4	–5.0	13.3	5.4	14.8	15.6	17.3	12.0
Imports of goods and services	–1.5	6.8	–4.6	7.0	–0.6	8.3	8.3	12.4	11.7
Consumer price index	0.3	0.9	1.5	4.5	2.8	3.2	6.1	5.8	6.0
Underlying inflation[1]	1.9	1.7	1.2	2.3	2.2	2.6	2.3	2.0	2.0
Wage cost index (excluding bonuses)									
Total	. .	. .	3.1	3.0	2.8	2.8	3.1	3.4	3.7
Private sector	. .	. .	2.8	3.1	2.9	2.9	3.1	3.5	3.6
Public sector	. .	. .	3.7	2.8	2.5	2.7	2.9	3.1	3.8
Average weekly earnings									
All employees	3.1	2.8	1.6	4.7	2.8	3.9	6.8	5.2	5.6
Ordinary time, full-time work (AWOTE)	4.0	4.2	2.9	4.9	4.1	4.3	6.1	5.1	4.6
Private sector, ordinary time, full-time work (AWOTE)	3.5	4.0	2.7	5.1	4.2	4.2	6.6	5.5	4.6
Public sector, ordinary time, full-time work (AWOTE)	6.1	5.0	4.3	4.4	3.9	4.4	4.8	4.7	5.2
Nominal non-farm unit labour costs	1.1	0.4	0.8	2.1	1.8	1.1	2.2	3.3	3.6

1. Underlying inflation is defined here as the consumer price index excluding "volatile items" (fruit, vegetables and automotive fuel). As from the September quarter of 2000, an adjustment has been made by the OECD for the estimated price-level effect of GST.

Source: Australian Bureau of Statistics and Reserve Bank of Australia.

4¾ per cent in 2000, accelerating to 5½ per cent in the second half but eased back to 4½ per cent in early 2001. The wage cost index (WCI), a measure of wage rates for a basket of constant-quality jobs, accelerated to just under 4 per cent in the second half and may be a more reliable indicator of growth in wages.[3] Average weekly earnings seem to have been temporarily boosted by a shift in the composition of wage earners covered by the index from lower skilled to higher skilled jobs, which typically are better paid.[4]

The outlook to 2002

Consumer confidence was still below its long-term average in May 2001. The latest forward looking indicators such as building approvals, housing finance approvals for the construction of new dwellings, and private dwelling commencements all point to an ongoing slump in residential investment. Most business surveys depict a rather subdued outlook for activity in the short term, sentiment having been hit by bad economic news from abroad, in particular from the United States and Japan, with a more sanguine view over a somewhat longer horizon. The picture is mixed, however, as one influential survey of industrial trends for the June quarter of 2001 reported a sharp recovery in business confidence, with expectations for the September quarter appearing upbeat. Moreover, cost pressures are judged to be low and are expected to remain so.

Monetary policy has clearly become very supportive of demand after the RBA's three rate cuts and further cuts are incorporated into the projections, broadly parallel to expected action by the US Federal Reserve. Fiscal policy will be providing a small stimulus to activity (see Chapter II). Export market growth is projected at around 7 per cent in 2001-02 while, on the assumption of a constant nominal exchange rate, the Australian dollar will be 7 per cent lower in effective terms than in 2000.

With no major economic imbalances apparent, the current economic slowdown should be temporary (Table 5), a view which is supported by the strong economic growth in the first quarter of 2001. Household spending may be slowed by the recent decline in consumer confidence, slower employment growth with its dampening impact on household incomes, and the adverse effect of stagnant house prices on household wealth and the capacity to borrow. On the other hand, household wealth was supported by the good performance of the Australian stock market so far in 2001. With the transitional adverse effects of the GST on confidence unwinding and a still manageable household debt burden despite its steep increase, consumption should gather strength in 2002. Housing investment is projected to fall steeply in 2001, given the large negative carry-over from last year and the unfavourable short-term indicators. But since there is little evidence of a large oversupply of dwellings, a recovery is projected for 2002, helped by lower mortgage interest rates and the recently expanded first-home owners' grant

Table 5. **Short-term prospects**
Percentage changes

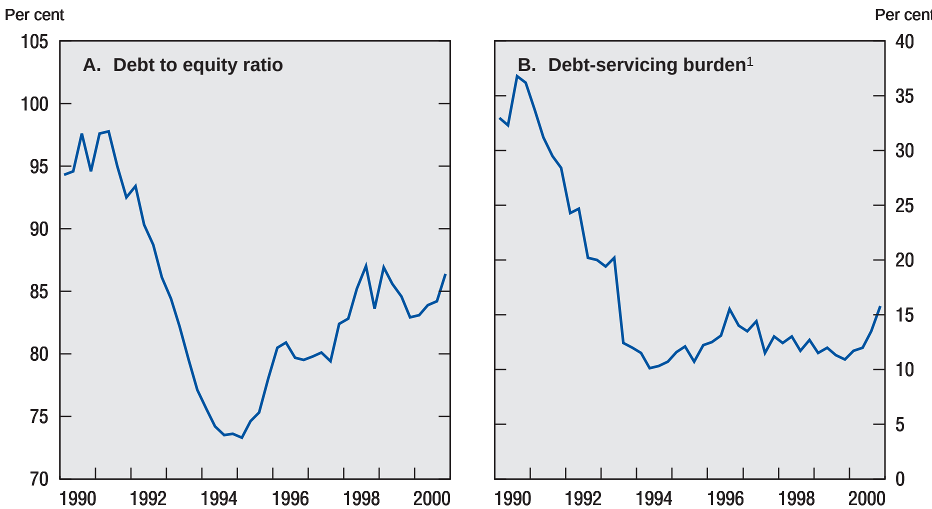
	Percentage share of GDP in 1997 at current prices	1998	1999	2000	2001	2002
A. Demand and output at constant 1998-99 prices						
Private consumption	59.4	4.6	5.2	3.5	2.4	3.2
Public consumption	18.0	4.0	4.8	4.6	2.6	3.1
Gross fixed capital formation	23.1	7.5	6.4	1.1	–1.7	5.7
of which:						
Government	2.3	–1.1	16.6	9.8	4.8	4.3
Private[1]	20.8	8.4	5.4	0.1	–2.5	5.9
Dwellings[2]	4.8	13.7	7.2	0.5	–16.0	8.0
Other building and structures	3.5	28.5	–2.1	–22.8	–4.5	2.7
Machine and equipment and intangible fixed assets	9.1	4.6	5.4	2.6	3.0	5.0
Public enterprises	1.8	–16.9	11.9	–1.3	1.5	2.5
Final domestic demand	100.5	5.2	5.4	3.1	1.5	3.7
Increase in stocks[3]	–0.8	1.8	0.3	–0.6	–0.2	0.2
Total domestic demand	99.7	7.0	5.7	2.5	1.3	4.0
Exports of goods and services	20.5	–0.3	4.5	10.4	7.0	7.1
Imports of goods and services	20.1	6.0	9.3	7.4	3.7	7.5
Change in foreign balance[3]	0.3	–1.3	–1.1	0.4	0.6	–0.2
Statistical discrepancy	0.0	–0.2	–0.0	0.8	0.1	0.1
GDP	100.0	5.6	4.7	3.7	2.0	3.8
B. Other items						
Private consumption deflator		1.0	0.6	2.6	3.0	2.3
Employment (LFS definition)		1.8	2.3	2.9	1.0	1.8
Unemployment rate (per cent)		8.0	7.2	6.6	7.4	7.2
General government financial balance		0.6	1.0	–0.2	0.1	0.3
Current balance (A$ billion)		–28.9	–35.2	–26.2	–18.9	–18.3
Current balance (per cent of GDP)		–5.0	–5.8	–4.0	–2.8	–2.5

1. Including public trading enterprises.
2. Including real estate transfer expenses.
3. Contribution to changes in real GDP (as a percentage of real GDP in the previous period).
Source: OECD Secretariat.

from the Commonwealth government. Notwithstanding the recent decline in the corporate sector's gross operating surplus, company profitability remains high and corporate balance sheets are in good shape, which is reflected in a comparatively low debt-servicing burden, even after its recent increase (Figure 10). Lower interest rates, the rebound in commodity prices and the low exchange rate make investment in the commodity sector particularly appealing.

Overall, domestic demand is likely to grow less rapidly in 2001, at 2 per cent, but then pick up to almost 4 per cent in 2002. The current account deficit should narrow further, from 4 per cent of GDP in 2000, to about 2½ per cent

Figure 10. **Corporate gearing**



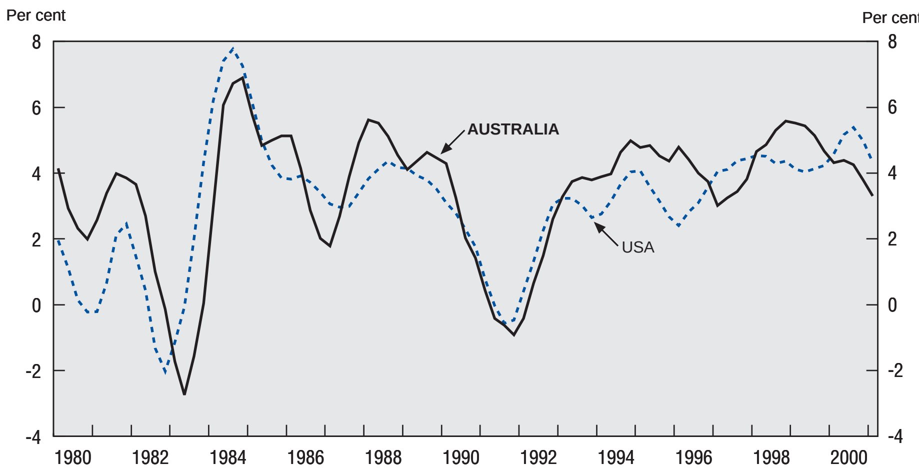
1. Interest payments as a per cent of corporate gross operating surplus.
Source: Reserve Bank of Australia.

in 2002. Headline annual inflation is bound to be high until mid-2001 but, with unemployment rising somewhat, underlying inflation is expected to stay comfortably within the RBA's 2 to 3 per cent inflation target band. Wage increases are projected to remain moderate.

Given the weight of the US in the global economy and the observed close correlation of US and Australian GDP growth (Figure 11), a hard landing of the US economy is the main risk to the outlook. However, Australia seems reasonably well prepared to cope with such a situation and should be able this time to uncouple to a certain extent from the US cycle. The ICT sector is not such an important component of the Australian economy, while Australian equity prices do not exert such a marked impact on demand as in the United States (Figure 12). An additional risk relates to the possible lagged inflationary effects from exchange rate depreciation, induced by an unwinding of profit margin compression. Conversely, there is the possibility of a stronger-than-projected pick up of the growth of private consumption and housing investment, on the back of the significant income tax cuts and higher social transfer payments from tax reform and the substantial fall in lending interest rates in 2001.

Figure 11. **Business cycles in Australia and the United States**

Year-on-year percentage changes of 4-quarter moving average of real GDP[1]

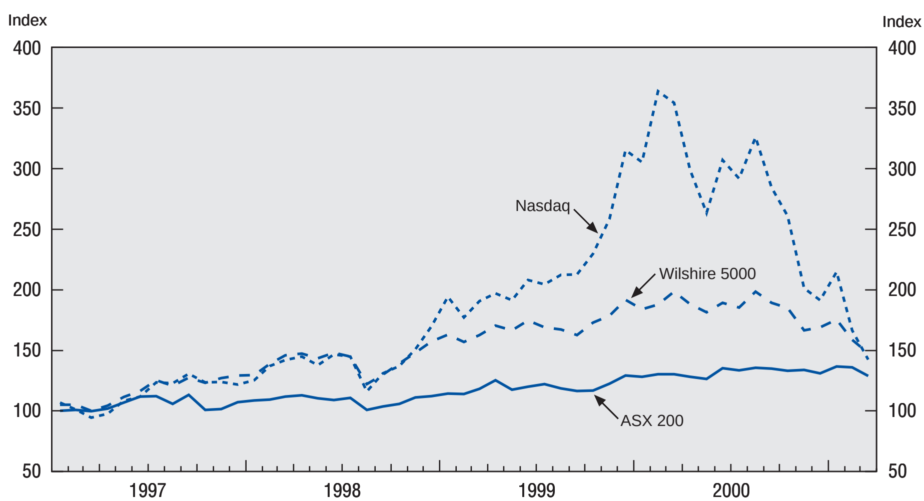


1. Correlation coefficient: 0.75.

Source: OECD.

Figure 12. **Australian and US share prices**

End December 1996 = 100



Source: Bloomberg.

II. Macroeconomic policies and structural fiscal issues

Australia's economic performance over the past nine years owes much to macroeconomic policies which have delivered a favourable climate for growth and structural reform. Operating on the basis of central bank independence and a floating exchange rate regime, the Reserve Bank of Australia's (RBA's) inflation targeting approach has delivered low and stable inflation since the early 1990s. At the Commonwealth level of government, the medium-term framework established in 1996 has contributed substantially to the improvement of general government finances and laid the basis for the cuts in income taxes and increased social transfers as part of the tax reform package implemented in July 2000. In the short term, the challenge is to fashion a policy response which supports activity without compromising the aim of price stability in an economy where the output gap has almost been closed, while preserving budgetary consolidation gains in the face of pressures on public spending. Controlling pension and health spending pose particular challenges. The government's comprehensive reform of the tax system goes a considerable way towards remedying the main shortcomings of the previous tax regime in Australia but still needs to be completed.

The first part of this chapter reviews monetary developments in the context of the long upturn of activity and the abrupt slowing in late 2000. The second section assesses the progress made in fiscal consolidation, the planned profile of future consolidation and the policy implications of paying down the government debt. This is followed by an analysis of the budget pressures arising from an ageing population and associated health costs. The final section reviews the major elements of the recent reforms of the indirect and personal income tax systems, as well as the progress in reforming the business tax system to eliminate existing distortions and provide the country with internationally-competitive tax arrangements.

Monetary policy

With activity slowing and inflation expectations falling, the RBA eased monetary policy between February and April 2001. Moderate wage increases suggest that there are no major second round inflation effects from GST and inflation is expected to come back to within the RBA's 2 to 3 per cent inflation target band over the 2001-02 period. This benign inflation outlook provided the scope for the Bank's actions to boost domestic demand. Prompt supportive action has also not been impeded by the continuing low level of the Australian dollar, which has meant that monetary conditions have not been particularly tight throughout the period under review, especially when account is taken of the improvement in the terms of trade from late 1999. There is a question, nevertheless, as to how long the unambiguously expansionary current stance should be maintained, given the low level of the exchange rate and a marked recent steepening of the yield curve. Continued vigilance will be required to maintain monetary policy consistency with inflation objectives.

Monetary management

The objective of the RBA is to keep the rate of consumer price inflation on average at around 2 to 3 per cent over the course of the business cycle,[5] while fostering sustainable growth in output and employment. When it became clearer in the course of 1999 that the Asian crisis was largely over and that the external environment was improving, a readjustment of monetary policy to a less expansionary setting was considered appropriate, given the unabated strength of the economy. There were also signs of a pick-up in inflation and inflation expectations. Accordingly, the RBA raised the cash rate by a cumulative 150 basis points to 6.25 per cent from November 1999 to August 2000 (Table 6).

The level of the cash rate attained in August 2000 was only a little higher than its average of around 5.8 per cent since 1992, the year which marked the beginning of Australia's low inflation regime. It thus remained significantly below its cyclical peak of 7.5 per cent which had prevailed from late 1994 to mid-1996. Nevertheless, signs of a cyclical downturn of economic activity were emerging at the beginning of 2001, with declining domestic confidence which may have been partly linked to news of a slowing US economy. With the balance of risks altering sufficiently to warrant lending more support to domestic demand, the RBA cut the cash rate by 50 basis points in February 2001. The Reserve Bank's assessment was that, even allowing for possible lagged effects on future inflation of previous declines in the exchange rate, CPI inflation would stay within its 2 to 3 per cent target band over the foreseeable future. GST-adjusted inflation had remained low in spite of substantial exchange rate depreciation and higher energy and raw material prices and it was felt that there was no longer the risk of second-round wage and price inflation effects flowing from GST. When new data confirmed the benign outlook for inflation and signs of further weakening of business and consumer confidence, the RBA decided to cut the cash rate further, by 25 basis points in early March 2001 and by another 50 basis points in early April. This brought the rate down to 5 per cent, the level prevailing last in late 1999 and early 2000.

Table 6. **Changes in official interest rates**
1994-2001

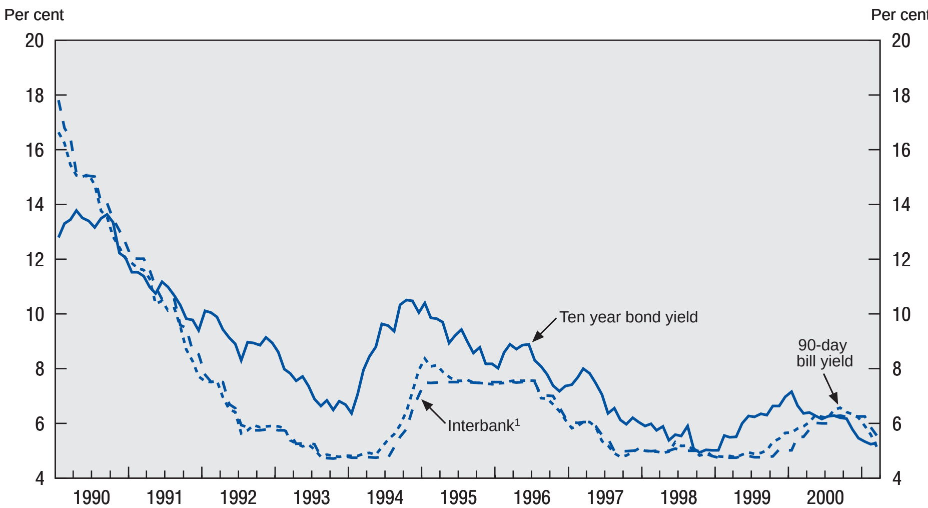
	Change in cash rate	New cash rate target
	Percentage points	Per cent
A. Tightening		
17 August 1994	+0.75	5.50
24 October 1994	+1.00	6.50
14 December 1994	+1.00	7.50
B. Easing		
31 July 1996	–0.50	7.00
6 November 1996	–0.50	6.50
11 December 1996	–0.50	6.00
23 May 1997	–0.50	5.50
30 July 1997	–0.50	5.00
2 December 1998	–0.25	4.75
C. Tightening		
3 November 1999	+0.25	5.00
2 February 2000	+0.50	5.50
5 April 2000	+0.25	5.75
3 May 2000	+0.25	6.00
2 August 2000	+0.25	6.25
D. Easing		
7 February 2001	–0.50	5.75
7 March 2001	–0.25	5.50
4 April 2001	–0.50	5.00

Source: Reserve Bank of Australia, *Bulletin*, various issues.

The credit market

As the Reserve Bank cut interest rates, money market interest rates followed suit and major financial intermediaries responded quickly and lowered lending rates correspondingly (Figure 13). Ten-year bond yields, on the other hand, had already peaked at 7.2 per cent at the start of 2000 and drifted downward – with a minor interruption in the September quarter – throughout the year and into 2001, to 5¼ per cent in the March quarter. The long-term bond yield rose sharply to be above 6 per cent in May. While it followed developments in US capital markets closely, the rise in yield has been slightly more pronounced than in the US, taking the Australia-US ten-year bond differential to around ½ a percentage point (Figure 14). The differential between long- and short-term interest rates – the slope of the yield curve – turned negative in Australia in the second half of 2000, although less so than in the US. The inversion of the yield curve may be taken as an indication of monetary tightness, although it may also reflect a

Figure 13. **Money and capital market interest rates**



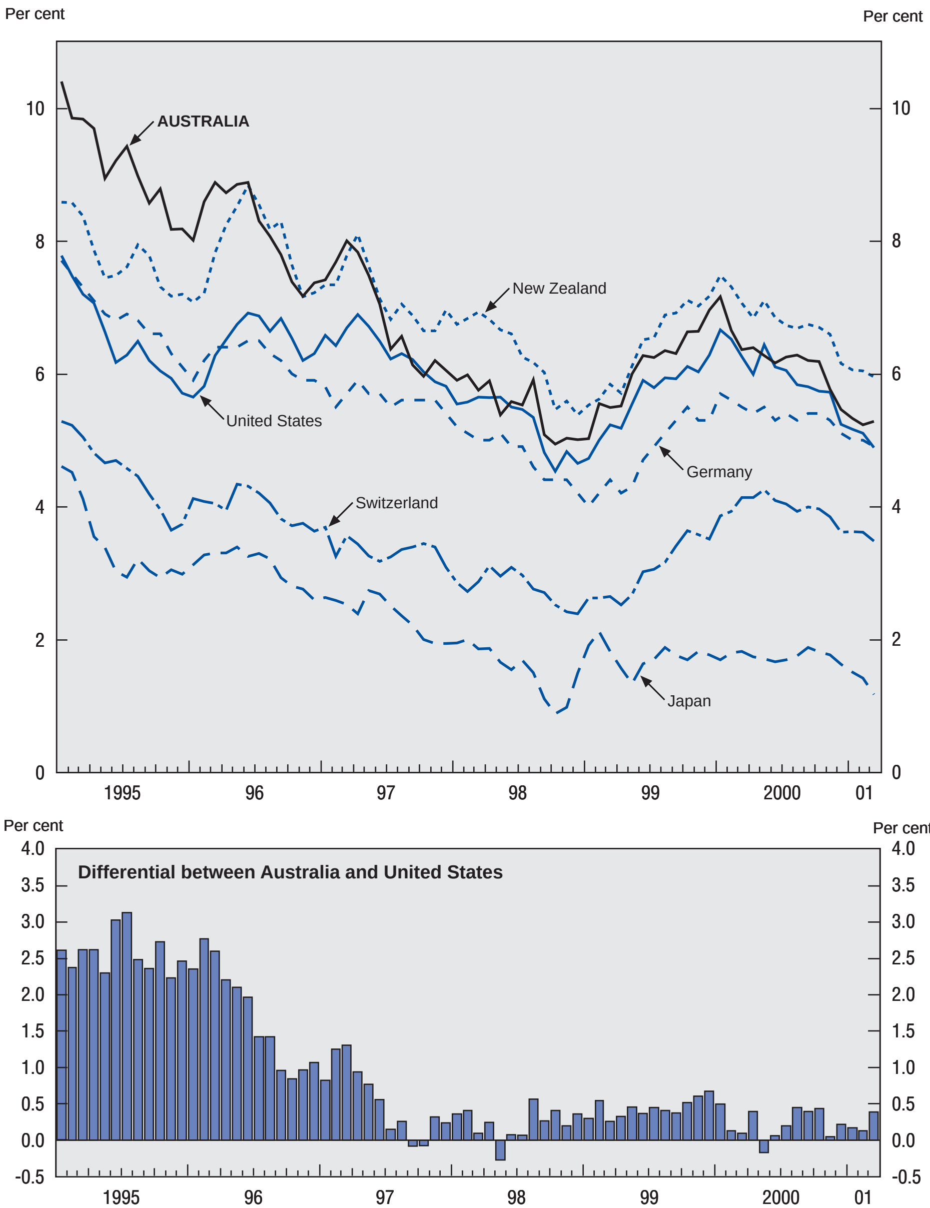
1. Cash market, 11 a.m. call rate.
Source: Australian Bureau of Statistics.

change in capital market sentiment based on longer-term portfolio considerations and inflation expectations. As a consequence of the sharp reduction of short-term interest rates and the increase in bond rates, the slope of the yield curve turned from negative to positive again in April 2001, suggesting an easier monetary policy stance.

Interest rates on standard housing loans from banks, building societies and mortgage managers, as well as on residential-secured loans for personal purposes and for small businesses, all followed the movements in money market interest rates very closely throughout 2000, increasing altogether by 1½ percentage points since late 1999 (Figure 15, Panel A). Interest rates on some large business loan categories increased by somewhat more during that period. On the other hand, interest rates on fixed-rate loans for housing and small businesses had fallen during 2000, reflecting the decline in longer-term market interest rates, which are the basis for the banks' pricing of fixed rate loans.

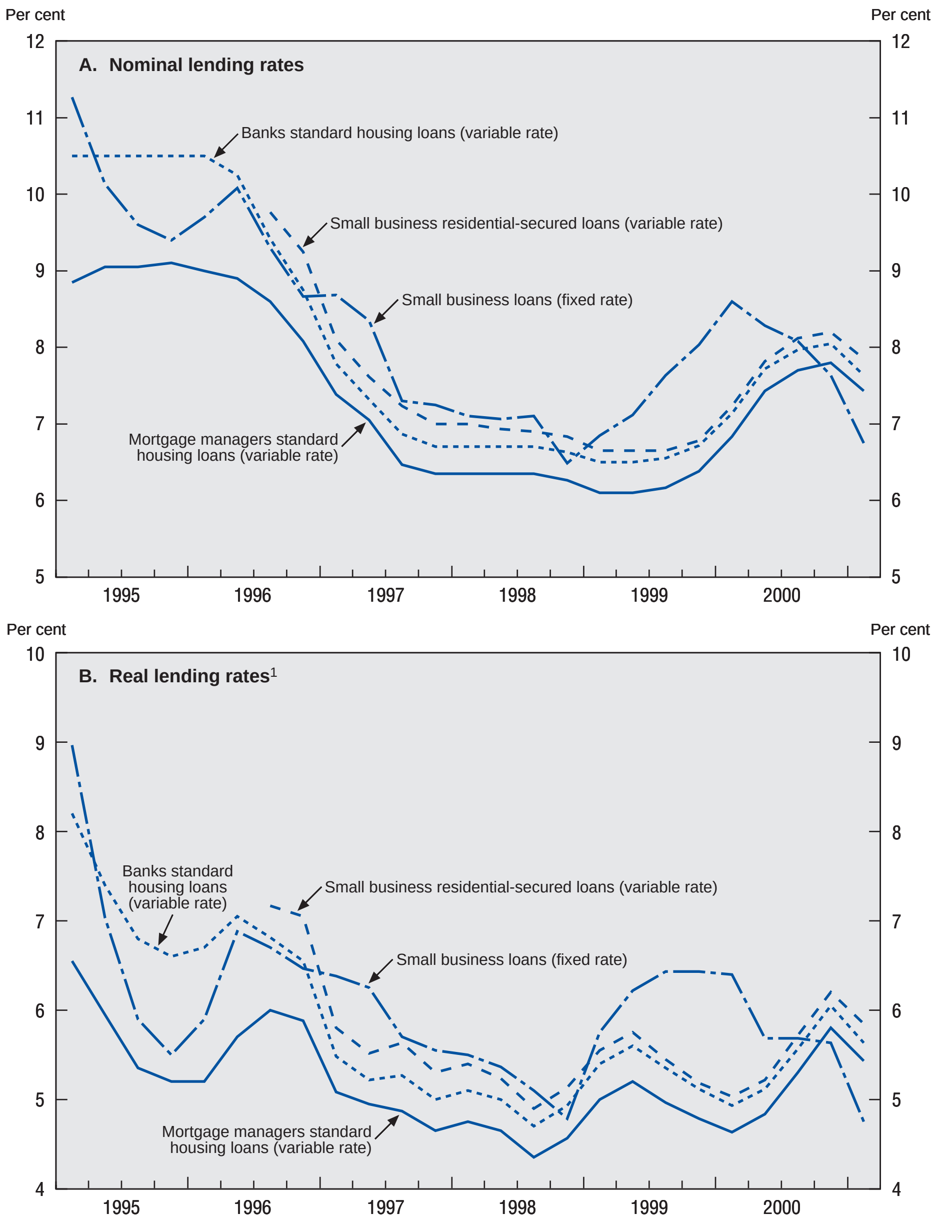
Total credit expansion remained robust in 2000. The very strong growth in the first half-year and the slowing in the second half of 2000 is in part related to tax reform which brought forward investment in new housing in the lead-up to the introduction of GST on 1 July 2000. Business borrowing from financial intermediaries also

Figure 14. **International comparison of long-term interest rates**
Ten-year bond yield



Source: OECD.

Figure 15. **Nominal and real lending rates**



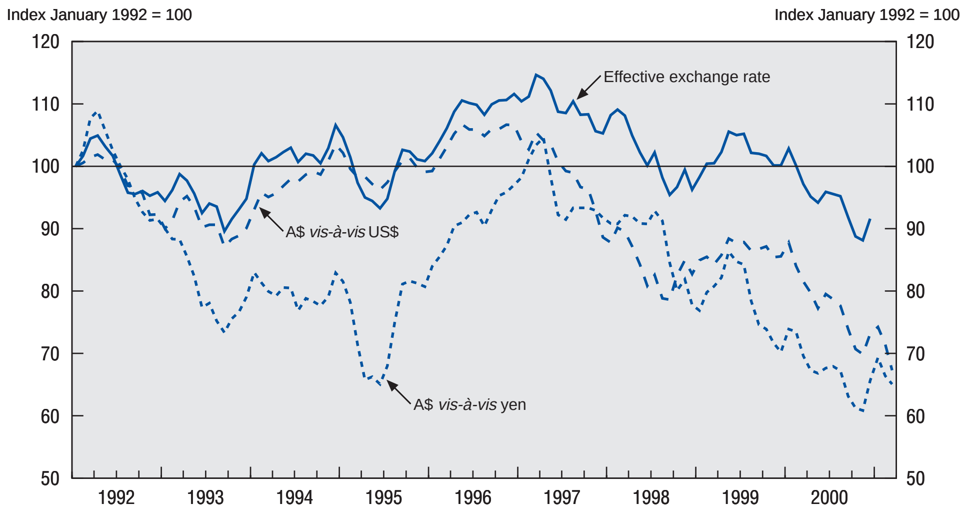
1. Nominal rates less CPI inflation excluding volatile items.
Source: Reserve Bank of Australia and Australian Bureau of Statistics.

decelerated somewhat during the second half of 2000, which in part probably reflects the cyclical weakening of business investment. But part of it also seems due to increased recourse to internal funding out of high profits as well as a move to direct business financing through capital markets. Borrowing by households, primarily for housing, continues to outpace business borrowing, as has been the case for some time. Altogether, total credit growth remained at a solid pace in the second half of 2000 and in early 2001, albeit at the lower end of the range that has prevailed since the mid-1990s. Growth of broad money has been noticeably slower than growth in credit over 2000 and early 2001, reflecting a switch of the funding of financial intermediaries from domestic deposits to foreign sources, which are not counted in the monetary aggregates.

The exchange rate and overall monetary conditions

With little variation in underlying inflation[6] during 2000, most (*ex post*) real lending rates moved roughly in line with nominal rates (Figure 15, Panel B). At the end of 2000, inflation-adjusted lending rates were distinctly higher than in the three preceding years. In general, however, real lending rates did not exceed their averages over the "low inflation period" since 1992, and were significantly below historical norms. Hence, even with hindsight it is difficult to argue that monetary conditions were too tight. In any case, the main thrust of monetary tightening on economic activity would have occurred only with a lag.[7] Combined with a very competitive Australian dollar exchange rate, and the improved terms of trade, current real interest rates make monetary conditions now unambiguously expansionary according to the monetary conditions index.[8] In spite of a generally robust external environment and the recovery of world commodity prices the effective Australian dollar exchange rate weakened substantially in the course of 2000 and into 2001, only interrupted by rather short-lived episodes of strengthening. Indeed, the RBA index of commodity prices increased by close to 11 per cent in special drawing rights terms during 2000 and continued its upward trend in the first four months of 2001, a scenario which in the past was regularly associated with an appreciating Australian dollar. Nevertheless, from early 2000 until April 2001, the Australian dollar lost about one-fifth of its value against the US dollar and 12 per cent in trade-weighted terms (Figure 16). The effective depreciation in 2000 and in early 2001 was largely driven by the US dollar. However, its decline since early 2000 is hard to reconcile with the economy's excellent growth performance[9] – at least until mid-2000 – and the concomitant opportunities it offered to international investors. It thus differs remarkably from earlier episodes of major exchange rate weakness which had occurred against the background of significant adverse external shocks. With price and wage inflation under control in Australia and its major trading partner countries, the fall in the nominal effective exchange rate of the Australian dollar translated into a substantial real effective depreciation.

Figure 16. **Exchange rates**

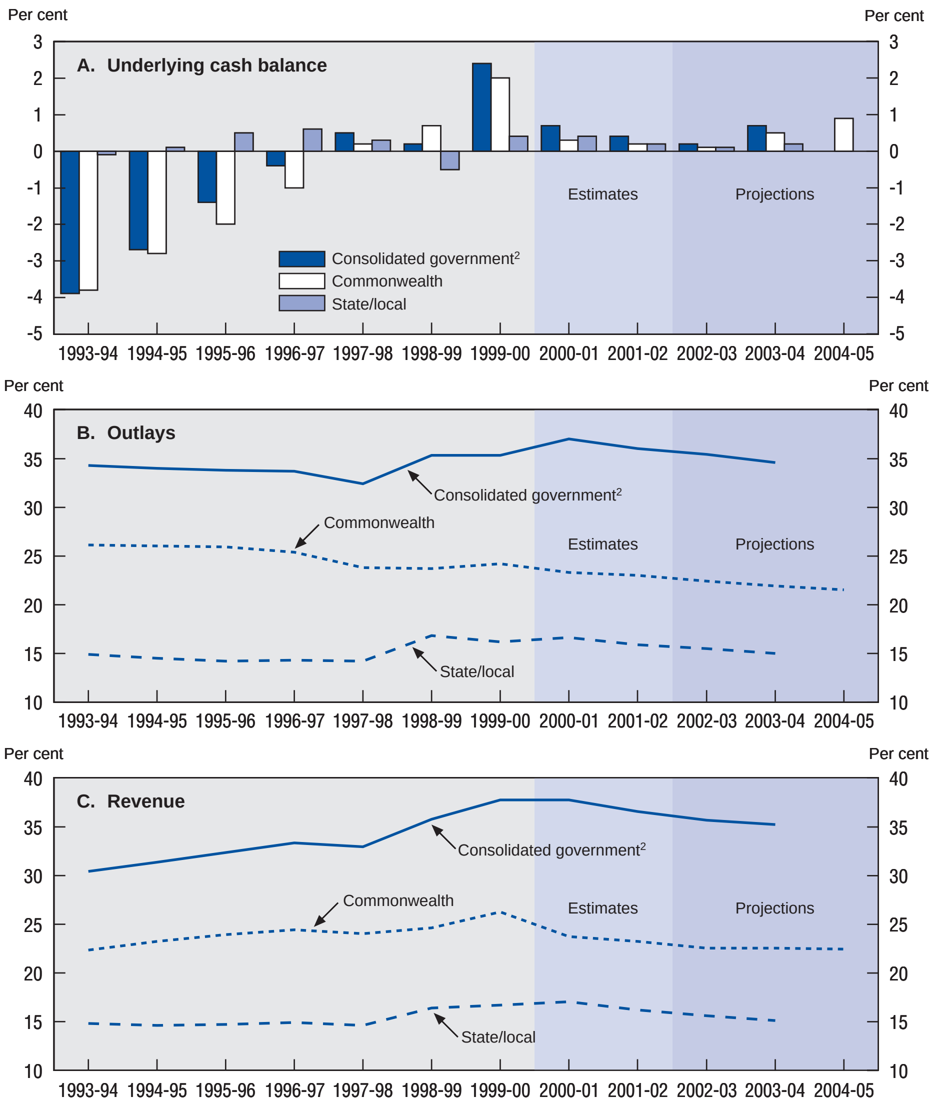


Source: OECD.

Fiscal policy

The priority of fiscal policy since the mid-1990s has been on fiscal consolidation. The Commonwealth underlying cash balance moved into surplus in 1997-98 – one year ahead of the official target – from a deficit of around 2 per cent of GDP in 1995-96 (the Australian budget year runs from 1 July to 30 June) (Figure 17). At the same time, the tax burden has not been increased from its 1996-97 level while the ratio of expenditures to GDP has fallen. The government has surpassed its objective, set in 1996-97, of halving the net debt to GDP ratio by the turn of the century. These achievements have been facilitated by the considerable progress made in putting fiscal planning and management on a sounder basis through the reform of fiscal institutions (see Box 1). The establishment of a medium-term fiscal framework should reduce the risks of fiscal slippage over the period ahead, while helping to lock in the gains of fiscal consolidation. It has not prevented the general government net lending from slipping back into deficit in calendar 2000, but this mainly reflects a number of one-off-factors, especially the introduction of the new tax measures in July 2000. A protracted slowdown could cause problems for the budget. However, in the short term, there is sufficient scope for the built-in stabilisers to be allowed to work.

Figure 17. **Government finance**[1]
As a percentage of GDP



1. There is a break in the series between 1998-99 and 1999-00. Data for the years up to and including 1998-99 are consistent with the cash Australian Bureau of Statistics (ABS) Government Finance Statistics (GFS) reporting requirements. From 1999-00 onwards, data are derived from an accrual ABS GFS framework.
2. Consolidated general government includes Commonwealth, and State/local governments and universities.

Source: Commonwealth Treasury of Australia.

Box 1. Institutional reform and medium-term fiscal strategy

Institutional reform

The *Charter of Budget Honesty* 1998 provides a framework for the conduct of fiscal policy. The Charter requires the Commonwealth government to present its medium-term fiscal strategy with each budget, together with its shorter-term fiscal objectives and targets. The fiscal strategy must be consistent with the principles of sound fiscal management in the *Charter*. These principles include: achieving adequate national saving; moderating cyclical fluctuations; maintaining Commonwealth general government debt at prudent levels; pursuing spending and taxing policies that are consistent with a reasonable degree of stability and predictability in the tax burden; maintaining the integrity of the tax system; and ensuring that policy decisions have regard to their financial effects on future generations.

Transparency has improved, not least, by emphasising the underlying, as opposed to the headline, balance and by requiring the preparation of a *Pre-Election Economic and Fiscal Outlook*. A major element of fiscal reform has been the shift towards accrual budgeting in 1999-2000, discussed in the 2000 OECD *Economic Survey of Australia*, which supports the principles of sustainability and sound fiscal management, as outlined in the *Charter*. The main advantage of accrual accounting is that it enhances transparency by providing a more accurate view of the total activity of government and the long-term repercussions of current policy making. The shift towards the accrual budgeting is also crucial for reforms aimed at improving the efficiency of public expenditures. Based on accrual accounting, the full cost of public provision becomes apparent, and managers can be held accountable for the performance of their agencies in contributing to the achievement of policy objectives. It also allows for a better comparison of the costs of internal provision of services relative to outsourcing.[1]

Medium-term objectives

The central platform of the Commonwealth government's medium-term fiscal policy is to ensure that the budget is balanced over the economic cycle, so as not to aggravate the aggregate saving-investment balance (*i.e.* the current account deficit). Balancing the budget over the cycle means that the structural current account position only reflects the private sector's intertemporal preferences (and possibly those of other parts of the public sector). In addition to providing the government with flexibility in fiscal policy-making in response to economic conditions and external shocks, the "balance-over-cycle" objective ensures that future generations are not left with a rising public debt burden. With the fiscal budget in surplus, the supplementary objectives of the fiscal strategy set out in the 2001-02 budget were:

- maintaining surpluses over the forward estimates period while economic growth prospects remain sound;
- no increase in the overall tax burden from its 1996-97 level; and
- improving the Commonwealth net worth position over the medium to longer term.

Box 1. **Institutional reform and medium-term fiscal strategy** (*cont.*)

The government's objective (introduced with the transition to accrual budgeting) to improve its net asset position over the longer term, emphasises its view that fiscal policy should be sustainable and equitable in an intergenerational sense. A stronger net asset position would help government to manage emerging fiscal pressures more adequately, notably those arising from the ageing population.

1. In March 2000, the Australian Loan Council agreed to a revised Uniform Presentation Framework (UPF) for reporting the accrual budget data by the Commonwealth, State and Territory governments. The accrual UPF will be based on the Australian Bureau of Statistics (ABS) accrual Government Finance Statistics (GFS) framework.

Budget developments in 2000-01

The fiscal position continued to strengthen from 1997-98 to 1999-2000, when the Commonwealth sector recorded its largest ever budget surpluses, of around 2 per cent of GDP, in both underlying cash and accrual terms (Table 7). These outcomes were around 1¼ percentage points higher than the original budget estimates. Both stronger-than-expected tax revenues and lower expenditures contributed to this outcome. However, while growth in the tax base contributed, some of the improvement in the budget surplus was due to one-off events or shifts in the timing of revenues and expenditures, which needed to be compensated for in 2000-01.

The 2000-01 Commonwealth Budget incorporated some fiscal relaxation, projecting a fiscal surplus in accrual terms of 0.8 per cent of GDP and 0.4 per cent of GDP in cash terms, compared with the then anticipated outcomes of 1.5 and 1.2 per cent of GDP, respectively, in 1999-2000. The deterioration can be attributed largely to the substantial income tax cuts and increases in personal benefits from 1 July 2000, introduced to compensate for the "one-off" impact on prices of changes in indirect tax arrangements under *The New Tax System* (TNTS). In net terms, the total TNTS package was expected to reduce the Commonwealth surplus by around 1 per cent of GDP in the fiscal year. The marked decline in projected Commonwealth revenue and expenditures was also a consequence of the introduction of the goods and services tax (GST), the revenue of which accrues to the States and Territories, though it is collected by the Commonwealth on their behalf, and which replaces, *inter alia*, Commonwealth Financial Assistance Grants (see below). At the same time, the budget provided for new spending measures in

Table 7. **Commonwealth government budget developments**[1]

	1999-2000			2000-01			2001-02	2002-03	2003-04	2004-05
	1999-00 Budget	Estimates in the 2000-01 Budget	Outcome	2000-01 Budget	MYEFO[4] 2000-01	2001-02 Budget	2001-02 Budget	2001-02 Budget	2001-02 Budget	2001-02 Budget
Revenue[2] (A$ billion)	**162.7**	**164.7**	**166.6**	**153.5**	**157.6**	**161.0**	**158.8**	**164.9**	**175.5**	**185.7**
***Per cent of* GDP**	**26.3**	**26.2**	**26.3**	**23.0**	**23.2**	**24.0**	**22.6**	**22.1**	**22.2**	**22.1**
of which:										
Total tax revenue	23.9	24.0	24.1	21.5	21.7	22.4	20.9	20.7	20.9	20.9
Income tax	17.8	17.9	18.1	16.9	17.2	17.9	16.7	16.7	16.9	17.0
Total individuals	13.1	13.1	13.1	11.1	11.1	11.4	11.8	11.9	12.2	12.3
Companies	3.7	3.8	3.9	4.6	4.9	5.2	3.9	3.8	3.8	3.8
Superannuation funds and other	1.0	1.0	1.0	1.2	1.2	1.3	1.0	1.0	0.9	0.9
Indirect tax	5.2	5.3	5.4	3.9	3.8	3.8	3.5	3.4	3.3	3.2
Non-tax revenue	2.4	2.2	2.2	1.5	1.5	1.5	1.7	1.4	1.3	1.3
Expenses[2] (A$ billion)	**157.1**	**155.2**	**153.2**	**150.3**	**152.9**	**157.6**	**160.9**	**166.8**	**173.1**	**179.0**
***Per cent of* GDP**	**25.4**	**24.7**	**24.2**	**22.5**	**22.5**	**23.4**	**22.9**	**22.4**	**21.9**	**21.4**
of which:										
Social security and welfare	. .	9.1	9.0	9.7	9.9	10.1	9.7	9.5	9.2	9.0
Health	. .	3.7	3.7	3.7	3.8	3.7	3.8	3.8	3.8	3.8
Education	. .	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Defence	. .	1.6	1.5	1.6	1.7	1.7	1.7	1.8	1.7	1.7
Public debt interest	. .	1.0	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.5
Assistance to state and local governments[3]	. .	3.1	3.0	0.5	0.4	0.8	0.7	0.6	0.5	0.4
Other	. .	4.5	4.4	4.4	4.5	4.6	4.6	4.5	4.5	4.4
Net operating balance (A$ billion)	7.0	9.4	13.4	3.2	4.8	3.5	–2.0	–1.9	2.4	6.7
Net capital investment (A$ billion)	1.6	–0.3	–0.1	–2.2	–3.6	–2.0	–1.2	–0.4	–0.3	–0.2
Fiscal balance (A$ billion)	**5.4**	**9.7**	**13.5**	**5.4**	**8.4**	**5.4**	**–0.8**	**–1.5**	**2.7**	**6.9**
***Per cent of* GDP**	**0.9**	**1.5**	**2.1**	**0.8**	**1.2**	**0.8**	**–0.1**	**–0.2**	**0.3**	**0.8**
Underlying cash balance (A$ billion)	**5.2**	**7.8**	**12.7**	**2.8**	**4.3**	**2.3**	**1.5**	**1.1**	**4.1**	**7.4**
***Per cent of* GDP**	**0.8**	**1.2**	**2.0**	**0.4**	**0.6**	**0.3**	**0.2**	**0.1**	**0.5**	**0.9**

1. On a Government Finance Statistics (GFS) consistent basis.
2. Excluding GST collections and equivalent payments to the States.
3. General purpose inter-government transactions.
4. *Mid-Year Economic and Fiscal Outlook* estimates.

Source: Commonwealth Treasury of Australia and OECD estimates.

high priority areas, including families, health care, welfare, new technology, communications, defence and East Timor. A major new spending initiative was the introduction of an integrated package of measures aiming at improving health care services in regional and rural areas and enhancing the prospects and profitability of the rural sector.

In the *Mid-Year Economic and Fiscal Outlook* (MYEFO), released in November 2000, the government revised upwards its estimate of the Commonwealth Budget surplus for 2000-01 – largely reflecting the impact of expected stronger economic and employment growth on revenues, as well as one-off factors boosting GST revenue. However, the May 2001-02 Commonwealth Budget sees a likely outturn very close to that originally foreseen: a fiscal surplus in accrual terms of 0.8 per cent of GDP, corresponding to a cash surplus of 0.3 per cent. Despite the slowdown in activity, revenue estimates for 2000-01 were revised up by around 2 per cent relative to the MYEFO, mainly due to stronger than anticipated collections of PAYG withholding revenue and company tax revenue, but so too were expenditures. The increase in outlays, by around 3 per cent, largely reflects increased funding for roads, flood relief and the one-off payment to the aged.

On a calendar year basis, the general government fiscal balance is estimated to have slipped into a deficit in 2000, from a surplus of 1 per cent in 1999, reflecting a decline in Commonwealth net saving due to the introduction of the tax reform package, and an increase in government current spending of around 10 per cent. On a fiscal year basis, the general government underlying cash surplus is estimated to have fallen to 0.7 per cent of GDP in 2000-01, with the State/local sector recording a surplus of 0.4 per cent of GDP.[10] The OECD projects that a small surplus will be re-established in calendar 2001, despite weaker GDP growth, which implies a marked improvement in the structural budget balance.

Budget prospects for 2001-02 and medium-term fiscal strategy

According to the 2001-02 Budget, the Commonwealth fiscal balance is projected to move into a small deficit in 2001-02 in accrual terms, returning to a surplus in 2003-04, while the underlying cash balance is expected to remain in small surplus in 2001-02. The weaker fiscal outlook primarily reflects new policy initiatives and the slowdown in output growth in the second half of 2000. Commonwealth government revenue for 2001-02 is now forecast to be A$ 2.2 billion lower than the mid-year estimate, mainly due to lower-than-anticipated profit growth, a lower estimate of excise revenue, and policy decisions.[11] Policy measures are estimated to reduce revenue by around A$ 1.1 billion in 2001-02 rising to around A$ 2.2 billion in 2003-04. With respect to outlays, these have been revised upward by around A$ 2.7 billion in 2001-02, increasing to A$ 4.5 billion in 2003-04, largely as a result of new policy decisions and economic parameter variations.[12]

Australia's present fiscal position is sound enough by international standards to create scope for the automatic stabilisers to work in periods of weaker growth (Figure 18). The cyclical sensitivity of the budget is, in any case, below the OECD average (a 1 per cent change in the output gap leads to a change of 0.3 per cent in net lending as a percentage of GDP, compared to 0.5 per cent for the OECD average) (van den Noord, 2000). In this context, the significant fiscal consolidation in recent years was considered as providing the scope for fiscal policy to be supportive of growth in 2001-02, without threatening the medium-term fiscal objective of a balanced budget over the course of the economic cycle.

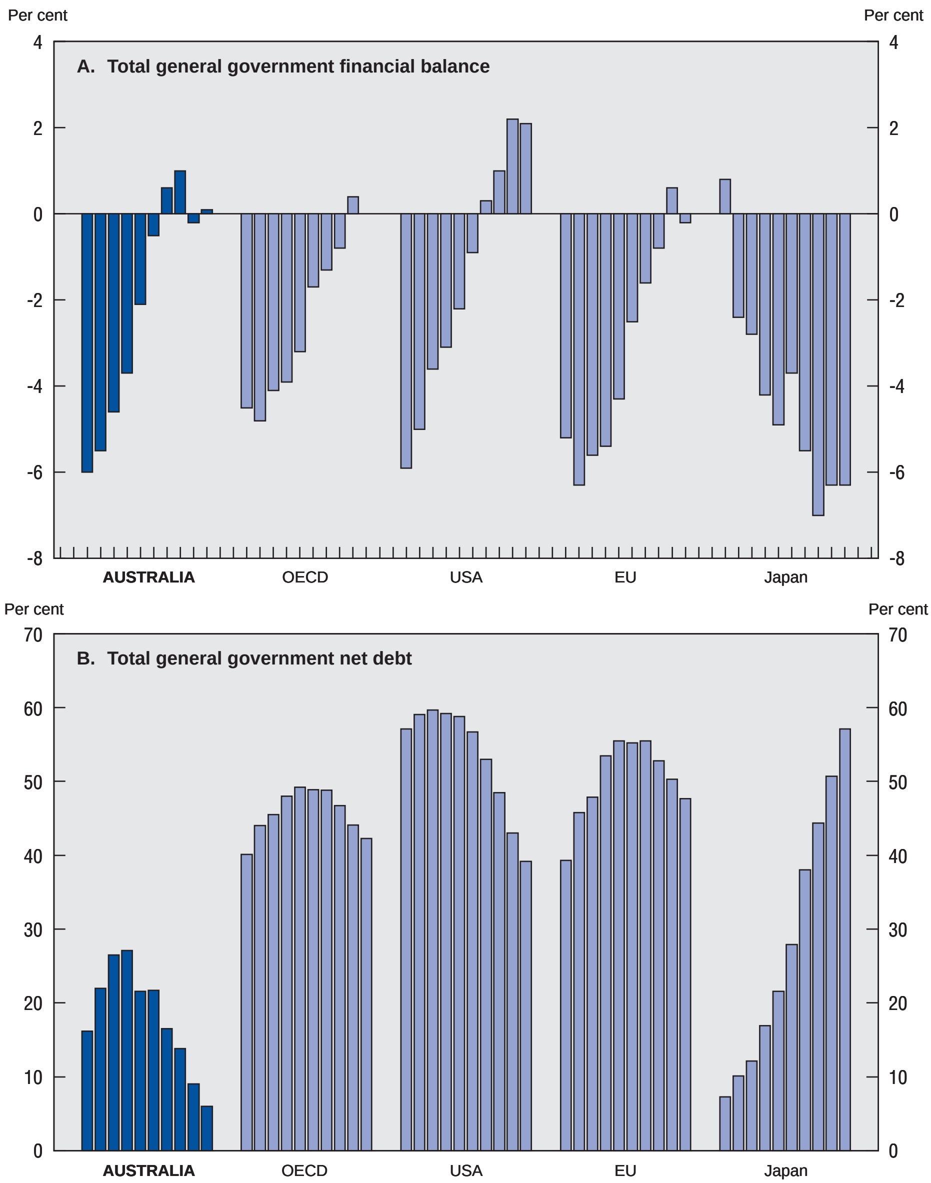
Medium term debt issues

Commonwealth net debt has fallen sharply since the mid-1990s, from a peak of almost 19 per cent of GDP in 1995-96 to an estimated 5.4 per cent of GDP in 2001-02, thereby surpassing the government's target to halve the ratio from its 1995-96 level (Figure 19). About one-third of this reduction is attributable to budget surpluses, with the remaining reflecting large asset sales, which have in general been used to retire debt. Commonwealth net debt is expected to continue its downward trend, helped by fiscal surpluses in prospect, and the budget projects its elimination by 2004-05 on the assumption that proceeds from asset sales – the privatisation of the telecommunications company Telstra in particular – materialise as projected (Table 8). The privatisation of Telstra is now foreseen for 2003-04 to allow time for the implementation of the new measures in the 2001-02 budget aiming at improving telecommunication services, particularly in rural and regional areas. The net worth position of the government is also set to improve, reflecting both expected operating surpluses and revaluation effects associated with the proposed sale of the government's remaining share of Telstra.[13] The decline in net debt for the State/local government since the mid-1990s has been similar to that for the Commonwealth, reducing the sector's net debt to an estimated 0.2 per cent of GDP in 2000-01. The general government net debt as a share of GDP has fallen sharply from a peak of 25 per cent in 1994-95 to around 6 per cent of GDP in 2000-01.

The envisaged elimination of the Commonwealth net public debt within a period of three to four years raises the issue of how best to invest budget surpluses between reducing gross liabilities and accumulating financial assets. A key question here is one of debt management in an environment of declining net debt, in particular whether it would be necessary to maintain a minimum level of gross public debt. The argument against a complete elimination of the gross debt is that an active government debt market can only be sustained with a minimum volume of debt issuance. Maintaining a minimum level of gross debt would reduce the future costs of rebuilding the government bond market infrastructure when the ageing population is expected to put pressure on the government's net debt position (see below). Moreover, the absence of a liquid government debt

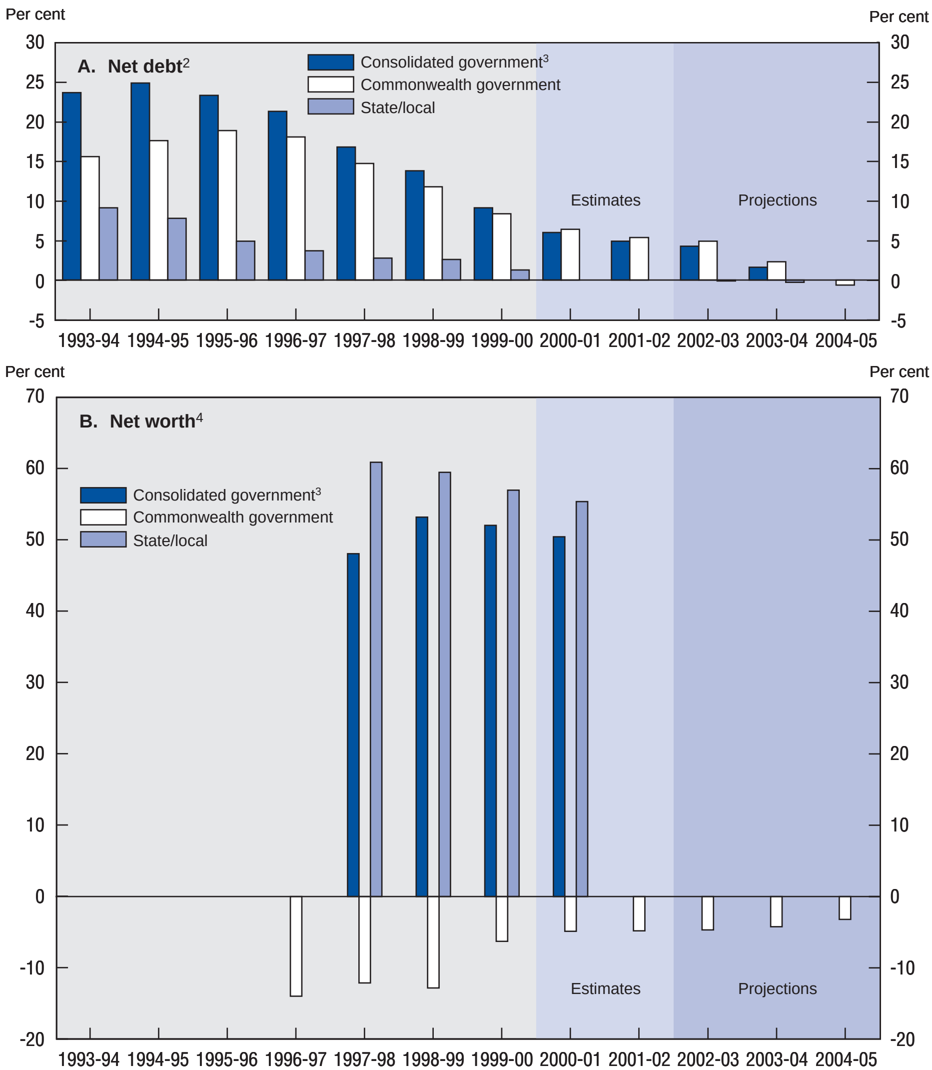
Figure 18. **Total general government financial balance and net debt: an international comparison**

As a percentage of GDP, by decade from 1992 to 2001



Source: OECD.

Figure 19. **Government net debt and net worth**[1]
As a percentage of GDP



1. As at the end of financial year.
2. Includes the impact of the further sale of the government's shareholdings in Telstra.
3. Consolidated general government includes Commonwealth, and State/local governments and universities.
4. Net worth is calculated as assets minus liabilities minus shares and other contributed capital. There is a break in the asset series in 1999-2000 as a result of the revaluation of Telstra at market value and the reclassification of expenditure on defence weapons platforms in that year.

Source: Commonwealth Treasury of Australia.

Table 8. **Commonwealth net debt in the absence of asset sales**
A$ billion

	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05
Net debt	53.1	42.8	37.7	36.6	17.9	–4.7
Proceeds from asset sales – financial		2.5	1.7	0.7	0.7	0.6
Proceeds from asset sales – non-financial		6.3	3.3	0.0	14.3	14.3
Net debt excluding asset sales[1]	53.1	51.6	51.5	51.1	47.4	39.7

1. Net debt excluding asset sales in each year is the estimated net debt for that year plus the cumulative proceeds from asset sales since 1999-2000.

Source: Commonwealth Treasury of Australia.

instrument could impede the functioning of the private bond market.[14] For example the government bond and bond futures markets provide a means by which syndicate underwriters can hedge their interest-rate exposure while a new issue is being launched.

In light of the advantages of maintaining a minimum level of gross public debt, the Commonwealth government will continue its strategy to retire as much debt as is compatible with the maintenance of a liquid and efficient government bond market. In the context of the funding programme, the government envisages the issuance of a new benchmark Treasury Bond with a 2013 maturity before the end of 2000-01, which will assist in maintaining the length of the yield curve and ensure, in the longer term, a smooth progression of available stocks into the 10-year bond futures contract. It will apply the remaining budget surpluses to the acquisition of financial assets. The *Financial Management Legislation Amendment Act* 1999 gives the Treasurer powers to invest public monies for the purpose of managing the public debt of the Commonwealth. The government is contemplating the possible classes of assets that it would be appropriate to purchase. An option that could be considered is the securitisation of unfunded public pension liabilities.

Ageing issues

Impact of an ageing population on pensions

The need for fiscal policy prudence is heightened by the fact that the ageing of the Australian population will increase outlays on health, aged care and pensions. In 1997, "the aged" – those 65 years or more – accounted for 12 per cent of population, and this share is expected to rise to 22 per cent by 2031. Increased transfers to the elderly will put pressures on government budgets in the medium-term although, as noted in the 1999 OECD *Economic Survey of Australia*, less so than in most other OECD countries, despite a similar rise of the share of elderly in the total population. Pension expenditures in Australia are projected to increase by 1½ percentage points of GDP by the middle of the century, to around 4½ per cent of GDP. This increase is modest by international standards, as the tax-funded public pension ("Age Pension") only covers the first pillar of retirement income arrangements and is means-tested, while the compulsory funded superannuation scheme, known as the Superannuation Guarantee (SG), is slowly maturing, thereby reducing average entitlements to Age Pension.[15] The Age Pension and Superannuation systems combined provide Australians, especially low-income earners, with replacement rates above frequently-used benchmarks. The replacement income rates are estimated to rise over time, as the superannuation element matures.[16]

Given the government's commitment to maintain the single rate of Age Pension at 25 per cent of male total average weekly earnings, the main options for preventing the projected rise in pension expenditures are to increase the compulsory superannuation contributions,[17] which would reduce average Age Pension entitlements, or increase the proportion of the population participating in the workforce. Alternatively, if adequate budget surpluses can be sustained, this would allow the cost of increased pension outlays to be absorbed without the appearance of fiscal strains.

A risk to the projected rise in public pension outlays arises from the relatively weak interaction between the Age Pension and superannuation aspects. The current arrangements provide the opportunity in the retirement system for taking a private benefit[18] and then "double dipping" from the public Age Pension once the private assets are dissipated, thereby increasing the amount of Age Pension entitlements. The gap between the preservation of age 55 (*i.e.* the age until which the benefits must be preserved in a superannuation fund to qualify for concessional tax treatment) and that required for access to Age Pension, namely 65, under the current system, increases the scope for individuals to dissipate superannuation benefits, often as a lump sum, and/or place them in a form which is sheltered from Age Pension means-testing, before reaching age 65. Even though "double-dippers" are estimated to be a small percentage of the retired population and there is only little evidence of a significant non-investment use of the superannuation lump-sums, the rise in public pension outlays could be larger than expected if a greater proportion of superannuation assets were dissipated earlier (*i.e.* an increase in double dipping). To ensure that superannuation benefits are used to finance retirement income, the government has legislated a phased increase in the "preservation age" from 55 in 2015 to 60 by 2025.[19] The long-term threat to pension outlays from double dipping could be further reduced by raising the preservation age for superannuation benefits to that required for access to the Age Pension (*i.e.* 65). The 2001-02 Budget removed the requirement for unemployed persons aged between 55 and pensionable age to draw upon superannuation while unemployed for lengthy periods; this change should reduce the dissipation of superannuation before qualifying for the age pension. In addition, individuals should be encouraged to take their superannuation benefits as an income stream, maximising self-reliance.[20] Recent data from Australian Prudential Regulation Authority for 2000 show that approximately 78.5 per cent of superannuation benefits were paid as lump sums. As discussed in the 1999 OECD *Survey*, limiting the value of owner-occupied housing that is exempt from the age pension means test, as well as simplifying the arrangements for the taxation of superannuation benefits and their treatment in the Age Pension means test could be particularly beneficial in this regard.

The policy emphasis in recent years has been on improving competition and efficiency in the superannuation system, particularly by enabling employees to select the fund to which their future contributions are paid. The choice of fund regime represents a very significant change to the administrative arrangements for superannuation. The government considers that, when implemented, this measure will lead to improved returns on superannuation savings and lower fund administration charges, and will enhance employees' control over their superannuation savings. These benefits are expected to outweigh a potential increase in costs due to factors such as higher marketing and administrative costs, associated with the transfer of members, and legal costs. To achieve these objectives, the choice of fund initiative should be backed by accurate and relevant information, together with the portability of superannuation benefits (*i.e.* the ability of members to transfer existing superannuation benefits between funds). The government is working on issues related to portability.

The government has also taken steps towards simplifying the regulation of superannuation, by legislating, in 1999, the establishment of a new category of small funds – with fewer than five members ["Self-managed Superannuation Funds" (SMSFs)].[21] These funds are subject to a less onerous prudential regime, because their members are fully involved in the decision-making process of the fund, thereby being in the position to protect their own interests.[22] Simplifying the tax treatment of superannuation saving remains a challenging reform process, which the government envisages taking up once the ongoing GST and business tax reforms bed down and reforms in the financial services have been implemented. An important policy issue concerns the appropriate taxation point for superannuation saving. This has always been intended as a tax-preferred investment, with tax concessions being provided as a stimulus for retirement saving and an offset to "locking up" of superannuation benefits until preservation age.[23] However, while contributions paid by the employer are tax deductible under the current framework, superannuates are taxed at three stages: contributions, fund earnings, and benefits (Table 9). Funds must pay a concessional tax in respect of contributions received and fund earnings and benefits are also taxed concessionally. The existing arrangement is complex and may reduce the incentives for private pension accumulation.

Table 9. **The taxation of superannuation**[1]

Type of scheme	Type of contribution	Contributions	Fund income	Benefits[2]
Funded	Employer	Tax deductible up to age-based contribution limits.		Lump-sum: – undeducted contributions, untaxed; – first part of taxable benefit, untaxed (A$ 100 696 in FY 2000-2001);[3] – excess to RBL (A$ 506 092 in FY 2000-2001)[3] taxed at 15 per cent; – excess over RBL taxed at highest personal marginal tax rate.
	Employee	Limited tax deductions if no employer support. Rebate if earnings below A$ 31 000. Otherwise not tax deductible or rebatable.	Contributions: deductible contributions taxed at 15-30 per cent. Otherwise not taxed.	
	Spouse contributions[4]	Maximum rebate of A$ 540 for spouse contributions.		Pension/annuity: – UPP untaxed;[5] – up to RBL (A$ 1 012 181 in FY 1998-99)[3] taxed as ordinary income less 15 per cent rebate;[6] – excess over RBL, taxed as ordinary income, no rebate.
	Self-employed	Limited tax deductions.	Earnings: taxed at 15 per cent.	
Unfunded[7]	No contributions		No income.	Lump sum: – as above +15 per cent for benefits below RBL. Pension/annuity: – as above with no rebate.

1. Transitional provisions ignored.
2. Only applies where preservation age of 55 is reached. Otherwise higher taxes on benefits.
3. Indexed to average weekly ordinary time earnings.
4. Information supplied by the Treasury.
5. UPP – the undeducted purchase price – refers to that part of the purchase price of a pension or annuity which has not been claimed as a tax deduction.
6. Rebate equal to 15 per cent of taxable annuity/pension.
7. Including funded but constitutionally-protected schemes.

Source: Based on Bateman, H. and J. Piggott (1997), with amounts supplied by the Treasury and the inclusion of reference to the spouse rebate.

Alternative options could include the taxation of benefits upon retirement only, although this amendment would imply deferring tax collections until the current superannuation guarantees-covered generation of employees retire, or a reduction in tax on fund earnings. Reducing the tax on fund earnings could encourage workers to remain longer in the labour force, or if they have chosen to retire, to preserve their accumulated superannuation savings longer, by increasing the expected increment to their accumulation. Changing the tax treatment of contributions, by making the contributions paid directly by employees to superannuation deductible, as is the case of employer contributions, could also be considered. Employee contributions are typically made out of after-tax income. Such contributions are outside the Superannuation Guarantee system and are, in general, not deductible except in the case of employees with no employer superannuation support, who are entitled to a tax deduction for contributions up to the employer contribution limits, and those with employer support but earnings below a certain threshold. By encouraging high employee contributions, such an amendment could improve both savings and replacement rates.[24]

Health care costs

Health care costs could pose a more serious long-term threat to government finances. Health-care related expenditure can be expected to rise as the population ages, due to the more intense usage of health care services by the elderly. Population ageing could contribute about 0.6 percentage points of annual growth in health expenditure over the next two decades. Overall, on the assumption that the age-adjusted per capita health expenditures grow by 2 per cent per annum and that long-term labour productivity growth remains at around 1.5 per cent per year, total health costs (both public and private) could rise to 15 per cent of GDP in 2041 (Table 10). This represents a doubling in the ratio from the current position. The estimated increase (of 6.5 percentage points of GDP) far exceeds the projected base case rise in pensions (of 1.5 percentage points).

The expected ageing of the population raises issues of how much expenditure on long-term aged care may rise in the future, and of the potential budgetary costs of such an increase. The government plays the leading role in planning and funding this type of care, which comprises residential care (nursing homes and hostels) and community services delivered in, or to, the homes of aged persons. Based on the results of a recent study by the Productivity Commission, total long-term aged care cost is projected to rise in real terms by over

Table 10. **Projections of total health costs under various assumptions**
Per cent of GDP

Productivity growth, per cent per annum	Real annual growth rate in age-adjusted per capita health expenditures			
	2031		2041	
	1 per cent	2 per cent	1 per cent	2 per cent
1	10.7	15.9	11.7	19.1
1.25	9.8	14.5	10.4	17.0
1.5	8.9	13.2	9.3	15.1

Source: RIM Unit, Commonwealth Treasury of Australia.

Table 11. **Long-term aged care projections**
Per cent of GDP

Year ending 30 June	Total long-term aged costs	Nursing home costs	Hostel costs	Community Aged Care Packages (CACPs) costs	Home and Community Care (HACC) services costs	Carers' pension costs
1997	1.10	0.59	0.23	0.01	0.17	0.02
2001	1.01	0.52	0.23	0.03	0.16	0.02
2006	0.99	0.48	0.24	0.03	0.16	0.02
2011	0.99	0.46	0.26	0.03	0.16	0.02
2021	1.19	0.55	0.31	0.04	0.19	0.03
2031	1.38	0.65	0.36	0.04	0.22	0.03

Source: Madge, A. (2000).

145 per cent between 1997 and 2031. In terms of GDP, however, the share of long-term aged care expenditure is expected to increase by only 0.4 percentage points of GDP between 1997 and 2031.[25] Depending on the rate of GDP growth, these findings imply that the long-term cost of aged care services is unlikely to place a heavy strain on the budget (Table 11). However, such an increase would take place in the context of other increased social expenditure, most notably on acute hospital care.[26] A number of reforms were introduced over the past two decades, aimed at containing the growth in nursing home places and shifting the balance of care toward more appropriate and less costly alternatives, in hostels and the community.

Current funding and provision arrangements focus on providing for a gradual move to nationally uniform subsidies for high care residents (mostly provided by nursing homes) by 1 July 2006 (nationally uniform subsidy rates for low care (hostel) residents are already in place). This process of "funding equalisation" aims to bring funding into line with relative costs and to make the funding system simpler, more effective and fairer in the long term. A move towards the pre-funding of long-term care, through insurance (private or a hypothecated increase in Medicare Levy) or increased superannuation contribution (which would have to be preserved until long-term care was required or death of the beneficiary), as suggested in the 1999 OECD *Survey*, could be considered as a further policy option. Nevertheless, even though the direct effects of population ageing on health-care outlays might be manageable, pressures arising from health-related expenditure could pose a serious long-term risk to government finances, due to high growth in real age-adjusted expenditure per person.

A number of reforms have been undertaken to address the expenditure pressures in health care and to ensure the long-term viability of the Medicare system, which were discussed in detail in previous OECD *Surveys*. Recent reform efforts have focused on the introduction of measures to increase participation in private health insurance in order to ease the financial burden on Medicare, Australia's universal public health system, and to ensure that Australians have a greater choice among health options, as well as access to high quality health care. Private health insurance coverage had declined to 30.6 per cent of the population by 30 June 1998 compared to around 50 per cent at the time of the introduction of Medicare in 1984, reflecting the lack of cost control in private hospital fees and health insurance premiums. In order to encourage participation and improve choice for consumers, the Commonwealth government introduced a 30 per cent non-means-tested rebate on the full costs of private insurance premiums – applicable from 1 January 1999. It is estimated that, if the 30 per cent rebate had not been implemented, the numbers of people with private health insurance would have dropped to around 20 per cent by 2005. As a result of the incentives provided by the government, through the rebate and other reforms,[27] participation in private health insurance was increased to 45.1 per cent of population by March 2001.

A major policy initiative for the promotion of private health insurance has been the introduction of the "Lifetime Health Cover" scheme, which enables health funds to charge different premiums to people, depending on the age at which they first joined a health fund. Lifetime rating is designed to encourage people to join a health fund early in life and maintain their membership.[28] The new scheme maintains the principles of community rating system, but should eliminate "hit and run" membership, reduce costs over time, reward early and continued private health insurance membership, and counter the problem of "adverse selection". Lifetime Health Cover could also help in addressing the intergenerational problem of an ageing population.

It is still early to assess the effectiveness of the new measures in maintaining high inflow rates to private insurance and in easing the financial burden on Medicare. The efficiency justification for a policy of subsidies to the private sector through a health insurance rebate is uncertain. The rebate may "effectively" be a subsidy to the private health insurance,[29] and the goal of reducing pressure on public hospitals could alternatively be met by directly funding public hospitals. However, containing the growth in outlays and preserving the sustainability of the health system in the longer run probably necessitates achieving a better balance in the private/public mix of the financing and delivery of health and aged care, and proceeding with further reforms in areas where a high growth in real age-adjusted expenditure per person is occurring, particularly in care provided on a fee-for-service basis under Medicare and in the Pharmaceutical Benefits Scheme. The inclusion in the 2000-01 Budget of measures aiming to improve the management of Pharmaceutical Benefits Scheme medications, and to enhance the monitoring of pharmaceutical benefits entitlement, is a positive step in this direction, as are initiatives to ameliorate health services in rural and regional areas and to support further medical research.

Completing the tax reform agenda

In addition to its focus on consolidation, fiscal policy has aimed at enhancing economic efficiency and economic growth through a comprehensive reform of the tax system. The tax reform package announced in August 1998 aimed to solve the problems of excessive reliance on a range of inefficient indirect taxes and tax bases in long-term decline, such as the wholesale sales tax, while reducing high marginal effective tax rates for many low-income individuals and households, which creates poverty traps. It also aimed to simplify the complex and inefficient financial arrangements among different levels of governments and address high tax compliance costs and the inconsistent treatment for tax purposes of business entities and their investment operations.

The main features of *The New Tax System* (TNTS), implemented on 1 July 2000, are recapped in Box 2. The New Tax System goes a considerable way towards remedying the above-listed shortcomings of the previous tax regime in Australia. The substantial shift from specific indirect taxes to a general indirect tax broadens the tax base and should increase allocative efficiency. Moreover, by taxing imports but exempting exports, the GST avoids distortions in consumer choice between imported and domestically-produced goods and services that would otherwise stem from international tax rates differentials. The transfer of the entire GST revenue to the State governments grants them a more reliable and buoyant source of revenue. While the introduction of a broad-based goods and services tax represents a substantial improvement over the previous system, the gains from reforms in the indirect tax system could have been greater if the distorting and narrow-based payroll tax, which is under the jurisdiction of the States, had also been covered. In addition, some benefits of the reforms proposed in the 1998 tax package were lost in a compromise to get the Senate's approval. Two especially unfortunate aspects of the compromise were the exemption of basic food from the GST and the delay in the abolition of some harmful State indirect taxes, especially the tax on bank account debits. The modifications to the tax package did not affect, however, the inroads into high marginal effective tax rates on low income earners envisaged in the original version of the package. Moreover, the new arrangements for tax administration should enhance the flexibility of the business payments, by aligning payments more closely to their income receipts and trading conditions. At the same time, the new measures should reduce the scope for tax avoidance by facilitating cross-matching between GST and income tax information. However, TNTS needs to be evaluated in terms of its potential for lower administration and compliance costs, although such an evaluation should take into account the transition costs of the introduction of the new system.

The government is now in the process of implementing reform of the business taxation system, announced in September 1999, in response to the recommendations of the Review of Business Taxation Committee (1999), chaired

Box 2. The New Tax System (TNTS)

The TNTS introduces a 10 per cent goods and services tax (GST) to replace the wholesale sales tax and a range of State based taxes, such as accommodation taxes.[1] The GST is broad-based, covering most goods and services, the main exceptions being basic food, most health services, education, childcare, and local government rates and charges.

All GST revenue will accrue to the State governments, as a compensation for the removal of a range of narrowly based State indirect taxes and the abrogation of the Commonwealth General Financial Assistance Grants. The States have been guaranteed by the Commonwealth that, in each of the transitional years following the introduction of the GST, their budgetary positions will be no worse than in the absence of the tax reforms. The GST revenue will be distributed between the States according to horizontal fiscal equalisation principles recommended by the Commonwealth Grants Commission. These principles take into account differences in State revenue mobilisation capacity and their expenditure needs based on national standards of service delivery.

An income package has been introduced to offset the effects on the cost of living resulting from the introduction of the GST. The package provides for cuts in the personal income tax rates, delivered through an increase in the tax-free threshold and reductions in marginal tax rates; increases in family assistance; and assistance for low income and older Australians. These measures ensure that most low- and middle-income individuals will benefit from an increase in real disposable income after adjusting for changes in the indirect taxation. The compensation package delivers personal income tax cuts worth A$ 12 billion per year. As a result, more than 80 per cent of taxpayers are estimated to have a marginal tax rate of just 30 per cent or less, compared to 30 per cent of tax payers previously. In addition, by increasing exemption thresholds for families to A$ 28 200 and lowering the benefit withdrawal rates (from 50 per cent to 30 per cent), the package reduces the marginal effective tax rates for low income working families from 85.5 per cent to 61.5 per cent over a substantial range of income, thereby reducing the disincentives for work. The package also delivers increased assistance of A$ 2.4 billion a year to over 2 million families, from 2000-01. It further provides for a 4 per cent increase in all pensions and allowances, ensuring that pensioners and other recipients will be 2 per cent better off than they otherwise would have been, regardless of the impact of the GST on prices.

There is a simplification of the number and administration of benefits available to families.

Tax administration is simplified through: *i*) the replacement of all existing income tax collection and reporting systems, with a new, integrated "Pay As You Go" (PAYG) system; *ii*) the introduction of the Australian Business Number (ABN), as a single business identifier; and *iii*) the introduction of a new simplified system for reporting tax obligations and entitlements.[2] PAYG is a single, integrated system for reporting and paying withholding amounts, tax on business and investment income, and the GST. It replaces 11 existing systems, including Pay as

Box 2. **The New Tax System (TNTS)** (*cont.*)

You Earn (PAYE), prescribed payment system (PPS), reportable payments system (RPS), provisional tax and company instalments. PAYG's main advantage is that it aligns payment dates for different types of taxes. Under PAYG both individuals and companies pay tax on their business income tax at the same time. The new arrangements enable business to make one net payment (after offsetting credible amounts, such as diesel fuel credits and GST input credits), or to claim one net refund, quarterly, and abolish provisional tax and the uplift factor. Companies will have to pay tax earlier than in the old system, but the effect of the earlier payments will be more than offset by the GST cash flow benefits for all but larger firms.

1. Financial Institutions Duty (FID) and stamp duties on marketable securities are planned to be abolished in July 2001. The time limit for abolishing the debits tax (on bank accounts) has been postponed to 1 July 2005 and is subject to a review by the Ministerial Council for Commonwealth State Financial Relations. The need for retaining a range of other business stamp duties will also be reviewed by the Ministerial Council by 2005.
2. The new arrangements aim at reducing the number of times businesses have to report to the Australian Taxation Office (ATO). Under the new tax system, businesses who are registered for GST can use the "Business Activity Statement" (BAS) to report and pay their obligations for GST and PAYG instalments. Business not registered for GST, or individuals who have to pay PAYG instalments (such as self-funded retirees), can use an "Instalment Activity Statement" (IAS) for reporting and paying their PAYG obligations. The government has announced on 22 February 2001 that it would further simplify the PAYG system and streamline the GST payment and reporting arrangements for small business.

by Mr. Ralph. Reforms to the business taxation system have been driven by concerns that business entities and the investment they conduct are treated inconsistently in the existing system. It proposed to address these issues by: *i*) applying company tax consistently to certain companies and trusts; and *ii*) possibly, by reconsidering the tax treatment of certain forms of business investment. The reforms, overall, are base-broadening and the extra revenues are available to finance a reduction in the company tax rate and to provide relief from capital gains tax. *The New Business Tax System* reduced the company tax rate from 36 per cent to 34 per cent in 2000-01 (to fall further to 30 per cent thereafter), being funded, in part, by the replacement (except for small business) of accelerated depreciation arrangements with an effective life system. It also introduced a simplified and internationally-competitive capital gains tax regime, which should improve capital mobility (see Annex I).

In line with the recommendations of the Board of Taxation, a "staged" implementation strategy has been adopted for the remaining elements of the business tax reform package. The provisions to come into effect on 1 July 2001 include a simplified tax system for small firms, a unified capital allowances system and changes to thin capitalisation rules. The business tax system will be improved further, with the implementation on 1 July 2002, of a consolidated income tax treatment for groups of wholly-owned companies, designed to correct problems of high compliance costs, tax-avoidance through intra-group dealings, value shifting, double deductions and double taxation. The government has also given in-principle support to the radical recommendation of the Review of Business Taxation to introduce the "tax value method" for determining taxable income, although the specific date for its implementation is still pending.[30] It has decided, however, following consideration of submissions received,[31] not to proceed with the draft legislation on entity taxation. Instead, there will be further consultations on principles which can protect legitimate small business and farming arrangements whilst addressing any tax abuse in the trust area. This work should proceed with some urgency, given the risk of tax abuse that exists in the area of non fixed, or discretionary, trusts.[32]

A persisting problem with Australia's business tax system is the widening gap between the top marginal personal income tax rate and the company tax rate, which risks encouraging the redefinition of personal income as company income. Individual taxpayers can shelter their personal income from taxation within personal companies or non-fixed trusts, where it is taxed at a flat 30 per cent rate, well below the 47 per cent (or 48.5 per cent including Medicare levy) top marginal rate of personal income. This problem could be addressed by introducing a withholding tax on undistributed profits (*i.e.* the portion of the income of the private company and/or non-fixed trust income not distributed to shareholders, beneficiaries or partners). Such an approach would reduce opportunities for tax deferral and avoidance. The government has recently moved to address tax avoidance opportunities which arise in part as a result of the gap between the company tax rate and the top personal marginal rate.[33]

III. Progress in structural reform

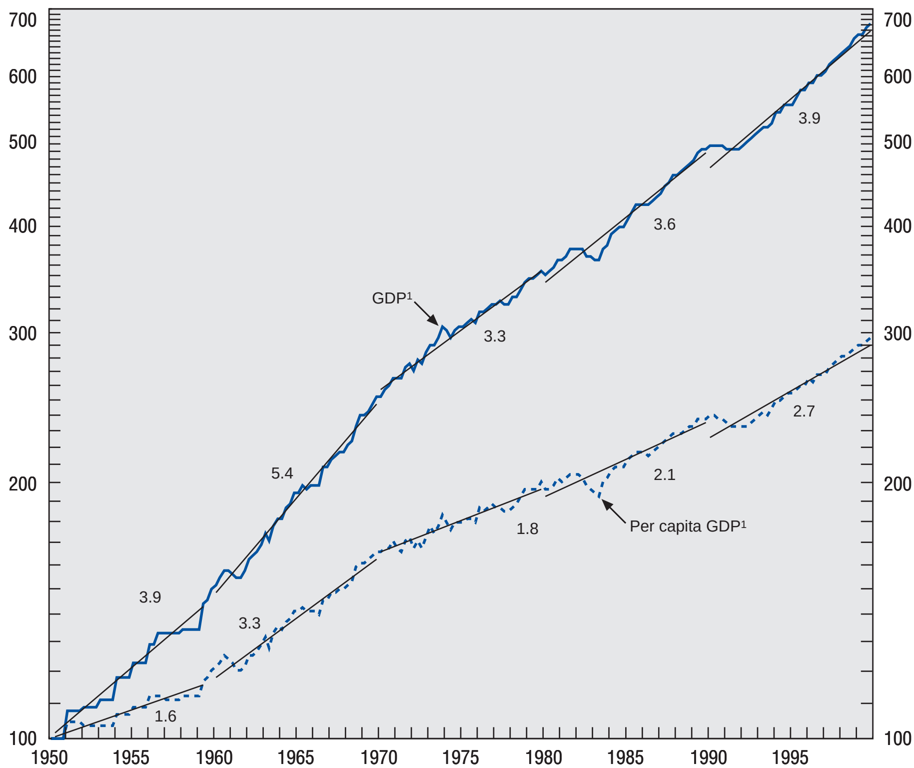
Following a decade of substandard economic performance, Australia embarked on a series of comprehensive structural reforms from the mid-1980s. These addressed financial markets, industry assistance, taxation, government enterprises, regulation, labour markets and industrial relations, competition policy, innovation and education and training. Collectively, these reforms aimed at improving the allocation of resources and raising overall productivity by encouraging flexibility in the economy on a broad basis, and fostering a more outward-oriented business culture. The causal connection between structural reforms and productivity growth are difficult to establish beyond doubt. But during the long economic upswing which began in mid-1991, Australia's real GDP per capita increased noticeably faster than in the preceding two decades (Figure 20), helped by a significant acceleration in the growth of both labour productivity and multi-factor productivity (MFP) in the market sector[34] (Figure 21). This chapter begins by discussing the possible link between structural reforms and the productivity pick-up of the 1990s; it then assesses the completeness of the reform programme and the areas requiring further action.

Microeconomic reforms and productivity

Is *there a link between structural reforms and the productivity pick-up of the* 1990s?

The pick-up in multifactor productivity growth was most pronounced in the period from 1993-94 to 1999-2000, when it even outperformed the high-productivity episodes in the second half of the 1960s (the earliest period for which MFP data are available) and the first half of the 1970s. Much of the overall productivity pick-up was due to the marked improvement in capital productivity, which declined by an annual rate of 0.3 per cent in the 1990s, but had fallen by an average annual rate of 1.3 per cent per year during the 1980s. This improvement implied a more efficient use of the aggregate capital stock, which has offset much of the diminishing return from capital deepening. Detailed analysis of the Productivity Commission attributes the improved capital productivity to better allocation of investment, greater specialisation, and better management practices and work arrangements.

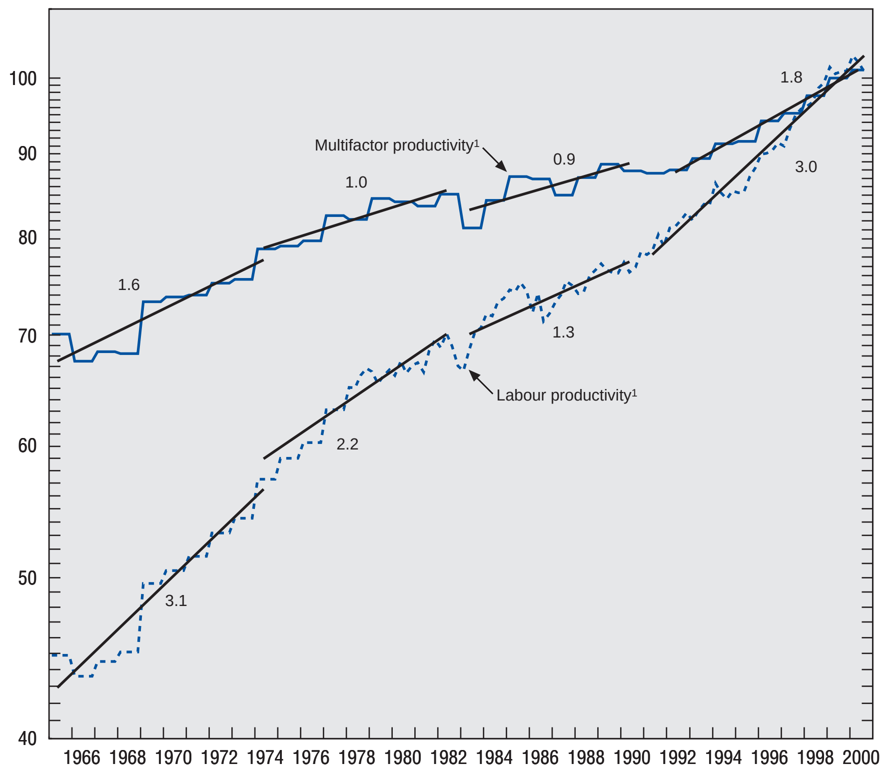
Figure 20. **Real GDP**
1950 = 100, log scale



1. The figures in the diagram are average growth rates during the periods defined by the straight lines.
Source: Australian Bureau of Statistics.

The impressive productivity performance of the Australian economy since 1993-94 is all the more remarkable against the background of the East Asian currency and banking crisis, which became apparent from mid-1997. *Prima facie*, the crisis should have hit Australia particularly hard, given its greater trade exposure to the crisis-affected region than most other OECD countries. But in spite of the strong trade relations with the troubled region, Australia's productivity growth stayed well ahead of nearly all other OECD countries (Figure 22), demonstrating the economy's capacity to respond flexibly to a serious external shock.

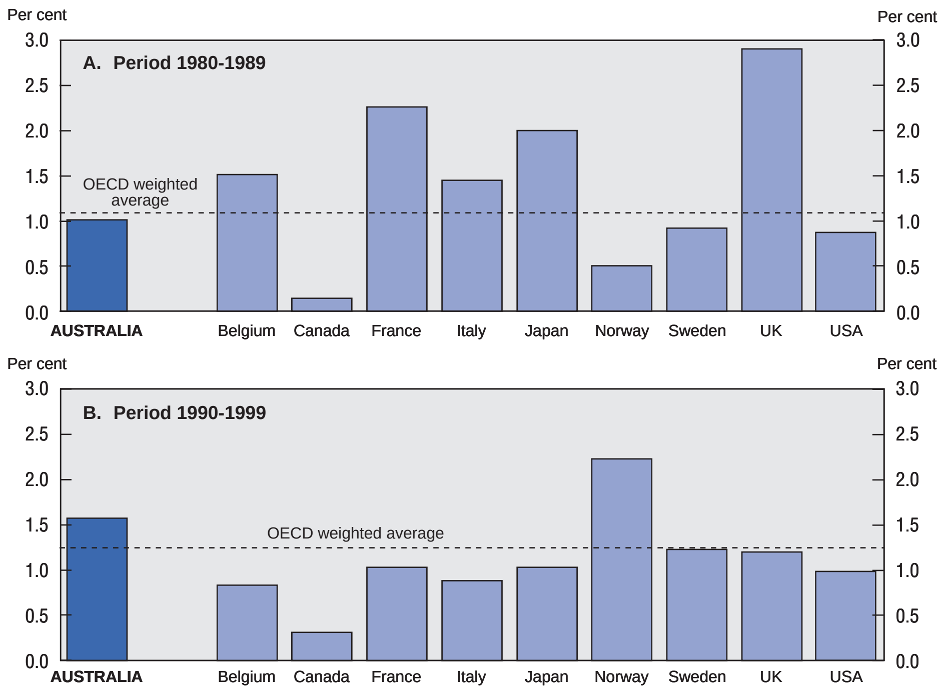
Figure 21. **Productivity in the market sector**
1998/99 = 100, log scale



1. The figures in the diagram are average growth rates during the periods defined by the straight lines.
Source: Australian Bureau of Statistics.

Given the expected lags between the implementation of reforms and their impact on the behaviour of individuals and the reallocation of resources, the timing of the pick-up in multifactor productivity growth in recent years makes its interpretation as response to the broad range of microeconomic reforms of the 1980s and the 1990s highly plausible.[35] A possible and most obvious alternative explanation would be to interpret it as a cyclical phenomenon, but a comparison of the 1990s with preceding decades suggests that the productivity surge of the 1990s contains a sizeable non-cyclical component. This is so because each of

Figure 22. **International comparison of multifactor productivity**
Average annual growth rate



Source: OECD.

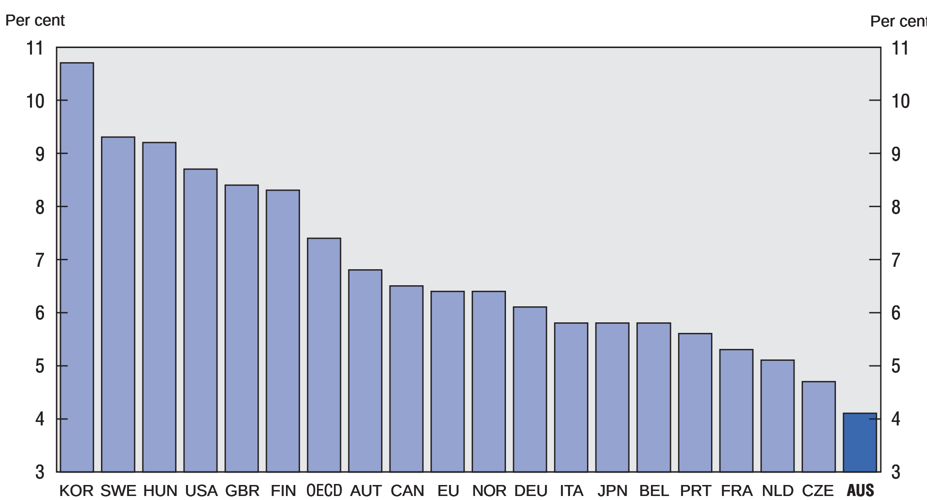
the last four decades included one major recession and a similarly long cyclical upswing, which was interrupted by a short-lived mid-cycle slowing of economic growth. Given this cyclical similarity, much of the productivity differentials between the calendar decades should be a reflection of changes in underlying (or trend) productivity. In fact, econometric studies which control for the pro-cyclical effects of the business cycle on short-term productivity measures support the notion of a significant trend increase in multifactor productivity in the 1990s.[36]

Is *the "new economy" the story?*

An alternative hypothesis would relate the accelerated productivity growth in Australia in recent years, along with the United States, to the "new economy", *i.e.* aggregate efficiency gains from the production and economy-wide use of information and communication technologies (ICT). For example, one much-quoted study[37] attributes about half of the 1 percentage point step-up in US productivity growth between the first and the second halves of the 1990s to the *production* of computers and semiconductors, even though this sector accounted for only about 2½ per cent of the total output of the US non-farm business sector in 1996-99. However, the contribution to Australia's productivity growth provided from technical progress in the *manufacturing* of information-technology products should be relatively small as Australia produces only small quantities of computers, computer peripherals and telecommunications equipment (Figure 23). Indeed, Australia may be characterised as a "low ICT producing country", its share in the total business sector being around 4 per cent and 2½ per cent for value added and employment, respectively (compared with equivalent numbers in the United States of 8½ and 4 per cent).

The *use* of information and communication technology should have given a boost to Australia's productive capital stock and thus contributed to the recent leap in the growth of productivity. Strong competition in the market for information-technology has entailed a rapid fall in the price of computing power, which implies a transfer of some of the benefits generated from the strong productivity growth in the production of computers and related equipment to the users of

Figure 23. **Value added in the ICT sector**
Share of ICT value added in total business sector



Source: OECD.

information technology. A recent application of the growth-accounting framework to Australia[38] arrives at a share of 1.3 percentage points of the 4.1 per cent annual average growth of labour productivity during the 1996-99 periodmechanically attributed to the production and use of ICT (Table 12). Of the acceleration of labour productivity growth by 2 percentage points from 2.1 per cent in 1991-95 to 4.1 percentage points in 1996-99, the increase attributed to the more intensive *use* of information technology would amount to 0.4 percentage point, the same magnitude as in the United States. However, it is striking that the productivity acceleration in Australia in the 1990s was not part of a world-wide productivity boom, which leaves the question open as to why the benefits of new technologies should have had such radical impact on the Australian economy but not to most other OECD economies (Figure 24). Moreover, even if the results of the growth accounting exercise are taken at face value, there remains a substantial residual in

Table 12. **Contribution of information technology to labour productivity growth**

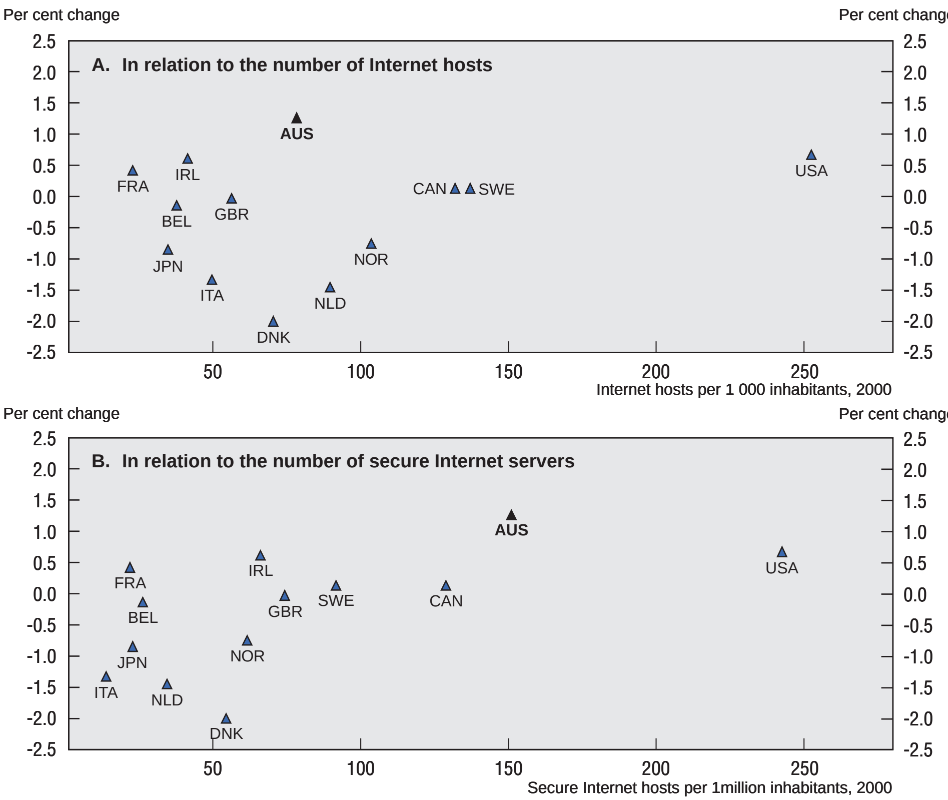
Per cent

	Australia		United States	
	Market sector		Non-farm business sector	
	1991-95	1996-99	1991-95	1996-99
Annual labour productivity growth	2.1	4.1	1.5	2.6
Contribution from:				
Information technology	0.9	1.3	0.5	1.0
Hardware	0.4	0.8	0.2	0.6
Software	0.5	0.5	0.2	0.3
Communications	n.a.	n.a.	0.1	0.1
Other capital	0.4	0.6	0.1	0.1
Labour quality	n.a.	n.a.	0.4	0.3
Multifactor productivity growth	0.8	2.2	0.5	1.2
Income shares				
Hardware	2.0	2.5	1.4	1.8
Software	2.5	2.7	2.0	2.5
Communications	n.a.	n.a.	1.9	2.0
Other capital	36.2	35.8	26.8	26.7
Labour	59.3	59.0	67.9	66.9
Annual growth rates of inputs				
Hardware	21.2	32.6	17.5	35.9
Software	20.4	17.0	13.1	13.0
Communications	n.a.	n.a.	3.6	7.2
Other capital	1.1	2.5	1.6	2.8
Labour	–0.1	0.7	1.2	2.2

Notes: The contribution from the "communications" capital stock in Australia is included in the "other" category, and there is no adjustment for labour quality. The time periods shown are those used by Oliner and Sichel (2000). Australian results are from Simon (2001); United States results from Oliner and Sichel (2000).

Source: Gruen (2001).

Figure 24. **Acceleration in multifactor productivity[1] in relation to Internet hosts and servers**



1. Change in growth rates of multifactor productivity between 1990-95 and 1996-98.
Source: OECD.

the analysis of the productivity acceleration in the 1990s in Australia – indeed, by far the largest part – which cannot be readily explained by the increased use of information technology. This suggests that Australia's productivity surge was "home-made".

Other features of the Australian productivity pick-up also suggest that it is unlikely to have been driven by the same factors which appear to have been at work in the United States. First, unlike the United States, where productivity moved to a high and sustained growth path only in 1996, comparatively late in the economic cycle, Australian productivity picked up in 1992, at the beginning of recovery. If the "information-technology story" applied, this would mean that the benefits from ICT became evident in Australia faster than in the technological leader, the United States. Another distinguishing feature of the improvement with the two countries' productivity performance is that in the United States it was mainly the boost in manufacturing productivity which shaped the overall productivity performance while the acceleration was more broad-based in Australia and occurred outside of the manufacturing sector. Altogether, the evidence available so far adds weight to the view that structural reforms undertaken in Australia during the past two decades were instrumental to the accelerated growth of overall productivity in the 1990s, even in the absence of an unambiguous direct link between particular microeconomic reforms on the one hand and productivity outcomes on the other.

What about sectoral productivity performance?

Sectoral multifactor productivity estimates by the Australian Productivity Commission (Table 13) suggest that manufacturing productivity growth was substantial from the 1980s up to the early 1990s and provided the greatest contribution to aggregate multifactor productivity growth. To a large extent, this was probably a result of growing competitive pressures from the liberalisation of manufacturing imports, which is reflected in the decline in effective rates of assis-

Table 13. **Sector contributions to market sector multifactor productivity growth**

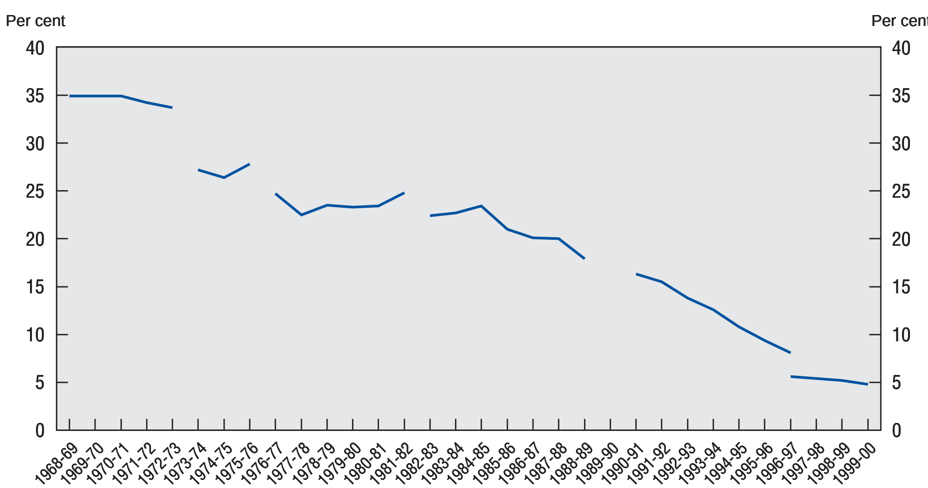
Per cent per year and per cent

	1981-1982 to 1988-1989		1988-1989 to 1993-1994		1993-1994 to 1999-2000	
	Multifactor productivity					
	Growth	Contribution	Growth	Contribution	Growth	Contribution
Agriculture	1.1	10.7	4.3	25.8	2.5	9.0
Mining	3.9	30.9	1.9	13.7	0.8	3.5
Manufacturing	1.6	78.2	1.8	53.9	0.5	7.0
Electricity, gas and water	3.0	16.4	4.0	16.4	1.0	2.3
Construction	–0.8	–13.5	–0.4	–4.2	1.3	7.2
Wholesale trade	–0.9	–15.5	–2.1	–23.1	5.6	30.1
Retail trade	–0.7	–11.3	0.5	5.3	0.9	5.2
Accommodation, cafés and restaurants	–2.7	–16.5	–2.0	–8.0	0.5	1.0
Transport and storage	1.0	16.1	0.6	6.9	2.1	12.8
Communication	4.1	14.0	6.3	19.4	3.3	7.8
Finance and insurance	0.2	2.9	0.0	–0.3	3.7	21.9
Cultural and recreational services	–2.6	–12.4	–1.7	–5.9	–4.1	–8.0
Market sector	0.6	100.0	0.6	100.0	1.7	100.0

Source: Productivity Commission estimates based on unpublished ABS data.

tance for manufactures from about 36 per cent in the late 1960s to some 5 per cent in 2000-01 (Figure 25). During the latest economic upswing, manufacturing productivity growth was distinctly below the average for the whole market sector, possibly because the remaining trade barriers have become less constraining and because many of the positive effects of earlier trade liberalisation on productivity growth had run their course. Other industries, which had also contributed heavily to overall multifactor productivity growth during the 1980s, but which tended to underperform in the 1990s, were mining, and the provision of electricity, gas and water. In their place, wholesale trade (Box 3), finance and insurance, transport and storage, and construction became the new engines of the economy-wide strong overall productivity performance in the 1990s. Hence, much of the rapid advance in productivity in recent years has occurred in the industries classified as parts of the sheltered sector of the economy. Productivity growth is also estimated to have remained above average in the communications industry and in agriculture in the 1990s, although slowing from the high rates recorded in the 1980s.

Figure 25. **Effective rates of assistance for total manufacturing**
As a percentage of value added



Note: Breaks in series represent re-calculation of cost structures, giving different estimates for value added and therefore effective rates of assistance.
Source: Productivity Commission (2000*b*), Trade and Assistance Review 1999-2000, Appendix A.

Box 3. Productivity growth in the wholesale trade sector

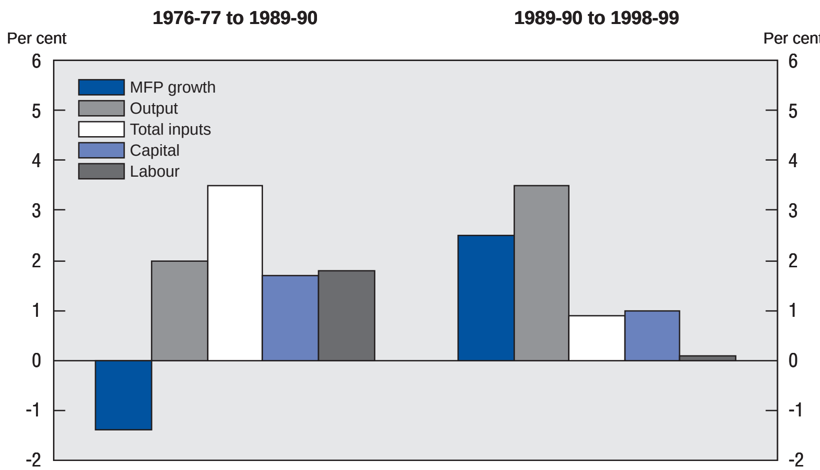
Sectoral multifactor productivity (MFP) estimates published by Parham (1999) were surprising to many as they suggested that productivity growth in the wholesale trade sector[1] was higher than in any other major sector in recent years. With the wholesale sector's current share in GDP of a little more than 5 per cent,[2] this made it the biggest contributor to the economy-wide productivity pick-up during the economic expansion of the 1990s. It was preceded by a decline in wholesale trade productivity in the 1980s and the early 1990s. This widely unexpected performance, together with the paucity of existing analysis of the Australian wholesale sector gave rise to a special investigation by the Productivity Commission into the likely cause of the recent productivity surge in this specific sector.

The study by Johnston, Porter, Cobbold and Dolamore (2000) concluded that the wholesale trade sector underwent a fundamental transformation in the nature of its operations through the widespread adoption of new productivity-enhancing technology in the 1990s. Among them are the use of bar-coding and scanning of products, which were initially introduced by grocery retailers, but later on also became widespread in the wholesale sector. By enabling accurate electronic records all along the supply chain, this technology has reduced inventory levels, the number of times goods need to be handled, as well as the response times of wholesalers to the demand of their customers. In turn, this innovation has led to others, including warehouses which operate with paperless ordering systems, and warehouse management systems which manage all parameters of the contents of warehouses, such as the age of stock, use-by dates etc. Altogether, it moved the sector from a storage-based system to a fast flow distribution network. An important prerequisite for the adoption of the new technology and work organisation were more flexible industrial relations arrangements, which had increased workplace flexibility by reducing demarcations and facilitating the introduction of split shifts. In addition, enhanced competition acted as a catalyst for rationalisation through mergers, acquisitions and firm exits, and outsourcing of non-core functions. All this is reflected in the surge in multifactor productivity over recent years.

1. The wholesale sector comprises businesses which are engaged primarily in the resale of goods to businesses or institutional users, including wholesale merchants who take title to the goods they sell, separate sales branches (not being retail businesses) operated by manufacturing businesses, commission agents, import and export agents, purchasing agents, petroleum distributors, and co-operatives and marketing boards engaged in marketing farm products.
2. In comparison, the share of agriculture in GDP was about 3 per cent in 1998-99.

Box 3. **Productivity growth in the wholesale trade sector** (*cont.*)

Wholesale trade contributions to MFP growth



Source: Productivity Commission.

The outlook for trend productivity

Accepting a causal relationship between structural reforms and improved underlying performance, a question still arises as to whether the slowing of labour productivity growth in 2000 could be taken as an indication that the period of strong trend productivity performance may have come to an end. However, there are good reasons to expect that the recent slowing will be short-lived and be similar to the brief slowdown of the mid-1990s. Many of the beneficial effects of the reforms of the second half of the 1990s have not yet shown in full. Most importantly, though continuation of strong trend productivity depends on the determination of the government to stick to its structural reform agenda. On the basis of this reform agenda, the remaining part of this chapter takes stock of the progress made in structural reform since the previous OECD *Economic Survey of Australia* in those areas not covered by Chapter II; it also seeks to identify what remains to be done. A synopsis of the achievements and deficiencies of structural policies is given in Table 14.

Table 14. **Implementing structural reform: an overview**

Proposal	Actions taken	Assessment/recommendations
I. Increase the flexibility of wages and employment conditions		
– Make further efforts to arrive at a decentralised industrial relations system based on enterprise bargaining.	– Implementation of the *Workplace Relations Act* 1996 (WRA) in early 1997.	– Ease regulatory requirements further so as to encourage comprehensive enterprise agreements (as opposed to "add-ons" to awards).
– Simplify the complex and prescriptive award system.	– The WRA restricts awards to 20 "allowable matters" in order to confine awards to a safety net of minimum wages and core conditions of work.	– Speed up the award simplification progress and reduce the number of allowable matters further.
– Increase in award wage rates should be modest and focus on the low paid, consistent with the intention that awards operate as a safety net.	– May 2000 "Safety-Net Review" delivered an increase in the federal minimum wage of 3.9 per cent.	– Wage increases should reflect the employment prospects of the low skilled.
– Avoid practice of pattern bargaining.	– *Workplace Relations Amendment Bill* 2000 reinforces the focus of agreements on local circumstances.	– Implement rapidly.
– Contain damage from industrial action.	– Draft legislation proposes secret ballots at the workplace to authorise protected industrial action.	– Implement as soon as possible.
– Harmonise federal and state industrial relations systems to reduce compliance costs.	– The Commonwealth Government explores the option of basing industrial relations on the Constitution's corporations power.	– Option should be assessed carefully.
– Reform employment protection legislation, limiting the disincentives to hiring.	– Draft reform law is before the Parliament.	– Consider more general reform of the legislation.
II. Reform labour market assistance		
– Make employment assistance more responsive to client needs and enhance its efficiency by introducing competition into the market.	– The employment services market (*Job Network*) commenced on 1 May 1998, comprising more than 300 private and public government providers.	– Encourage more transparency in the market for vacancies to prevent possible hoarding by Job Matching providers.
– Reform activity-tested income support to promote more active job search	– The Commonwealth Government introduced its Mutual Obligation initiative which makes benefit eligibility dependent on participation in approved activities.	– Co-ordinate Intensive Assistance with Mutual Obligation and Work for the Dole programmes.

Table 14. **Implementing structural reform: an overview** (*cont.*)

Proposal	Actions taken	Assessment/recommendations
III. Improve the education and training system		
– Reform the apprenticeship and traineeship systems to facilitate the development of vocational education and training (VET).	– The *New Apprenticeships Scheme* was introduced in 1997. It is simpler, more relevant, more flexible and more responsive to the needs of users. – Establishment of *The National Training Framework* in 2001 which defines competency standards in line with the *Australian Qualifications Framework*. – User choice was introduced in 1998 to create market-type conditions in the provision of off-the-job training for New Apprentices. – Development of a new Framework for Vocational Education in Schools which spans all years of education.	– There has been considerable growth in structural training arrangements. – VET is becoming better adapted to client needs. – The training market is developing steadily. – Further develop and strengthen pathways from school to work, especially for those young persons most at risk of experiencing difficulty. – Reduce the incidence of early school leaving.
IV. Enhance product market competition		
– Implement remaining parts of the National Competition Policy programme.	– Third tranche of assessment of progress in meeting reform obligations by States is underway, on which phased payments to States will depend. – Review of nearly 1 700 pieces of Commonwealth and State legislation is under progress.	– More progress should be made on reforms affecting small businesses, including agricultural marketing arrangements, taxi licensing, the regulation of professions and mandatory insurance arrangements.
– Enhance efficiency of the rail system, notably by developing a common standard for rail regulation, establishing an access regime for interstate track and privatising the National Rail Corporation.	– The *Australian Rail Track Corporation* was established in 1997 to act as a one-stop shop for inter-state rail operators wanting access to track. The Government privatised the Australian *National Railway Commission*, which *inter alia* operates freight and passenger services. Further asset sales are planned in this context. – The Commonwealth is working with the rail industry and State and Territory governments to establish a mechanism for standardising rail.	– Develop rail system policy in the context of an integrated land transport policy. – Ensure that track owners and train operators face incentives that encourage the efficient development of the rail system. – Implement the process agreed by the Australian Transport Council to harmonise interstate operational regulations. – Review the intergovernmental agreement on mutual recognition of safety accreditation. – Sell *National Rail*, the main interstate freight operator, as agreed in principle by governments.
– Make large cuts in the high tariffs for cars, footwear, clothing and textiles.	– None.	– Recommendation maintained.

Table 14. **Implementing structural reform: an overview** (*cont.*)

Proposal	Actions taken	Assessment/recommendations
V. Reform the health care system to achieve social objectives more efficiently		
– Develop more arrangements for limiting the use of fee-for-service-payment arrangements for medical services.	– Co-ordinated care trials are underway and, if successful, could lead to a further reduction in unnecessary servicing.	– Recommendation maintained.
	– Measures were undertaken in FY 2000-01 to improve the management of Pharmaceutical Benefits Scheme medications and the monitoring of pharmaceutical benefits entitlement.	
– Achieving a better balance in the private/public mix of financing and delivery of health and aged care.	– Introduction of a 30 per cent non-means-tested rebate on the costs of private health insurance membership on 1 January 1999.	– This will improve the affordability of private health care and enhance the health options.
VI. Reforms to cope with population ageing		
– Raise the preservation age for superannuation benefits to that required for access to the age pension (*i.e.* 65).	– None.	– Recommendation maintained.
– Limit the value of owner-occupied housing that is exempt from the means (assets) test for the age pension.	– None.	– Recommendation maintained.
– Simplify the tax treatment of superannuation	– None.	– Recommendation maintained.
VII. Reform the tax system		
– Replace whole sales tax (WST) by general consumption tax.	– In July 2000, the WST was abolished and a goods and services tax (GST) introduced.	– The introduction of GST and abolition of a number of State indirect taxes will substantially reduce the economic costs of taxation.
– Reduce high effective marginal tax rates and alleviate poverty trap problem.	– The tax package also reduces marginal income tax rates for most taxpayers.	
– Implement plan for taxing non-fixed trusts as companies.	– Deferral of draft legislation on entity taxation.	– Bringing trusts within the company tax framework could achieve greater consistency in taxation of entities and impede income tax avoidance.

Table 14. **Implementing structural reform: an overview** (*cont.*)

Proposal	Actions taken	Assessment/recommendations
– Reduce gap between the top personal marginal income tax rate and the company tax rate.	– None.	– The large gap between top marginal income tax rate and company tax rate may encourage the redefinition of personal income as company income.
– Abolish inefficient state indirect taxes.	– These are to be gradually abolished with the abolition of the debits tax deferred to 2005.	– Accelerate the abolition of the debits tax to enhance the efficiency gains from the tax reform.
– Reform the States' narrow-based payroll tax and determine the role of environmental taxes in achieving ecological objectives.	– None.	– Recommendation maintained.

Source: OECD Secretariat.

Industrial relations

From centrally-determined awards to enterprise bargaining

Possibly the most important general reform process, which had an impact on all industries from the late 1980s onwards, is the transformation of the structures and procedures underpinning industrial relations arrangements in Australia. Prior to these reforms, Australian industrial relations were characterised by a high degree of regulation. Wages and conditions of work for most categories of labour were specified by a complex system of highly prescriptive, centrally-determined awards, based on compulsory arbitration by the Australian Industrial Relations Commission[39] (AIRC) or by industrial tribunals at state level. The focus of these awards at the industry or occupational level served to promote a relatively high degree of wage uniformity across enterprises. As the structural (non-cyclical) rate of unemployment ratcheted up, from the late 1980s to the mid-1990s, legislation was introduced which aimed at increased regulatory flexibility in industrial relations, in particular via a shift in the focus of wage bargaining away from national awards to the level of the enterprise in particular (Box 4). The Commonwealth's *Industrial Relations Act* 1988 introduced so-called *Certified Agreements* which allowed trade unions and individual firms to determine enterprise-level wages and work conditions as long as they were certified by the AIRC to be of "public interest". However, important barriers to decentralised bargaining remained, especially for smaller and medium-sized firms, which are mostly "non-unionised" or "lightly unionised".

The Commonwealth government implemented the *Workplace Relations Act* 1996 (WRA), which further facilitated the transition to enterprise bargaining at the beginning of 1997. This was achieved by introducing provisions which reduced the complexity of awards and aimed at restricting their role as a safety net of minimum wages and other core conditions of employment. The new legislation made it easier for "non-unionised" enterprises to reach collective agreements (Certified Agreements).[40] At the same time it introduced a new category of individual agreements (*Australian Workplace Agreements*, AWAs), whereby employees can appoint a bargaining agent of their choice, but uninvited union involvement is prohibited. An AWA completely supersedes any federal or state award that covers an employee, although it may often contain provisions from existing awards. The WRA provided more "choice" in the process of agreement making at the federal level and increased the scope for direct employee participation in bargaining. In addition, provisions for "non-union" enterprise bargaining now exist in all state jurisdictions with the exception of New South Wales.[41]

Award coverage has fallen dramatically since formalised bargaining was introduced[42] (Table 15). For example, in May 2000, 23.2 per cent of employees were paid at an award rate compared with 67.6 per cent in May 1990. The

Box 4. **Key developments in the federal industrial relations system**

Year	Initiatives in the federal system
1987	A two-tiered wage system is introduced with the second tier offering wage increases of up to 4 per cent in exchange for productivity improvements which meet certain restructuring and efficiency requirements set by the Australian Industrial Relations Commission (AIRC). Matters typically addressed include: greater flexibility in working hours (for example, span of hours worked at ordinary time rates, changed overtime rates); removal of some restrictive work practices (for example, through job sharing, greater casual employment and task broadening); and wage differentials.
1988	The AIRC's "Structural Efficiency" principle provides for wage increases based on commitments to award restructuring, focusing in particular on new skills-related career paths, multi-skilling and flexible forms of personnel utilisation.
1989-1992	The *Industrial Relations Act* 1988 creates a formal stream of enterprise bargaining through "Certified Agreements", *i.e.* collective agreements to be filed with and vetted by the AIRC. Later amendments facilitate the certification process and require the AIRC to determine whether agreements satisfy statutory tests, including a "no-disadvantage" test (*i.e.* an agreement must not include provisions that are inferior to relevant existing awards).
1994	The *Industrial Relations Reform Act* 1993 comes into force in March 1994, extending the scope for enterprise bargaining by allowing for workplace agreements to be negotiated in non-union workplaces (Enterprise Flexibility Agreements – EFAs). EFAs do not require that unions be parties to agreements but unions can challenge their ratification by the AIRC. The AIRC must be satisfied that the terms and conditions in an agreement do not disadvantage employees when compared with the relevant award.
1997	The *Workplace Relations and Other Legislation Amendment Act* 1996 (WRA) comes into effect in January 1997, effectively ending "paid rates" awards and restricting awards to a safety net of minimum wages and other core conditions of employment. It also guarantees the choice of bargaining agent and allows to conclude bargaining agreements with individual employees (AWAs). The Act makes Certified Agreements and AWAs subject to a new type of "global no-disadvantage" test, where individual conditions are allowed to fall below award level.
1998-2001	Further reform bills are submitted by the Commonwealth Government on termination of employment, award simplification, agreement making, and secret ballots prior to industrial action but meet resistance in the Senate. However, amendments are adopted which make separate wage rates for youths more widely available and exempt them from the age discrimination provisions of the WRA.

Source: Commonwealth Department of Employment, Workplace Relations and Small Business.

Table 15. **Coverage of non-farm employees by pay setting arrangements**
May 2000

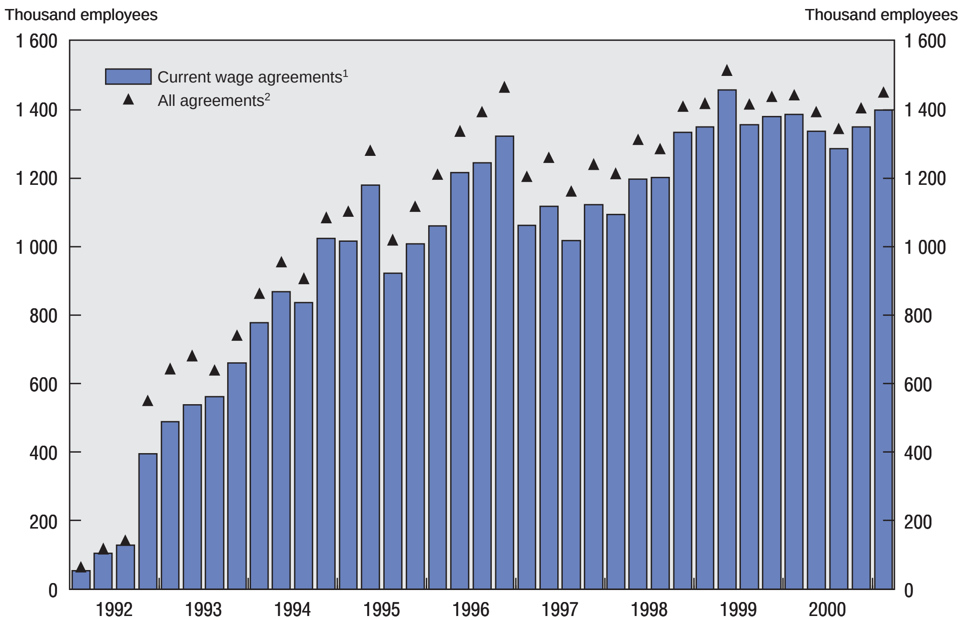
	Awards only	Collective agreements[1]	Individual agreements[2]
	Per cent		
All employees	**23.2**	**36.7**	**40.0**
Sector			
Private	26.8	23.8	49.3
Public	9.8	84.8	5.5
Size			
Less than 20 employees	27.5	4.0	68.5
20 to 49 employees	31.8	11.9	56.4
50 to 99 employees	31.8	23.5	44.8
100 to 499 employees	28.5	40.2	31.4
500 to 999 employees	24.9	52.6	22.4[3]
1 000 and over employees	7.7	82.9	9.4
Industry			
Mining	5.9	39.7	54.3
Manufacturing	11.4	37.0	51.6
Electricity, gas and water supply	1.4	76.5	22.1
Construction	15.0	23.8	61.2
Wholesale trade	12.1	10.8	77.1
Retail trade	34.9	28.7	36.5
Accommodation, cafes and restaurants	64.7	6.7	28.6
Transport and storage	18.4	40.1	41.5
Communication services	1.5	69.4	29.1
Finance and insurance	5.6	49.9	44.4
Property and business services	20.7	11.1	68.2
Government administration	15.3	77.9	6.8
Education	13.6	77.1	9.3
Health and community services	37.4	43.5	19.1
Cultural and recreational services	18.9	33.3	47.8
Personal and other services	27.1	42.8	30.1

1. Includes registered and unregistered collective agreements.
2. Includes registered and unregistered individual agreements.
3. Estimate is subject to sampling variability too high for most practical purposes.

Source: ABS Employee Earnings and Hours Survey (EEH Survey) ABS Cat No. 6 306.0.

seemingly high proportion of employees now on individual agreements, around 40 per cent, reflects a wide variety of arrangements including registered and unregistered individual agreements, as well as cases where employees' pay was determined by a combination of individual and collective pay setting arrangements. Registered collective agreements are more commonly found in the federal jurisdiction: almost 62 per cent of all employees covered by a registered collective agreement in May 2000 were covered by a federal agreement.

Figure 26. **Employee coverage of Federal Enterprise Agreements**



1. Enterprise agreements certified or approved by the Australian Industrial Relations Commission (AIRC) that provided a wage increase and have not expired.
2. All enterprise agreements certified or approved by the AIRC that are either current or have expired but not been replaced.

Source: Department of Employment, Workplace Relations and Small Business, Workplace Agreements Database.

As a result of the expanded opportunities for enterprise bargaining, the number of employees covered by federal enterprise agreements has increased substantially since the early 1990s (Figure 26). From the advent of formalised enterprise bargaining in the federal system, in October 1991, to the end of March 2001 around 38 000 federal collective agreements had been formalised by the AIRC. Around 29 000 of these agreements have been formalised since the introduction of the WRA. As of March 2001, over 11 000 certified agreements were current (that is, federal agreements that have not yet reached their expiry date or have not been formally terminated), covering 1.45 million employees. However, actual agreement coverage is somewhat greater because under the WRA, even after agreements pass their expiry date they continue to regulate conditions in the workplace until they are replaced by another agreement or are formally terminated. The trend towards increased coverage of enterprise agreements is also apparent within state jurisdictions. By contrast, the take-up rate of AWAs has been small, as they currently cover less than 1 per cent of employees. Employers and employee associations have criticised the current procedures as being too complex, time-consuming and costly, with numerous steps to be undertaken for the approval of an AWA. The procedures are also seen as involving a high degree of formality, so that small business employers without easy access to specialised knowledge and assistance seem to be discouraged from negotiating AWAs.

Within the unionised enterprise bargaining system, there is evidence of an increasing tendency for formal agreements to be reached by small businesses and small distinct units of large organisations.[43] Many have used the options offered by the WRA to introduce working arrangements better suited to the needs of their business and its employees, such as annualised salary arrangements, absorption of penalty rates and scope to use leave entitlements more flexibly and/or cash them out. More flexible working time arrangements have proved to be one of the most common innovations in agreements. Training and work organisation provisions are also commonly found in agreements, enhancing flexibility and productivity at individual workplaces.

Remaining problems

Persisting complexities

Nevertheless, for a substantial proportion of employees, wages and work conditions are still determined by awards only, although this varies considerably by sector, industry and employer size. Moreover, the increased incidence of enterprise agreements does not necessarily reflect their significance and the extent to which they have changed work conditions. Many of these agreements deal with a relatively narrow range of topics and are often "add-on agreements" to existing awards,[44] providing a benchmark around which wages and other employment conditions are negotiated. Indeed, comprehensive agreements that provide a single reference document for all work practices, conditions and pay requirements, thus replacing awards and previous formalised agreements, while increasing, still cover only approximately 12 per cent of all employees under federal collective agreements. There is still substantial scope for enhancing the number and importance of decentralised agreements.

A potential obstacle to the spread of genuine enterprise level bargaining appears to be the practice of industry level pattern bargaining by some trade unions, whereby unions take industrial action in support of common outcomes in respect of wages and conditions of employment, across an array of employers within an industry. By setting common expiry dates on enterprise agreements, unions have been able to exploit the protected action[45] provisions in the WRA to take industrial action in pursuit of such pattern claims. Provision is then used to legitimise industrial action in pursuit of such claims. Such practices seem most prevalent in the construction[46] and manufacturing industries, two industries with a high incidence of industrial action. The Commonwealth government has proposed a new Bill, the Workplace Relations Amendment Bill 2000, to reinforce the statutory intent of the WRA to achieve outcomes based on local circumstances and mutual interests. The Bill *inter alia* seeks to give the AIRC the power to terminate the bargaining period and to render industrial action unprotected at law if there is evidence that it serves to pursue pattern bargaining.

In accordance with the objective of award simplification, the *Workplace Relations Act* 1996 reduced the formerly comprehensive coverage of awards to twenty "allowable matters" as from 1 July 1998, all other non-allowable matters having to be set at the enterprise or workplace level, either in formal agreements or informally. Hence, to align existing awards with the WRA, a process of award simplification is underway. This initially proved rather slow, given the enormous complexity of the old system and uncertainty as to an "allowable matter". At end April 2001 there were 695 simplified awards while 837 awards were still being simplified. Moreover, the list of the remaining allowable matters over which the AIRC retains arbitration powers is long. Accordingly, the Commonwealth government has introduced a series of legislative bills which, among other things, seek to reduce the list of "allowable matters" further. Federal awards would no longer include matters such as superannuation, long service leave, notice of termination and jury service leave, all of which are provided for under federal or state legislation. Also, these amendments seek to define more clearly the scope of various allowable matters such as public holidays, personal leave, allowances and redundancy pay.

Harmonisation of federal and state industrial relations systems

The co-existence of the six separate systems of industrial laws and tribunals remains complex and burdensome. Many larger enterprises, but also small ones, have some employees covered by the federal system and some by the relevant state system. This often gives rise to complex and legalistic jurisdictional disputes as to whether a federal or a state award applies to a particular workplace. It has motivated ongoing efforts to harmonise federal and state industrial relations systems through complementary legislation and other arrangements (such as those between the federal and state tribunals) and through a co-operative approach to administrative arrangements and service delivery. In addition, the Commonwealth government has promoted a public debate on the possibility of using the corporations power in the constitution to exclude the operation of state systems wherever the federal system applied. This would mean that any business which is a constitutional corporation would be in the federal workplace relations system, and only that system. State workplace relations systems would only apply to remaining businesses. Altogether, such an approach could bring the overwhelming majority of employers (possibly up to 85 per cent) under the federal umbrella and remove almost all of the dual coverage of firms by federal and state awards. While a sizeable group of workers, mainly in unincorporated small businesses would risk dropping out of the federal industrial relations system, many incorporated businesses currently outside the federal system – including small businesses – could be drawn into the new federal system. A number of unincorporated businesses could also be covered if the use of the corporations power were supplemented by other powers such as the Territories power. Altogether, this could result in a net increase in federal coverage of small businesses.

Industrial dispute resolution

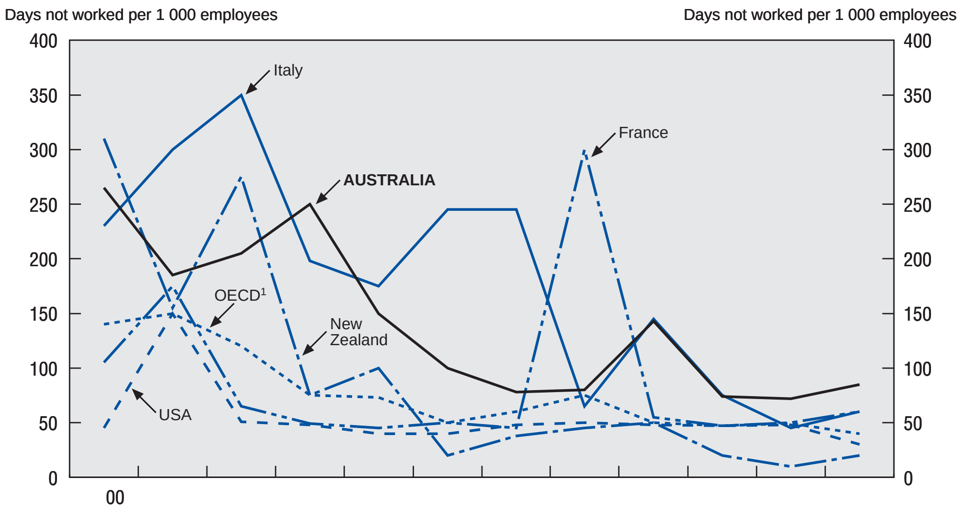
Under the *Workplace Relations Act* 1996, industrial action is prohibited during the period of an agreement's operation. Outside the period of the agreement, notification of proposed industrial action is required and strike pay is prohibited. The powers of the AIRC to curtail all other (*i.e.* non-protected) industrial action have been strengthened and made enforceable by injunctions. Although the downward trend in the number of workdays lost by industrial action had begun already in the early 1980s, more effective compliance provisions by the WRA have undoubtedly contributed to the continued reduction in the level of disputes in Australian workplaces. Nevertheless, the decline in strike activity is a phenomenon observed in many OECD countries so that, in spite of its marked decline, the number of workdays lost in Australia has remained above the OECD average in recent years (Figure 27).

To minimise the incidence of unnecessary industrial action, the federal government has proposed new legislation which would require secret ballots to be held at the workplace level to authorise protected industrial action organised by unions and employees. A union or employees would be required to apply to the AIRC for permission to hold a ballot, which would be allowed only if bargaining was in progress and if the applicant had been genuinely negotiating to reach an agreement. The introduction of secret ballots would enhance freedom of choice for employees, and benefit the community by discouraging unnecessary, inappropriate and unsupported industrial action, thus minimising disruption to the public, businesses and the economy.

Termination of employment legislation

OECD studies have repeatedly ranked Australia as one of the countries with the least restrictive employment protection legislation.[47] This holds in particular with regard to procedural requirements in the case of individual dismissal and to the criteria used to define unfair dismissal. Employee conduct

Figure 27. **Working days lost in labour disputes**



1. Weighted average.
Source: ILO, Yearbook of Labour Statistics.

and economic redundancy (retrenchment) are legitimate grounds for dismissal. There are also relatively lenient legal requirements for notice periods and no universal requirements for tenure-related severance pay. Employer discretion is further enhanced through provisions which exclude workers on probation or under employment contracts of fixed duration from seeking relief for unfair dismissal in the federal jurisdiction. All this should act against disincentives to hiring workers – the principal undesirable side-effect of employment protection legislation.[48] The number of unfair dismissal cases lodged in both federal and state jurisdictions, indeed, fell by 27 per cent between 1996 and 2000. Under the *Workplace Relations Act* 1996, applications in respect of termination of employment fell by 46 per cent between 1996 and 2000. However, the operation of current unfair dismissal provisions may still entail a serious disincentive to hiring workers, in particular for small businesses. Out of this concern, legislation was proposed in 1998 and again in 2000, which would require all employees, irrespective of the size of the company, to serve a six-month qualifying employment period before becoming eligible to make an unfair dismissal claim.[49] The Bill also proposed the exclusion of all new employees of small businesses with fifteen or fewer regular (as opposed to casual) employees from the unfair dismissal provisions of the Workplace Relations Act 1996.

Casual employment

A significant feature of the changing Australian labour market has been the fall in the proportion of "permanent" full-time jobs in total employment from about three-quarters in the early 1970s to about 54 per cent in 1999. Hence, new jobs are increasingly "casual", which is defined by the Australian Bureau of Statistics (ABS) by the absence of entitlements to either paid annual leave or paid sick leave.[50] There is a strong correlation between part-time work and casual employment: in August 2000, 65 per cent of part-time workers were employed on a casual basis and 70 per cent of casual workers worked part-time. With roughly one in four workers employed part-time in 1999, Australia has the second highest incidence of this type of work arrangement after the Netherlands.

There seems, however, considerable misunderstanding about data on the extent and nature of "casual" employment in Australia. It is often overlooked that most federal and state awards give "casual" employees wage premia instead of certain employment conditions such as paid sick leave and paid annual holidays. And although in the popular perception casual employment is often linked with the notion of precarious employment, this is not necessarily a characteristic of casual employment according to the ABS definition. On the contrary, casual employees can be employed for long periods. Many casual employees have relatively secure and stable jobs involving regular earnings and at least an implicit contract of ongoing employment. Moreover, the ABS definition of casual employees classifies many owner-managers of incorporated enterprises as casual employees of their own business since they have chosen not to have paid sick or annual leave. There has been substantial growth in this category of employment in Australia over the past two decades. For example, by August 1999 such owner-managers comprised one-in-ten casual employees.

Assessment

The reform process since the late 1980s, and in particular since the implementation of the *Workplace Relations Act* 1996 in 1997, has gone a long way towards a largely decentralised and highly flexible industrial relations system. The WRA has induced a strong uptake of collective agreements at the enterprise level, while so far, the number of individual workplace agreements has been small relative to the number of employees. But a closer look at the nature of newly concluded enterprise agreements reveals that most of them are still linked to awards, which bears witness to their continuing role as benchmarks around which wages and other employment conditions are negotiated. Comprehensive agreements, which determine all work conditions and pay requirements, thus completely replacing awards, are not widespread yet, possibly covering at present approximately 12 per cent of federal agreement covered employees. Hence, in order to speed up the move towards comprehensive enterprise agreements, the regulatory requirements for collective agreements and for Australian Workplace Agreements should be eased further.

Substantial progress has been made since 1997 in making the award system less complex and prescriptive, and in reducing its role to a safety net of minimum wages and work conditions. But owing to the complexity of the old system, award restructuring is a slow and cumbersome process. And even though simplified awards impose fewer constraints on the operation of enterprises than before, the rather extensive coverage of the twenty "allowable matters" still implies a substantial measure of complexity. Hence, regulatory flexibility of workplaces could be enhanced further if the number of employment conditions determined by awards were reduced and their specifications tightened further to a less comprehensive set of core employment conditions. This would widen the scope for decentralised agreement-making as it would better enable awards to operate as a safety net with actual employment conditions being agreed in the workplace.

The overall success of industrial relations reform also depends to a large measure on the harmonisation of federal and state legislation so as to reduce regulatory costs for businesses and governments. More analysis is needed to examine in what way the establishment of a corporations-based industrial relations system could best reduce the current complexity and overlap of different industrial relations regimes. More light also needs to be shed on the issue of the importance of the current unfair dismissal regulations as a disincentive on firms, especially small businesses, to hire workers. Careful empirical analysis should help to strike an appropriate balance between the benefits and costs of employment protection legislation.

Overall, the process so far of reforming Australia's complex industrial relations system has had profound effects on many industries. It has been an important factor in reducing labour inefficiencies and increasing the flexibility of work conditions. By enhancing the incentives for more efficient work and management, it has helped firms to move closer to best practice. Industrial relations reform has almost certainly helped in achieving the observed pick-up in productivity growth in the 1990s. Enterprise agreements often take the form of "productivity agreements" whereby productivity-enhancing changes in work practices are paid for with higher wages. It has contributed to keeping wage increases broadly in line with productivity growth during the economic recovery of the 1990s, allowing a virtuous circle of low inflation, rising real wages, good productivity growth and rising profits.

Labour-market assistance and welfare reform[51]

Introducing competition into labour market assistance

Given the unsatisfactory results of prevailing labour-market services, especially in relation to their substantial cost, a radical reform of all areas of labour-market policies has been undertaken since 1996-97. The key objectives have been to deliver a better quality of assistance to unemployed people, leading to better and more sustainable outcomes; to target assistance on the basis of need and capacity to benefit; to address the structural weaknesses and inefficiencies inherent in previous arrangements for labour market assistance; to put into effect the lessons learnt from international and Australian experience of labour market assistance; and to achieve better value for money.

Effective since May 1998, the new system has involved the most significant reorganisation of labour-market assistance since the establishment of the Commonwealth Employment Service in 1946. The main elements are *Job Network*, which is a contestable employment placement market, with competition between private, community and government contracted service providers, *Centrelink* as the first contact point for most job-seekers, and *Employment National*, which is a corporatised government employment services agency. (More details can be found in Box 5.) As a consequence of introducing competition into labour-market assistance, the reform has involved a complete outsourcing of the public employment service. This has changed the government's primary role from that of a provider to that of a purchaser of employment services. The reform has put Australia at the forefront of OECD countries to introduce market-type mechanisms into its employment service framework and to make its publicly-funded placement services fully "contestable".

The rationale underlying the reform is that competition encourages a high level of service and that fees paid to *Job Network* organisations provide a strong incentive for them to perform. To ensure that highly disadvantaged job-seekers benefit from the assistance provided, a differential fee structure applies, with the highest fees being paid for those who are most at risk and hardest to place in a job. Fees are paid on the achievement of outcomes and are generally available when a job seeker gains employment that removes their reliance on incomes support for a sustained period. Service providers must not refuse clients, which limits their ability to "cream" job-seekers.

The major changes introduced under *Job Network* include the replacement of previous labour market programmes and case management services with three key employment services:

- *Job Matching*, which is the gathering of available vacancies and assisting eligible job-seekers into jobs through the provision of labour exchange services;
- *Job Search Training*, which is assisting job-seekers with a moderate degree of labour market disadvantage in obtaining employment through training in job search skills, interview techniques, motivation and confidence-building; and

Box 5. Reform of labour-market assistance

The main pillars of the new labour-market assistance system are Centrelink, Job Network and Employment National:

Centrelink is the gateway to Job Network and undertakes the registration, assessment and referral of job-seekers to a Job Network member. It provides job-seekers with information about Job Network and the employment services available in their local region. In addition, it offers a uniform national service for registering job-seekers, administering unemployment benefits, assessing job-seekers' eligibility for employment assistance, administering the activity test, and enforcing compliance with conditions of income support. It classifies job-seekers, using the Job Seeker Classification Instrument (JSCI) to identify the relative difficulty job-seekers have in finding employment because of their personal circumstances and labour market skills, which suggest that they could have barriers to attaining employment. Based on reference to their JSCI score, Centrelink refers job-seekers with scores within a particular bandwidth to Job Network members providing Intensive Assistance. Self-help job search facilities and basic advice and guidance over the counter are also available from Centrelink. It was created from elements of the Department of Social Security and the Commonwealth Employment Service and aims at removing the previous duplication of activities, simplifying processes for clients and improving quality of service.

Job Network was established as a national network of around 300 private, community and government organisations contracted by the Government to assist unemployed people, particularly the long-term unemployed, to find jobs. Job Network is a contestable employment placement market, with competition between private, community and government contracted service providers for the provision of placement and case management services. Job Network members who have won contracts under a tender process compete to attract job-seekers to their service. They are not guaranteed a given level of business, but instead the Department of Employment, Workplace Relations and Small Business (DEWRSB) allocates a maximum number of job-seekers that they can assist at any time or over the course of the contract. High levels of outcomes achieved will increase the probability of being awarded additional contracts in the next tender round. They will also guarantee that places are filled as job-seekers are likely to turn to providers with a good performance rating.

Employment National is a corporatised government employment services provider, which offers services on the same terms and conditions as other service providers. In order to maintain a contestable market for the delivery of employment services, Employment National is required to satisfy the competitive neutrality conditions.[1] It also serves as a "last-resort" option in areas where the tender process fails to produce a suitable provider and this service cannot be achieved through fee-for-service arrangements. During the first Job Network contract, fee-for-service arrangements were introduced in four remote areas of Australia and there was no need for Employment National to provide services as a last resort.

1. For a detailed exposition of competitive neutrality requirements for government service providers, see last year's OECD *Economic Survey of Australia*, Box 2.

– *Intensive Assistance*, which implies the provision of individually tailored assistance to obtain employment for the most disadvantaged job-seekers, as determined through the Job Seeker Classification Instrument.

Job Network also incorporates the New Enterprise Incentive Scheme, which aims to help unemployed people to establish and run viable new small businesses. In addition, Project Contracting exists to ensure a satisfactory supply of labour to harvest areas that require considerable numbers of out-of-area workers to supplement local labour in order to harvest crops. Outside Job Network, *New Apprenticeships Centres* have been established, which provide "one-stop" integrated and streamlined apprenticeship and traineeship support to employers. Also established was *a Community Support Program* (administered by DEWRSB) for job-seekers with severe barriers to employment that mainstream assistance services can not address.

By mid-1997, there were almost 700 outlets delivering labour-market related services to job-seekers, including 293 CES regional and branch offices and 321 contracted case management organisation outlets. When *Job Network* was implemented in May 1998, more than 300 private, community and government organisations began offering a range of employment services from over 1 400 sites across Australia. This was a considerable increase in the number of sites that had offered employment services under the previous labour market assistance arrangements. In the second contract period (from 2000 to 2003), over 200 providers attract job-seekers to their services offered from over 2 000 sites throughout Australia.

The first stage of a three-phase evaluation project became available in early 2000, covering the first seventeen months of *Job Network*.It concluded that overall, *Job Network* had been implemented well and appears to be operating successfully. While it is too early to measure the impact of Job Network on the employment prospects of job-seekers, particularly disadvantaged client groups, early performance information in terms of commencements and placements, service quality and job outcomes are encouraging. The Job Network has made substantial progress towards a competitive placement market. The quality of service to job-seekers appears to have improved while employers see the Network as providing a rapid, individually-tailored service and showing an understanding of the commercial environment. A preliminary assessment of cost effectiveness is available only for Job Search Training but in this sector outcomes have improved and costs fallen substantially.[52]

The evaluation has also identified some areas where the Job Network's operation could be improved. These centre mainly on equity of access to Job Network, particularly for indigenous job-seekers, and on balancing quality service and flexible delivery. Choice-driven competition would benefit from further development of a culture of informed choice for employers and job-seekers. This includes further steps to enhance the transparency in the market for vacancies in order to minimise the scope for hoarding information on job openings by Job Matching providers. The evaluation also suggests that further work is required to assess whether the Intensive Assistance fee structure is clearly operating as an incentive to providers to pursue cost effectiveness and equity of outcomes for all job-seekers accessing this service. A report of the second stage of the evaluation was released in May 2001. The report examined the operation of Job Network over the whole of the first contract period and early months of the second (generally up to September 2000). It assessed the Job Network's development following the second contract, looking at equity of access to assistance and outcomes for participants, and provided early measures of effectiveness. The evaluation shows that Job Network has made significant progress in the development of a competitive market, in the numbers of job seekers assisted, in making a difference to the job prospects of the unemployed and in delivering value for money. Further progress was made toward a competitive market by expanding the geographic coverage and competitive basis of Job Network's services.

Activity-tested income support

The Commonwealth Government introduced a major change in activity-tested income support in mid-1998, with its Mutual Obligation initiative. This is a broad strategy for job-seekers, aged up to 34 (currently being expanded as part of welfare reform – see below), which aims to promote more active job search and also participation in activities which improve work skills and habits. The principle of mutual obligation is the idea that it is fair and reasonable to ask unemployed people to participate in an activity which helps them improve their employability and makes a contribution to the community in return for payments of unemployment benefits.[53] Eligible job-seekers can choose from a menu of fifteen activities (including Work for the Dole) to fulfil their Mutual Obligation. If job-seekers fail to undertake a proposed activity, they may be subject to penalties. These may include reduction or loss of benefit payments.

The principle of mutual obligation underpins the Government's earlier Work for the Dole labour-market initiative, which was announced in May 1997. Work for the Dole aims to involve young job-seekers in a work environment and give them the chance to engage with the community rather than being isolated from it. A comprehensive evaluation of the employment and incentive effects of the Mutual Obligation initiative has only just begun. However a preliminary assessment of the first fifteen months of the operation of ten Work for the Dole projects was published in May 1999 and indicated widespread acceptance of the programme by programme participants, supervisors, sponsors and community members.[54] Furthermore, DEWRSB research[55] shows that Work for the Dole participants are significantly more likely to leave income support than similar job-seekers who have not recently participated (their prospects are 76 per cent higher) and that the Work for the Dole programme is very cost-effective (at only one-third of the average cost in real terms of the previous Working Nation programmes). In addition, there was an increase in exit rates from unemployment benefit receipt[56] after the introduction of the Mutual Obligation initiative. Altogether, the evidence indicates that the Mutual Obligation initiative increases the attractiveness of work versus benefits, and provides improved skills to job-seekers participating in the programme.

Welfare reform

Acting on the basis of a report of the Reference Group on Welfare Reform (the *McClure Report*) the government has begun to create the framework for a fundamental re-orientation of Australia's social support system over the medium to long term. Over the past thirty years the proportion of Australians of working age who receive income support has approximately quintupled to a current level of over 20 per cent. Budget expenditure on income support has thus increased from 0.6 per cent of GDP in 1970 to more than 3 per cent. The reform aims at the transformation of the social security system from a passive and rather rigid bureaucratic structure that does not encourage social and economic participation to a more actively-managed social safety net that is focused on moving people out of welfare into work.

As a significant first step in this reform process, the 2000-01 Budget contained a package of measures designed to help people of working age move from welfare to work. The *Australians Working Together* package is designed to strike a balance between assistance, incentives and obligations with the aims of helping more people achieve independence, see more families in jobs and promote stronger communities.

More services are to be provided to assist people to become job-ready and to find jobs. Job search training is to be made available to all unemployed people and a new transition to work programme will provide assistance to people endeavouring to return to paid employment after a long absence from the workforce.[57] The package also improves financial incentives through the introduction of a Working Credit, which will allow people in receipt of unemployment benefits the opportunity to accumulate over time, a portion of the income test free earning up to a maximum value of A$ 1 000. This balance can then be offset against the income test on earnings when taking up part-time or full-time work. This measure will thus have a significant positive impact on the effective marginal tax rates which arise from the interaction of the income test with the personal tax system.[58]

Balancing these services and incentives, Mutual Obligation requirements will be extended to 35-49 year olds and standardised so that unemployed people aged from 18-49 years will be required to undertake an activity over a six month period, in addition to job search. Mutual Obligation requirements will apply after six months on unemployment payments and for six months of each year that people remain on unemployment payments. There is no change to activity requirements applying to job seekers 50 years and over. More will be expected from parents in receipt of income support (Parenting Payment). Recipients with children aged thirteen and over will be required to undertake, on average, around six hours per week of activities designed to assist their return to work. Recipients with younger children (aged six and above) will be required to attend an annual interview to help prepare for their entry to work in the future.

Education, research and innovation

Education and training

Deteriorating labour market prospects for low-skilled workers, and especially early school leavers, together with the need to continue to enhance the competitiveness of Australian industry, have led to comprehensive reform of the Australian education and training system over the past two decades. As discussed in previous OECD *Economic Surveys of Australia*, policy has been directed at developing education at the upper secondary level, improving the quality and relevance of school education, and financing a major expansion in higher education in an equitable way. It has also aimed at increasing the responsiveness and flexibility of vocational education and training (VET) and improving the linkages between education and training sectors.

Assuring quality and consistency in vocational education and training

Participation in publicly-funded vocational education and training has increased by around 30 per cent since 1995, reaching 1.65 million people in 1999, helped by a major overhaul of the apprenticeship and traineeship system, and the further development of the training market, through the introduction in 1998 of User Choice, which allows employers and apprentices to select their registered training organisation, whether public or private, and to negotiate key aspects of their training (including content, timing, location, and mode of delivery). This gives clients more direct choice in the quality and type of services available, through the creation of market-type conditions. This development forms part of a policy initiative aiming at facilitating the transition from school to work for young persons, as well as increasing the number of publicly-funded training places. The introduction, in 1998, of the *National Training Framework* was a major step towards the development of a competitive and effective training market, ensuring the quality and national consistency of the VET system, enhancing the industry-relevance of training and assessment, and removing the rigidity of previous curriculum approaches. Training Packages now cover some 60 per cent of the workforce and have a fixed date for review, usually around three years, after they are endorsed.

Recent reforms of the apprenticeships and traineeships scheme, under the New Apprenticeships initiative, have sought to integrate it into the overall regulatory and quality assurance arrangements of the VET system. The reforms have also been designed to expand the opportunities of apprenticeship-type training from the traditional sectors to industries such as information technology, communications, and services where rapid job growth is occurring. The aim is also to enhance the flexibility of the scheme, by making greater provision for part-time arrangements and enabling school-based apprenticeships and traineeships. As a result of these changes and other factors at work, including the impact of the 1994 National Training Wage and associated structural changes to apprenticeship and traineeship support, and marketing arrangements, the number of apprentices and trainees has grown significantly since the mid-1990s, rising from a total of 136 000 people in 1995 to over 300 000 in March 2001. The expansion of structured training into new industries has not been at the expense of training in traditional industries. There are still problems as to the quality of the VET system, which are being addressed via the establishment in 2000 of the National Training Quality Council, who will monitor and report on national quality assurance arrangements. Revised arrangements as to standards, registration and auditing are to be implemented progressively as from early 2001 to achieve greater national consistency, while there has been a recent move to work towards greater national consistency in the legislation that regulates the VET system.

School to work transition

While the growth in structured vocational training is encouraging, a concern remains that the participation rates of young people (15 to 19 year olds) in some form of education and training need to be improved, in order to smooth the transition from school to work and further education.[59] Initiatives in this area include the expansion of vocational education and training programmes in schools, opportunities for students to undertake school-based New Apprenticeships and measures fostering closer linkages between schools, industry, and the community. The VET in Schools[60] initiative has the potential of improving students' options and enhancing youth employment opportunities by building workforce skills. In 2000, the Federal, State and Territory governments as well as the non-government school sectors decided to adopt a broader approach to vocational education in schools. This provides a new Framework for Vocational Education in Schools, spanning both primary and secondary school education[61] which is being implemented from 2001 onwards. This is seen as offering the potential for building partnerships that will increase the number and range of vocational education opportunities, including the key related areas of career and enterprise education. Whether the new Framework for Vocational Education in Schools serves to enhance successful transitions for young people needs to be seen. Such an approach, by spanning all years of school education, could play an important role in improving the integration of the vocational education and training system with broad education sectors and reduce the early school dropout rates. Overall, the new framework will need to be closely monitored to assess to what extent it benefits young people by providing them with the foundation skills to underpin their future learning and employment.

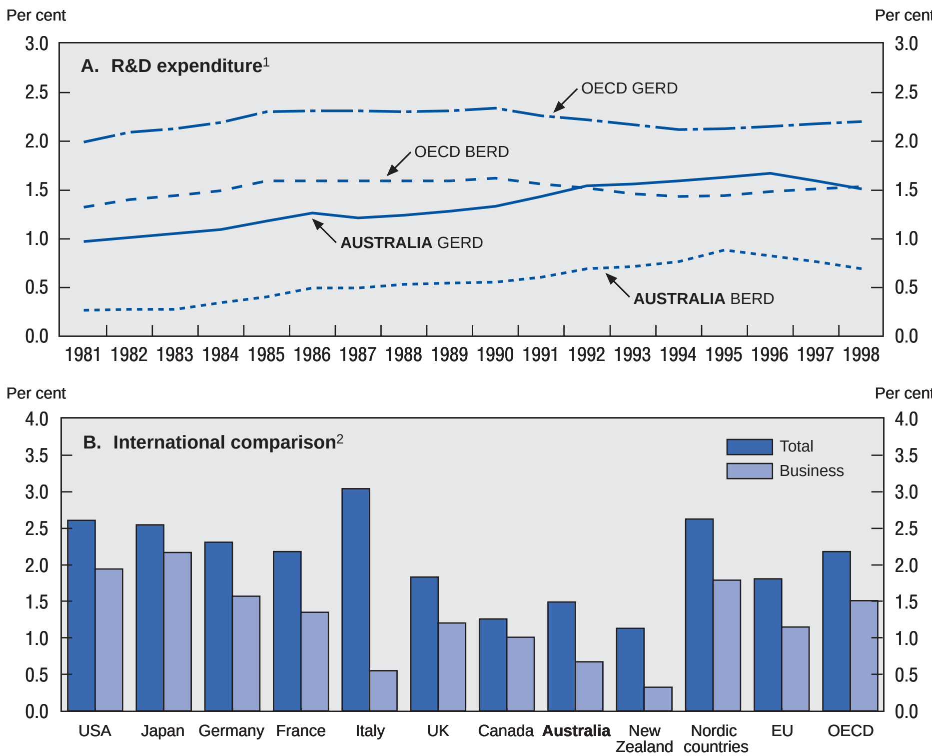
A diversified curriculum within upper secondary school, able to meet the developing vocational aspirations of the full range of adolescents' abilities and interests, is an important factor impinging upon early school leaving. Traditionally, the curriculum within Australian upper secondary education has been quite narrowly directed towards preparation for university study, and only recently have schools begun to include elements of vocational education. One way to expand the range of subjects might be smaller class sizes. Another solution might be larger high schools, with perhaps three times the present number of students in grades 7-12, but these institutions can be unwieldy to manage and can create a range of social and behaviour management problems. The adequacy of the support and advisory services available to potential early school leavers is an additional important factor in helping to keep early school dropout rates low. Adequate advice and guidance services are relatively under-developed in Australian schools, although they have been recently identified as a priority by the Federal government, as well as by a recent review of post-compulsory education in Victoria.

Enhancing innovation activity

Australia's innovative capacity has improved since the 1980s, as the R&D/GDP ratio has grown, but the gap between the Australian ratio of 1.5 per cent and the OECD average of 2.2 per cent is still significant, despite having narrowed (Figure 28). Moreover, business R&D spending has failed to keep pace with OECD spending since the mid 1990s. Recognising the importance of innovation as a driver of sustainable economic growth and increased competitiveness, the government launched in January 2001 a A$ 3 billion innovation package, *Backing Australia's Ability* (to be implemented over the next five years).The measures focus on three critical areas: strengthening Australia's ability to generate ideas and undertake research; encouraging commercialisation of ideas; and developing and maintaining Australia's skills.

The new arrangements involve a reform of the R&D tax concession scheme, which is the principal mechanism to increase business spending on R&D in Australia. In particular, the 125 per cent Research and Development tax concession will be enhanced. There will be a premium concession rate of 175 per cent on additional labour-related R&D expenditure and small firms making a loss will be eligible for a tax rebate. The R&D Start program, which is primarily focused on providing grants on a competitive basis for R&D projects, will also be extended.

Figure 28. **R&D expenditure in Australia and other OECD countries**
As a percentage of GDP



1. GERD: Gross domestic expenditure on R&D; BERD: Business expenditure on R&D.
2. At the latest available year.

Source: OECD.

Other key initiatives include increased government funding to encourage quality research and upgrade university research infrastructure and boosting the Co-operative Research Centres Program. (Such centres play a key role in the innovation system of Australia by bringing together researchers and research users, and training researchers in the skills needed for the commercialisation of research outcomes). Funding is also to be provided for 2 000 additional targeted university places each year with priority on programmes in the areas of ITC, mathematics and science, as well as to government schools to foster the foundational skills necessary for successful innovation.

While the new initiatives address immediate priorities, further reforms may be needed to support these initiatives in the longer term and a high level committee has been established to identify areas where they are needed. It is too early to predict how effective the new initiatives will be in strengthening Australia's innovation capability, and to assess whether additional reforms will be necessary. Nevertheless, recent empirical evidence supports the view that the enhancement of domestic innovation capacity, through providing the appropriate incentives for R&D, can contribute to maintaining the current pace of economic growth. Most importantly, there is international evidence that spending on R&D has a positive impact on the rate of technology transfer, and the speed of absorption of ICT from abroad.[62]

Product market competition

The framework of National Competition Policy

The experience of the 1980s suggested that costs of many government enterprises, which dominated infrastructure services, were inflated by excessive capital investment and over-manning and that the goods and services produced by these businesses often did not meet the standards sought by users. State and Territory governments had responded with their own reform agendas, but concern that a fragmented approach would lead to sub-optimal results led to the agreement of a National Competition Policy package in 1995, comprised of three elements:

- a *Competition Principles Agreement* (CPA) set out a framework for reforming government monopolies and prices oversight of government businesses. It introduced the principle of *competitive neutrality* to ensure that privately-owned businesses can compete with those owned by governments on an equal footing; specifically, government businesses should not enjoy any net competitive advantage merely as a result of public sector ownership, and so should be subject to the same tax, borrowing costs and regulatory regimes applicable to private business. It also initiated the review of all laws that restrict competition and their reform if certain conditions are met (see below) and introduced a *National Access Regime* for nationally *essential* infrastructure services – services that are generally provided by networks which would not be economic to replicate; *e.g.* power transmission lines and rail tracks. Under this regime,[63] businesses can seek access to essential infrastructure facilities at "reasonable" terms and conditions and "fair prices";
- the *Conduct Code Agreement*, which extends the prohibition of anti-competitive activities in the *Trade Practices Act* (Australia's main competitive policy statute) to all businesses; previously the Act did not apply to all State and Territory government businesses and unincorporated businesses; and

Table 16. **Annual competition payments by jurisdiction**[1]
A$ million

Jurisdiction	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
New South Wales	72.2	73.0	148.6	156.0	241.1	248.0	253.5	260.4	267.4
Victoria	52.9	53.6	109.2	115.2	178.3	182.4	186.3	191.2	196.2
Queensland	39.2	39.8	81.5	86.4	134.3	138.2	142.2	147.1	152.2
Western Australia	20.7	21.1	43.2	45.5	70.7	73.1	75.1	77.6	80.2
South Australia	17.0	17.0	34.5	36.0	55.3	56.4	57.3	58.6	59.8
Tasmania	5.4	5.4	10.8	11.3	17.2	17.4	17.6	17.9	18.2
Australian Capital Territory	3.5	3.5	7.2	7.5	11.5	11.9	12.1	12.5	12.8
Northern Territory	2.2	2.2	4.5	4.7	7.4	7.6	7.8	8.1	8.4
Total	213.1	215.6	439.6	462.4	715.8	735.0	752.1	773.4	793.3

1. The receipt of payment is conditional on the obligations of the Agreement to Implement the National Competition Policy and related reforms being met.
Source: Commonwealth Treasury.

– the *Implementation Agreement*, which specifies a programme of financial grants to State and Territory governments, contingent on implementation of the National Competition Policy and related reforms in gas, electricity, water and road transport (Table 16).

In addition, the Australian Competition and Consumer Commission (ACCC) was formed to administer the *Prices Surveillance Act* and the *Trade Practices Act* and the National Competition Council (NCC) was created to assess whether jurisdictions have met their reform obligations, as well as to co-ordinate reform efforts.

Progress in implementing the National Competition Policy

The competition policy reform programme is split into three tranches of assessments and payments. Annual payment levels by the Commonwealth to States and Territories are based on the maximum level of payments available under these tranches – which commence in July of 1997, 1999 and 2001 – if States and Territories have made satisfactory progress with the reforms. Progress is assessed by the NCC, which makes recommendations to the Commonwealth Treasurer. The NCC also assesses the Commonwealth's progress with implementation, although the Commonwealth is not subject to payment sanctions. The Commonwealth Government decides the amount of competition grants actually paid, which were intended to compensate the States and Territories for reductions in their fiscal position relative to the Commonwealth resulting from NCP reforms, and to provide them with a pool of funds which they could use to spread the benefits of the reforms across the community.

The first payments were made in full to all governments, after a supplementary assessment against first tranche commitments undertaken in 1998 and a second in July 1999, except to Queensland, where one quarter of the first part of the grant was withheld pending a supplementary review. Several additional matters were deferred for further assessment over the subsequent twelve months. These included the implementation of reforms in the area of water, road transport, domestic rice marketing boards and dairy marketing arrangements. The December 1999 supplementary assessment provided sufficient grounds for the Commonwealth to lift the suspension applied to part of Queensland's 1999-2000 competition payments, and determined that reform commitments by South Australia, in relation to implementation of electricity reforms, and the Northern Territory, in relation to a number of water reform commitments, had been met. The remaining assessments scheduled for this period, which related mainly to water reforms, were deferred until July 2000.

The July 2000 supplementary assessment found that the majority of the outstanding reform obligations had been met. However, in determining the second instalment of second tranche competition payments (2000-01), the Commonwealth accepted the NCC's recommendations that penalties be applied to Queensland, in relation to water reform and competitive neutrality, and the Northern Territory, in relation to road transport reform. The third tranche assessment is scheduled for completion before July 2001 and payments under the third tranche will commence in fiscal year 2001-02. As agreed at the meeting of the Council of Australian Governments on 3 November 2000, the NCC will thereafter undertake an annual assessment of the performance of each government party to the national competition policy agreements in meeting its reform obligations. There is also to be a further review of the terms and conditions of the agreements and the NCC's assessment role before September 2005.

Achievements and unfinished business in infrastructure service reform

Much progress has been made in reforming infrastructure service industries, with the National Competition Policy reforms largely implemented in the electricity and gas sectors in most jurisdictions. There is also considerable progress in reforming the provision of water and road transport services, while other sectors are lagging somewhat behind.

Electricity

The restructuring of electricity utilities has progressed and the National Electricity Market (NEM) commenced operations in late 1998, linking the wholesale electricity markets of New South Wales, Victoria, South Australia and the Australian Capital Territory (ACT). Queensland has become a full participant in the NEM in 2001 with the completion of its interconnection with New South Wales, and with Tasmania is expected to join in 2003. The responsibility for the operation of the national market lies with the National Electricity Market Management Company, which operates the wholesale electricity market in accordance with the National Electricity Code; the latter sets the rules for market regulation and the access regime. The benefits to customers where competition is established have been marked, with tariffs for business customers having fallen by up to 50 per cent from 1980 levels. An international comparison suggests, however, that there is scope for further improvements (Figure 29). Interstate trade is also helping to deal with supply and demand imbalances, allowing States with shortages to buy power across borders. Apart from the direct economic advantages, interstate trading offers significant environmental benefits in helping to avoid unnecessary investment in new power stations.

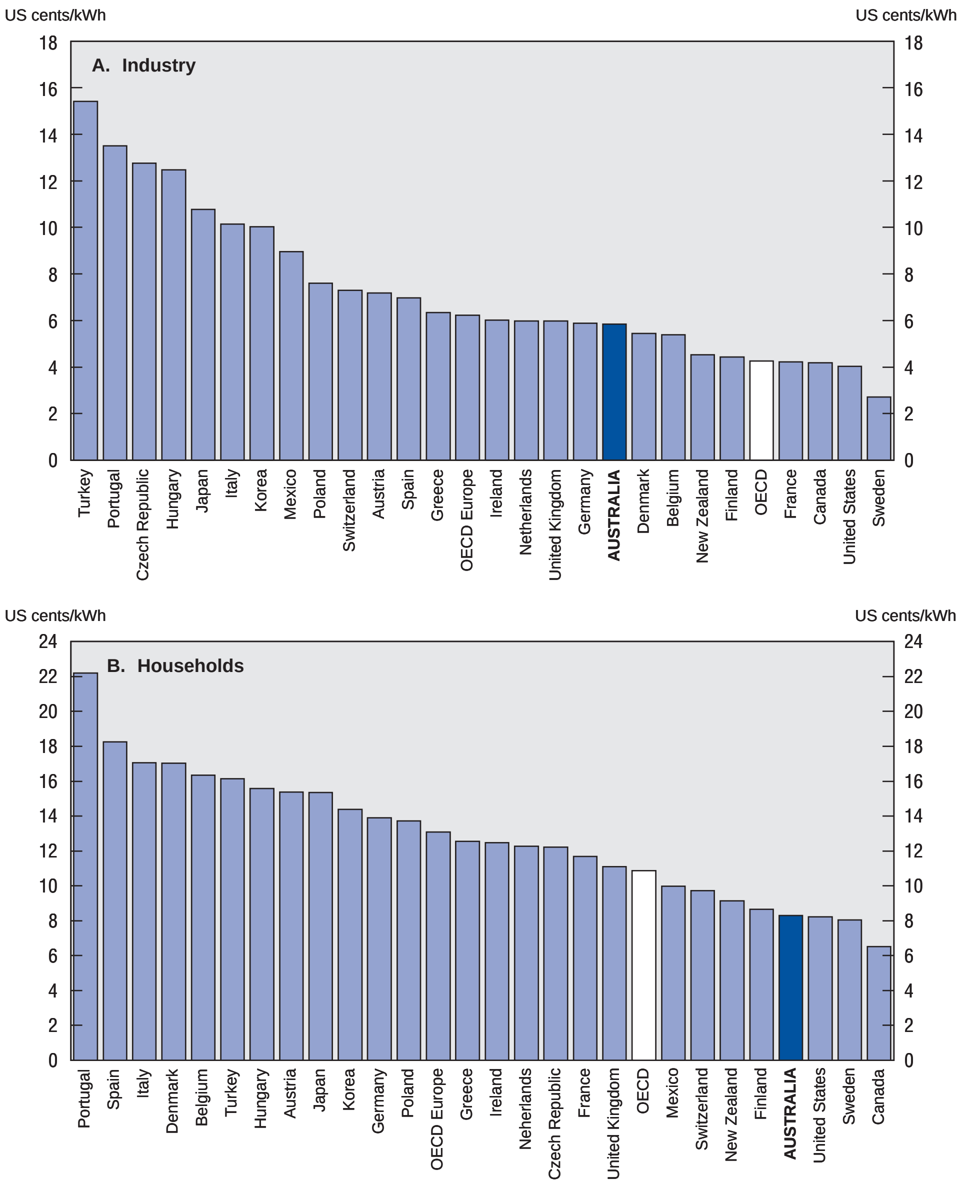
Jurisdictions have been permitted transitional arrangements (derogations from the National Electricity Code) which facilitate an orderly phase-in of a fully competitive market. These interim arrangements are to expire no later than 31 December 2002. Apart from incomplete interconnections of some state markets with the National Electricity Market, major obstacles to a fully competitive market for electricity are the remaining competitive advantages of some government-owned electricity businesses, the ongoing nature of a number of derogations and transitional arrangements, and delays in allowing customers the choice of supplier. Until customers can choose their supplier, they are given protection through regulated tariffs, which may oblige retailers to sell at a fixed price while being exposed to uncertain and variable pool prices. All jurisdictions have therefore put in place (vesting) financial contracts between generators and retailers, which are subject to the authorisation provisions of the Trade Practices Act. It was initially intended that all such contracts would cease by the end of 2000. The NCC accepts that there may be a case for continued management of the risks faced by the retailers if there are delays in making retail competition effective.

Gas

Gas reform has been one of the major success stories of national competition policy. All jurisdictions – except Tasmania, which does not yet have a natural gas industry – have undertaken key reforms, removing regulatory restrictions on free trade in gas, and implementing the National Third Party Access Code for Natural Gas Pipeline Systems (National Gas Code). One of the central benefits of gas reform is coming from new investments in gas transmission pipelines, some of which may not have been be viable without third party access to distribution networks, made possible under the National Code. As major markets become linked to more than one gas basin, competition between basins is likely to start delivering important gains for gas consumers. The reforms have already led to marked price reductions in gas haulage charges. For example, gas transmission tariffs fell by 25 per cent in Western Australia between 1997 and 2000, while distribution tariffs in New South Wales fell by 60 per cent from 1997 to 2000.

Figure 29. **Electricity prices in industry and households**[1]

Using PPPs



1. In 1999 or latest year available

Source: IEA, *Energy Prices and Taxes*.

However, retail contestability has not yet been fully achieved in the gas market, especially for smaller customers, which may limit new entry to gas markets. There are also significant barriers to competition in gas exploration and production, which were not explicitly addressed by the 1995 COAG agreements underpinning the National Competition Policy.[64] These barriers cover issues such as acreage management, joint marketing of gas and access to upstream production facilities.

Water

There has been good progress across Australia towards a more efficient water industry, with prices now better reflecting consumption and the cost of supply. Apart from raising economic efficiency, this has an environmental dimension, which is discussed in Chapter IV below.

Road Transport

The 1995 national competition policy agreements obliged governments to standardise regulations covering the road transport industry. The reform process, managed through the National Road Transport Commission, contained a clear reform agenda but lacked specific information on its implementation. The first tranche assessment was hampered by this lack of specific detail, but a programme was subsequently specified, with criteria for successful implementation and target dates. The reforms include a nationally consistent regulatory framework for heavy vehicle registration, driver licensing, heavy vehicle mass and loading restrictions, commercial driver fatigue management and the national exchange of vehicle and driver information. The second tranche assessment exercise in 1999 assessed States and Territories (unless they had been granted an exemption) and concluded that most had made substantial progress towards implementing the required reforms. Remaining matters will be raised during the course of the third tranche, which will also consider a fresh agenda of road reform.

Rail transport

There are no specific arrangements for rail reform, although rail services are subject to all of the general provisions in the Competition Principles Agreement and rail track and freight businesses are subject to competitive neutrality obligations. These obligations have been addressed by corporatising rail businesses and in some cases, privatisation. The Commonwealth has sold its interests in the Australian National Railways Commission and is working with other shareholders towards the sale of the National Rail Corporation. Consideration is also given to the sale of the Commonwealth's National Rail Corporation and the New South Wales FreightCorp to the same operator. However, there is the risk of conflict with the Trade Practices Act which would need to be addressed, as it may result in a substantial lessening of competition because both companies own a substantial portion of the Australian standard gauge rolling stock. Once National Rail is sold, the Commonwealth's only equity involvement in the rail industry will be through the Australian Rail Track Corporation. Nevertheless, the continuing involvement of the states in the railway sector, the lack of nationally uniform operating requirements on the interstate rail network and the insufficient attention to resolving interstate access questions are risks to the future viability of the sector. These deficiencies are likely to perpetuate the loss of market share of rail services to road and sea transport. One way to promote progress would be to bring rail reform within the National Competition Policy framework.

Postal services

In 1998 the Government proposed a number of reforms of the postal sector in response to the review of the *Australian Postal Corporation Act* 1989 by the NCC. The government rejected, however, the recommendation of the NCC that all business mail should be deregulated and opted instead for a more gradual reduction of Australia Post's monopoly, to ensure that Australia Post continues to be in a position to fund the provision of its community service obligations. A number of other, non-legislative measures have been implemented and include discounts for bulk mailers using barcodes, the broadening of bulk mail services supplied by Australia Post to include mail aggregated from various sources before being lodged with Australia Post, and an industry code of practice for the treatment of bulk mail lodged with Australia Post. Further measures were proposed that could have improved the quality and prices of services provided to consumers by promoting opportunities for competition in the postal services market. However, draft legislation to reduce the scope of services reserved to Australia Post and to provide a postal service regime consistent with the Trade Practices Act was withdrawn from the Parliament in early 2001 as it did not attract the support necessary for passage, but action in this direction is still needed.

Legislation review

An important part of the National Competition Policy reform agenda is the ongoing comprehensive review of nearly 1 700 separate pieces of Commonwealth and State legislation which have been identified as containing restrictions on competition. The guiding principle of the review is that legislation should not restrict competition *unless* the benefits of such restriction outweigh the costs and the objectives of the legislation can only be achieved by restricting competition. Thus, the legislative review and subsequent reform obligations are directed to achieving better regulation, not necessarily less regulation. Established in mid-1996, the review and reform processes were scheduled to be completed by the end of 2000. The review programmes cover many diverse areas, including shopping hours, marketing of agricultural products, the finance and insurance sector, food labelling, trades and professions regulation, and local government planning processes. Remedial measures have involved the repeal of redundant legislation, amendment or replacement of legislation to reflect NCP principles and regulatory best practice, and the reform of previously protected activities. Restrictions on competition have also been maintained where these have been demonstrated to provide a benefit to the community as a whole.

In general, progress is keeping up with the legislative review schedule, although some governments have fallen seriously behind their commitments as regards the implementation of remedies. By now the reviews of over 900 laws and regulations have been concluded, but only for around one-fifth have the subsequent reforms come into force. Implementation is slow in difficult areas such as agricultural marketing arrangements and price support schemes, retail trading arrangements (including trading hours and liquor licensing arrangements), taxi licensing, the regulation of the trades and professions and mandatory insurance arrangements (such as workers compensation and transport accident insurance). In November 2000, the Council of Australian Governments extended the timeframe for completion of the reviews to 30 June 2002, while reiterating their commitment to a thorough and careful review and implementation process.

So far, the benefits of the legislative review include the removal of "red tape", providing greater flexibility for businesses. A number of the reforms allow for more competitive supply arrangements, with benefits to consumers in the form of lower prices and/or better service arrangements. Examples are reforms to shop trading hours in Victoria and the ACT, while consumers in Western Australia have benefited from the removal of restrictions on bread delivery and the deregulation of farm prices and supply arrangements in the dairy industry.

Further scope for liberalisation in services

The professions

Many professions organise themselves as unincorporated firms, either as sole traders or partnerships. Since 1995, unincorporated business has been covered by the Trade Practices Act, except where specific legislation provides an exemption from its provisions. The Competition Principles Agreement requires that these restrictions be reviewed and, where found not to deliver a net benefit to the community as a whole, reformed. Accordingly, all governments have included those regulations that restrict competition in their legislation review schedules, although varying progress has been made in completing the reviews, which will be considered as part of the third tranche assessment process by the NCC in July 2001. A recent study of the professions by the NCC, in particular legal services and health and pharmaceutical services, identified a range of anti-competitive restrictions related to entry-qualifications, registration requirements, reservation of title or practice, disciplinary processes and conduct of business rules.

Taxi services

Australian jurisdictions have historically taken a common approach to the regulation of the taxi industry. Standards regulation has been applied to matters such as the age and roadworthiness of vehicles and entry requirements for drivers. These relate directly to the quality of the service provided and put strong emphasis on passenger safety, but do not have a substantial impact on competition. At the same time, the number of taxis are everywhere severely limited via strict licensing requirements which create absolute barriers to entry. New licences are issued on an infrequent and *ad hoc* basis with different sale methods resulting in large variations in sale price. Most people wishing to obtain a taxi licence must purchase it from an existing licence holder. The restrictions impose substantial costs on the communityand their removal could be expected to yield significant net benefits. However, outside the Northern Territory, which implemented a substantial reform of taxi services in 1999 by buying back all licences, no major reform has been implemented to date in any other jurisdiction.

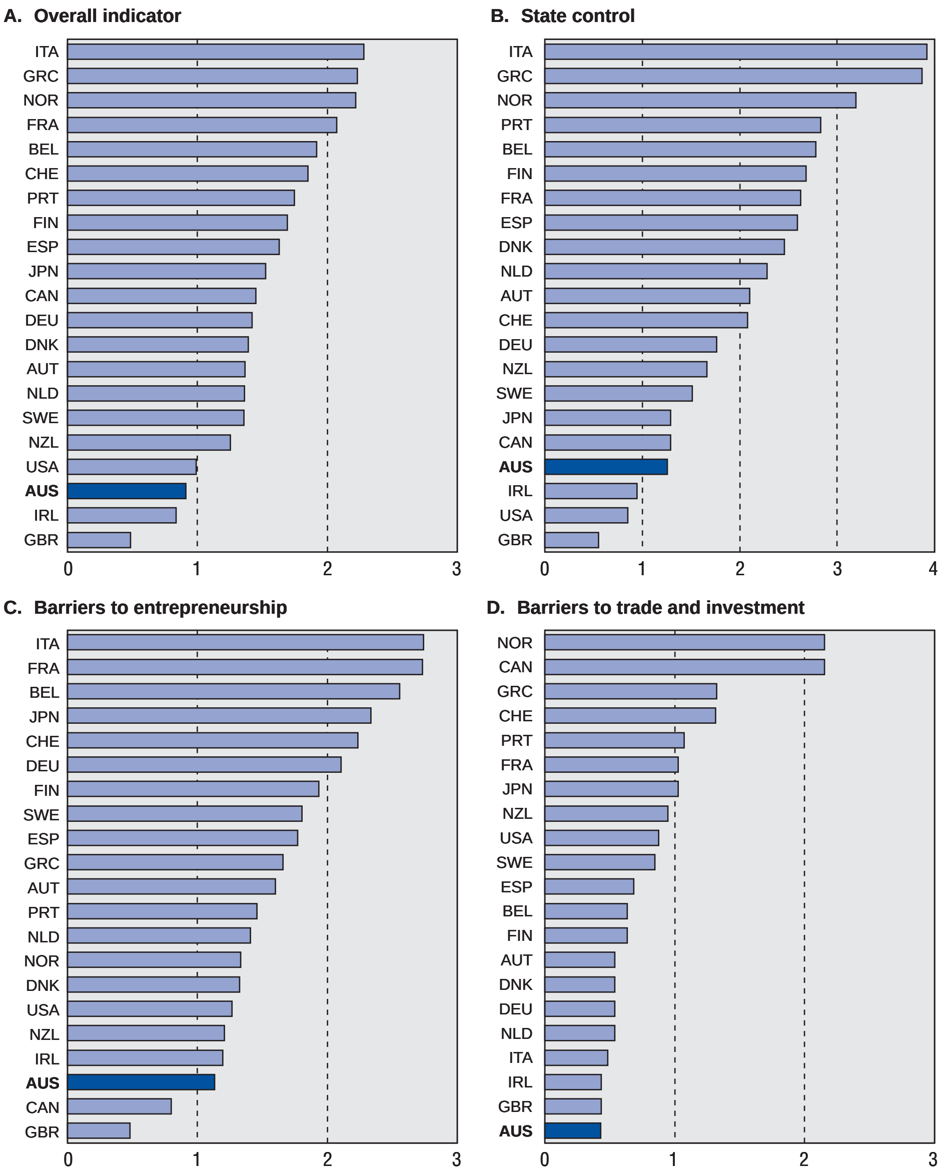
A minority of state reviews propose regulatory changes that would only partially ease the restrictions while one state argues that the existing legislative flexibility is sufficient to allow for an improved outcome. A key concern with the reviews is that those recommending the removal of restrictions on licence numbers have generally not provided details as to the expected or recommended reform path. Reviews have invariably acknowledged the high capital values of existing licences and the difficulties for reform posed by the potential financial losses for existing licence holders. A staged reform could be achieved by issuing a predetermined number of new licences annually over a number of years, with new licences sold publicly via auction or tender or for a fixed fee. The proceeds could be used to establish a limited compensation fund that could address hardship cases of existing licence holders on an individual basis. The NCC will review progress in aligning the market for taxi services to the NCP in its third tranche assessment of July 2001. However, not all aspects of taxi operations are the result of regulatory arrangements. Where these other practices are regarded as anti-competitive, there is scope for examination under the existing trade practices legislation.

Progress so far

Overall, much has been achieved in the area of product market competition since 1995. The reforms of the electricity and gas industries are significantly advanced and reforms of water and road transport are well under way. More than half of the 1 700 pieces of legislation which have been identified as containing restrictions on competition have been reviewed or are in the review process, with a high likelihood that a large proportion of them will be reformed. The overwhelming majority of larger government business enterprises are now required to apply competitive neutrality principles, which means fairer competition with the

Figure 30. **International comparison of product-market regulation**[1]

1997-98



1. Synthetic indicators of strictness of legislation. Scores can range from 0 to 6 with higher values representing stricter regulation.

Source: OECD.

private sector. The new competition policy also appears to have established a culture of rigorous justification of the need for and design of new business regulation. This has led to a level of product market regulation which is low by international comparison (Figure 30). Although much remains to be done, dividends of the reforms have become clearly visible in the form of lower prices (Table 17) and better services to consumers. On a macroeconomic level, there is little doubt that product market reforms have been crucial for the pick up in total factor productivity growth during recent years.

Table 17. **Illustrative cost and price changes**

Reform area	Cost/price change Per cent	Period	Markets affected
Electricity	–16	1991-92 to 1997-98	Australia – real (inflation-adjusted) average prices all customers
	–22	1991-92 to 1997-98	Australia – real average prices all commercial/industrial users
	–3	1991-92 to 1997-98	Australia – real average prices all residential users
Gas	–43	1992 to 1997	Six major distributors – real controllable costs
	+7	1991-92 to 1996-97	Victoria – real prices for residential customers
	–22	1994 to 1998	Australian gas prices – industrial and residential
Water	–30	1991-92 to 1996-97	New South Wales – real prices for metropolitan customers
	–10	1991-92 to 1996-97	Victoria – real prices for metropolitan customers
	+8	1991-92 to 1996-97	Tasmania – real prices for metropolitan customers
Rail	–40	1991-92 to 1996-97	Freight rates on the Melbourne to Perth rail route
	–16	1991-92 to 1996-97	National rail freight rates (in real terms)
Ports	–23	1991-92 to 1996-97	Port authority charges
Telephone	–25	1991-92 to 1996-97	Subscriber trunk dialling calls
Postal services	–9	1991-92 to 1996-97	Australia Post – real price of posting a standard letter

Source: Productivity Commission (1999), "Impact of Competition Policy Reforms on Rural and Regional Australia", Report No. 8, *AusInfo*, Canberra.

The financial system

The ongoing reforms of labour and product markets have been complemented by a comprehensive set of financial system reforms which focus on prudential supervision, depositor protection and the promotion of competition. The first stage of the most recent financial system reforms ("Wallis reforms") came into effect on 1 July 1998 and responded to developments such as the blurring of the boundaries between financial instruments and institutions, increasing competition from non-financial institutions and from abroad, and the substitution of financial market transactions for direct financial intermediation. In the second stage, on 1 July 1999, the States and Territories passed complementary legislation to effect the transfer of regulatory powers and supervision of building societies, credit unions and friendly societies to the Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC). This transfer involved 342 financial institutions with A$ 38 billion in assets and more than 12 000 employees.

The reforms have replaced the previous institution-based regulators by three objectives-based agencies whose responsibilities extend across the entire financial system. APRA is the prudential regulator for deposit-taking institutions, life and general insurance companies and superannuation. Its aim is to promote prudent behaviour by financial institutions and to reduce the likelihood of losses to depositors, policyholders and members of superannuation funds. The new ASIC has become responsible for the regulation of conduct and disclosure in financial markets, as well as for consumer protection and market integrity in the areas of insurance, superannuation and aspects of banking and the payments system. The Reserve Bank was given regulatory powers in the payments system and retains responsibility for the overall stability of the financial system.

One area where the benefits of regulatory reform are already apparent is in the harmonisation of prudential standards across financial institutions. Since its implementation in mid-1998, most progress has been made in developing a set of consistent standards that apply to all deposit-taking institutions. Similarly, APRA has been undertaking a major review of the general insurance regulatory regime, involving strengthened capital adequacy and solvency requirements, and has announced a review of the Life Insurance Act. The process of harmonising supervisory arrangements across deposit-taking institutions and insurance companies is also underway, although this task is expected to take some time due to its complexity, and the need to consult extensively with industry. APRA has already announced a liberalisation of the range of activities that can be carried out within a financial conglomerate containing an authorised deposit-taking institution, and expanded the range of organisational structures available to conglomerates.[65]

Effective co-ordination mechanisms having been established between the three regulatory authorities. Communication between APRA, ASIC and the Reserve Bank is facilitated through the Council of Financial Regulators, and by the fact that the Reserve Bank and ASIC are both represented on the board of APRA. APRA also has a seat on the Payments System Board in the Reserve Bank. APRA was subject to criticism in March 2001 for alleged lack of action before the failure of several superannuation funds in Queensland and an insurance company in New South Wales. The need for improvements in the regulation in both superannuation and insurance had already been recognised by APRA.[66] In addition, the Government announced in May 2001 that it would bring forward introduction of the proposed reforms of the regulatory regime of the general insurance sector to July 2002.

In April 2001, the Commonwealth Government's Financial Services Reform Bill introduced a harmonised licensing, disclosure and conduct framework for all financial service providers, a consistent and comparable framework for financial product disclosure, and a streamlined regulatory regime for financial markets and clearing and settlement facilities. The bill also proposes lifting the limit that any one shareholder can take in the Australian Stock Exchange (ASX) from 5 to 15 per cent in a move that will enable the ASX to play a greater role in the consolidation taking place among world markets. The Government expects that once in force, the reform will introduce a consistent framework of consumer protection across the financial services industry, help consumers understand and compare different financial products and ensure that consumers have access to efficient complaints handling procedures for resolving disputes with financial service providers. Moreover, the reforms aims at cutting compliance costs and removing regulatory barriers to the introduction of technological innovations and providing a boost to e-commerce by facilitating the electronic delivery of a range of financial services and products.

IV. Enhancing environmentally sustainable growth

Introduction

Most of Australia's domestic environmental concerns have developed out of a clash between its biogeography and its settlement and land-development patterns. Australia is rich in biodiversity, with many unique species of plants and animals. Many are threatened with extinction due to habitat alteration and loss, or competition and predation from introduced species. Similarly, imported systems of land and agricultural exploitation, and the pattern of settlement to which they are related, have had substantial negative impacts both on the country's biological diversity and on its ecosystems, including rivers, estuaries and tidal marshes. The long-term effects have emerged as Australia's two most pressing domestic sustainable-development concerns, dryland salinity and inefficient agricultural use of scarce water resources. At the same time, the Australian perspective on global sustainable-development issues is shaped by its size and remoteness and by its rich natural resource endowments. Australians are as subject to ozone depletion and global warming concerns as other OECD citizens, but there is no problem of trans-national boundary pollution and the size of the country makes fuel costs a highly sensitive issue. Moreover, because of its physical resource endowments Australia originally built its economy, and its export capacity, on large non-renewable resource availability. These activities have received relatively little support from governments through direct or indirect subsidies, which means that Australian attitudes to global energy conservation are highly influenced by issues of natural comparative advantage as well as international competitiveness.

Apart from the above, unique, combination of interests and concerns, the most important formative influence on Australian attitudes to environmental and natural resource issues, and the related policy instruments, has been the country's federal structure. Interests may differ across states on some energy conservation issues, linked both to energy production patterns, biodiversity concerns and water-use, and the fact that Australia is a federation has meant overcoming problems of internal cohesion and co-ordination. Constitutional powers, including the respective right to raise taxes, have been important in determining the choice of instruments of environmental policy. The chapter thus begins by discussing the impact of Australia's institutional arrangements on natural resource and environmental policies. This is followed by a review of water management issues, where the role of economic instruments is quite developed, and then by a discussion of the salinity problem, which is particularly acute in Australia, and where the problems of using market instruments are exacerbated by the fact that polluters can be generations and jurisdictions apart from those suffering the pollution. The subsequent section discusses the challenges facing Australia with respect to global warming, where the use of economic instruments, taxes or tradeable permits, has run up against distributional objections. The final section presents an assessment and recommendations for further policy action. The environment issues that have been selected for discussion have qualified both from their importance and the fact that they illustrate a number of problematiques applying to other issues.

The institutional setting

Increased co-ordination and Commonwealth involvement

The fact that Australia is a federation of states, where the respective roles and powers of the Commonwealth and the States have been the cause of much controversy and dispute, has had an important influence on environmental policy and its effectiveness. The Constitution does not give the Commonwealth direct power over the environment, because at the time it was drafted the States were clearly in control of land- and natural resource management. In practice, a nation-wide environmental consciousness only began to develop in the late 1970s and 1980s, after much environmental damage had become irreparable.

A more centralised, or co-ordinated, structure may be called for where there is a need to address national issues, implement commitments under international agreements, or where there are cross-state spillovers. Momentum for change in this direction has come both from emergent environmental concerns at state level and from the Commonwealth seeking to take a leadership role in addressing national environmental and natural resource issues. The Commonwealth Government is allowed a potentially important role because it is responsible for protecting features of national environmental significance and implements international environmental treaties, such as those dealing with climate change, destruction of the ozone layer and protection of biodiversity; and because of its Constitutional responsibility for matters related to external affairs, trade, corporations and certain taxation powers, it could effectively override state legislation affecting the environment. But it has preferred not to be confrontational. Rather, it has sought to delineate a leadership role on national environmental issues while reducing duplication of the activities of the States, Territories and Local Government at the Commonwealth level. It has become increasingly involved as the initiator and co-ordinator of national strategies drawn up and implemented in co-operation with the states. Examples of such national strategies include Australia's Oceans Policy, the National Forests Policy, the National Greenhouse Strategy, the National Strategy for Ecologically Sustainable Development, the National Strategy for the Conservation of Australia's Biological Diversity (1996), and the National Action Plan for Salinity and Water Quality (2000).

Institutionally, the implementation of these national strategies has involved the establishment of a wide range of co-ordination bodies. With respect to global warming, the Australian Greenhouse Office was established for greenhouse gas policy. As governments started to address the problem of water depletion in the 1980s, the Council of Australian Governments (COAG) agreed a comprehensive framework for water reform and the COAG *Water Reform Framework* was agreed amongst jurisdictions in February 1994. While much of the responsibility for implementing the COAG framework rests with individual jurisdictions, collaborative activity has also been undertaken to deal with issues that are of concern to all jurisdictions and that would benefit from national co-ordination. Where environmental problems span state boundaries, co-ordinating institutions have been created to fit the right "geographical level", such as the Murray-Darling Basin Commission established in 1986 as the executive arm of the Murray-Darling Basin Ministerial Council. The Commission is an autonomous organisation equally responsible to the governments represented on the Ministerial Council as well as to the Council itself; it is neither a government department nor a statutory body of any individual government.

The Environment Protection and Biodiversity Conservation Act

In spite of this increased co-ordination, the Commonwealth has been concerned that it did not have adequate legislative capacity to discharge its key commitments in international agreements and conventions. Conversely, Commonwealth environmental legislation has sometimes been triggered by matters which were more appropriately the responsibility of Local or State governments. There was thus a growing mismatch between the issues in which the Commonwealth wanted to be involved and those in which it could legitimately be involved. There was a parallel recognition by all stakeholders, including the states, that the shortcomings of the system combined to limit the level of protection offered to the environment and to create unnecessary delay, duplication and uncertainty for industry and the community. The response has been to legislate a new Act, the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC), which has been in force since July 2000 (see Annex II).

Under the EPBC Act, actions that are likely to have a significant impact on matters of national environmental significance (NES) are subject to a rigorous assessment and approval process. This process also applies to actions that are likely to have a significant impact on the environment of Commonwealth land and actions taken by the Commonwealth anywhere in the world. The Commonwealth may, through bilateral agreements, delegate to the States the responsibility for conducting assessments and, in limited circumstances, the responsibility for deciding whether to grant approval. A key function of the bilateral agreements is thus to provide for the accreditation by the Commonwealth of State environmental assessment processes and approval decisions. It is important to note that the Act sets out various constraints on the scope of any accreditation that can be effected through bilateral agreements, and imposes certain minimum standards that must be observed. To be accredited, a State process will need to meet "best practice" criteria.

The Act focuses the responsibilities of the Commonwealth on matters of national environmental significance. It significantly extends the reach of the Commonwealth, giving the Environment Minister the veto power over large numbers of social and economically significant projects throughout Australia where they might have a significant impact on a matter of national environmental significance. It would seem to be the precursor of a more activist national approach to environmental problems. The *National Action Plan for Salinity and Water Quality* was subsequently endorsed at the Council of Australian Governments in November 2000. This represents the first concerted and targeted national strategy to address salinity and water quality problems.[67]

From a Commonwealth perspective, the Act has many positive benefits, including removing indirect triggers and replacing them with triggers now related directly to potential impacts on environmental matters under Commonwealth control. It also provides more certainty and transparency for proponents by specifying timeframes and processes for Commonwealth decisions.[68] From the states' perspective, the Act does not rely sufficiently on the States' long-established systems for assessment and approval, while it applies too rigid requirements for bilateral agreements which make it difficult to achieve such agreements and dilute the incentives for the State to pursue agreements.[69] While the aim of the new Act has been to provide "clear guidelines on what projects will attract Commonwealth involvement", the administrative guidelines defining "significant impact" are extremely broad, qualitative and open to interpretation. As a result, actions that have relatively low impacts could be potentially caught by the Act in a way that was not envisaged by the States when negotiating the agreement on the Act. While the Act represents a significant redistribution of responsibilities between the States and the Commonwealth in the management of environmental issues, it is too early to say how well the system of bilateral agreements will work.

Co-ordination in conserving biodiversity

As is reflected in the title of the new *Act*, the conservation of biodiversity is one of the essential motivations in the new approach. The ongoing loss of biodiversity is severe. European settlement has significantly altered Australia's natural landscape – and with it, Australia's biodiversity. Australia ratified the Convention on Biological Diversity in 1993 and at a national level, a major initiative has been the *National Strategy for the Conservation of Australia's Biological Diversity* (1996). Because of the public-good nature of much biodiversity preservation, and the fact that the relative economic costs and benefits are difficult to quantify, the emphasis will continue to be on regulatory co-ordination rather than on market-based solutions. Since the states have their own legislation, which are not always consistent across borders, an appropriate and standardised regulatory framework could promote conservation goals in a co-ordinated and integrated way. The ideal to which the Strategy and the new Act aspire, is an integrated approach which requires co-operation and co-ordination from all levels of government, industry, community groups and individual land managers.

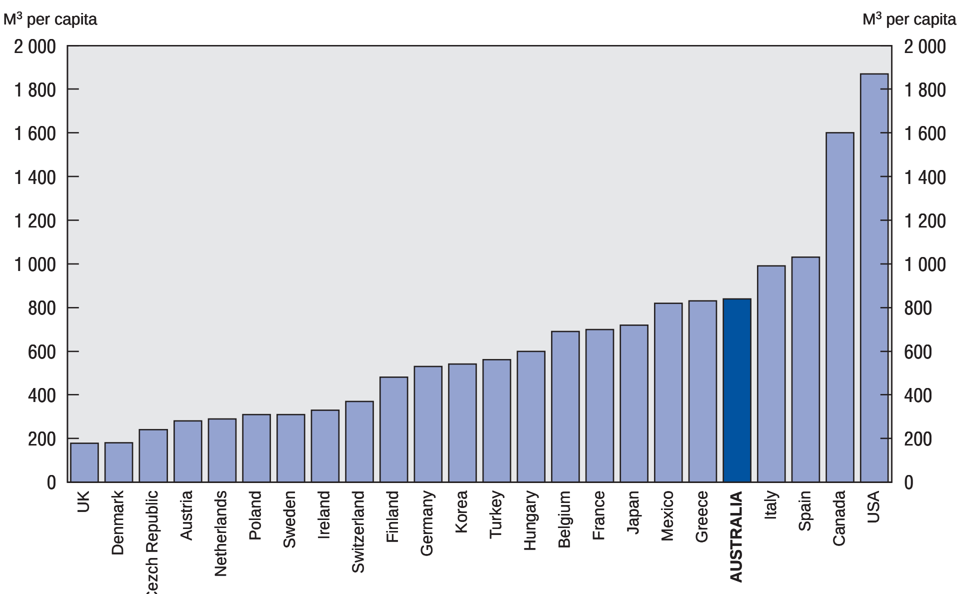
The preservation of biodiversity is an area where the role of economic instruments is limited because property rights cannot be clearly defined, completely and exclusively allocated or legally enforceable.[70] However, the loss of biodiversity has recognisable costs in many instances which can be reduced by private sector investment, thus reducing budgetary costs. In particular, the preservation of biodiversity has obvious pecuniary implications for tourism and fishery development, where conservation policies can exploit private-sector involvement. Moreover, besides the importance attaching to biodiversity in its own right, it is also critical for soil formation, recycling of nutrients, atmospheric quality and climate, as well as the maintenance and regulation of water resources, which are to a greater or lesser degree susceptible to cost-benefit analysis, especially as they are essential underpinnings for much of Australia's commercial – particularly agricultural – production. Indeed, stemming the biodiversity loss from factors such as the clearing of native vegetation, damming of rivers, drainage of wetlands, and water release from water storages, is an important ingredient in the sustainable development of Australian agriculture, all of which are to some degree susceptible to a more market-based approach.

Water management: seeking efficiency and environmental sustainability

Water management is a prime example of evolution from state-based policy towards a more co-ordinated, market-based approach. Australia is a relatively dry continent, in which water scarcity is exacerbated by climate variability, including periodic drought. Water is a state property in Australia, and entitlements to use water, granted as a statutory right under state legislation, were traditionally tied to land. Compared with other OECD countries, a relatively large share of water goes to agriculture (between 70 and 80 per cent), in particular for irrigation in the Murray-Darling Basin, which has been very fast-growing over the last two decades.[71] Rapid growth of population and activity in urban areas is also increasing the level of water use, and intensifying competition for water resources is putting pressures on the environment, as flow levels in rivers are reduced and irrigation-induced salinity increases. Water use levels are high by international standards (Figure 31). Indeed, water was formerly heavily subsidised, favouring overuse and inefficient allocation. However, increasing scarcity has spurred significant changes in water policy since the 1980s, which culminated in 1994-95 with the adoption by COAG of a *National Agenda for Water Reform*, whereby all jurisdictions committed themselves to implementing a range of market-based measures.

Under the *National Agenda for Water Reform*, pricing practices were to be reformed so that prices reflected the full economic cost of resources and were consumption-based. First, cross-subsidies were to be removed and other subsidies made transparent. Second, allocative efficiency was to be dealt by trading in water entitlements. The agenda also included the specific provision of water for

Figure 31. **Water use per capita**
1997



Source: OECD Environmental Data Compendium, 1999.

the environment, making water services providers operate on a commercial basis and separating regulatory functions from provision, as well as limiting new investment in rural water supply to economically viable and ecologically sustainable projects. The reform aims at increasing efficiency in water allocation and use, while at the same time striking a better balance between consumption and environmental needs in stressed rivers. It is thus an attempt to integrate micro-economic policy reforms with environmental ones. Reform implementation is also backed by an interesting enforcement mechanism, as it is incorporated into the National Competition Policy. The National Competition Council is responsible for assessing water reform progress in the various states and can recommend suspension of competition payments by the Commonwealth government if commitments are not met.

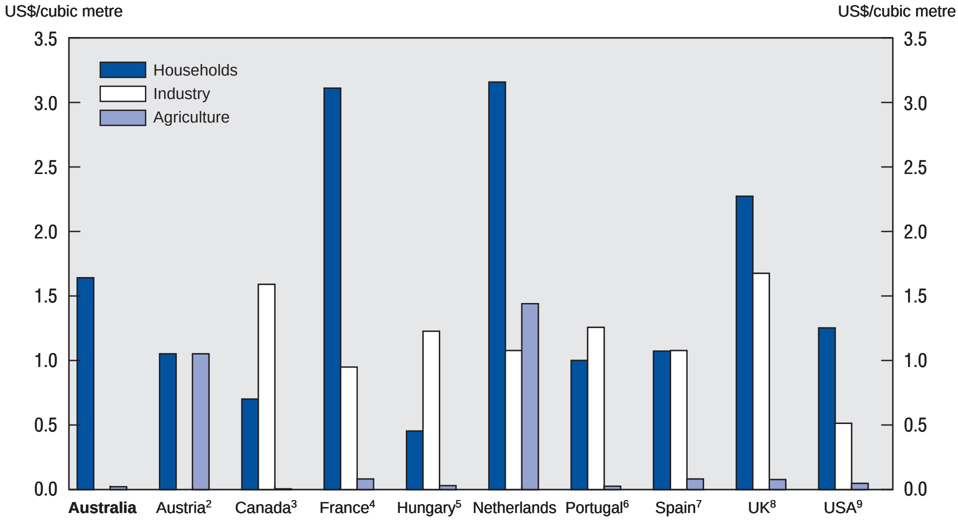
Water pricing

Progress in implementing water reform has been uneven across water-use categories and between states. Pricing reform in urban areas is generally well-advanced, but has been proceeding much more slowly in rural areas, in particular for irrigation pricing. For urban water supply, a two-part tariff has generally been introduced, with a fixed charge for access to service and a variable user charge, the latter providing an increasing share of water utilities revenues. Free allowances, which used to be large and widespread, are being gradually phased out in favour of charges starting from zero consumption. Assistance for low-income households is provided through clearly-defined and separately funded Community Services Obligations. Increasingly also, water charges for industrial and commercial users, which were often based on the property value instead of consumption, are being brought in line with residential charges, and the cross-subsidies from industrial and commercial users to households are being reduced or removed. Full cost recovery for urban water was found by the National Competition Council to be achieved in all jurisdictions except Queensland, where there is still a substantial way to go.[72] Consumption-based tariffs have resulted in decreasing individual water consumption. Water use in Brisbane, for example, was reduced by 20 per cent between 1995-96 and 1997-98, after the adoption of metering and use-based charges. This is happening despite a decrease in metropolitan water prices, which fell on average across Australia by more than 16 per cent between 1992-93 and 1997-98.

Pricing reform for water in rural areas, by contrast, has still a considerable way to go in all jurisdictions, despite some performance variation from state to state. In the past, subsidies for irrigation water were used to promote regional development, and as in many other OECD countries, the price of water supplied to agriculture is substantially less than that supplied to households (Figure 32) although differences in the quality and quantity of water supplied explain part of

Figure 32. **Water prices in selected OECD countries**[1]

Mid-1990s



1. For agriculture, industry and households, prices are the median values for the range of prices for each category.
2. Water used for livestock activities is obtained from municipal systems and priced at households rates.
3. Industry: these rates apply to commercial establishments only. While this may include small industries, the rates do not apply for major industrial operations.
4. Agriculture: data refer to the regions of Adour-Garonne and Côteaux de Gascogne. Industry: the value refers to 1990-93 and excludes taxes, pollution and abstraction fees.
5. Agriculture: the value refers to 1998 water abstraction charges. Households and industry: the values refer to 1998 maximum and minimum user charges for public water supply.
6. Agriculture: data refer to the regions of Sorria and Vigia. When it is a two-part tariff, the values were based on the estimated water volumes and the value per cubic metre.
7. Agriculture: data refer to the regions of Andalucia, Castille and Valencia. Industry: the values refer to 1992:94.
8. Agriculture: data refer to Northumbria and Wales.
9. Agriculture: data refer to the regions of Sacramento River and Tehama.

Source: *Environmental Indicators for Agriculture – Volume 3: Methods and Results,* OECD, 2001 and *The Price of Water,* OECD, 2001.

the gap. Low water prices were the main support provided to agriculture in Australia, which has received very little direct support compared with most other OECD countries.[73] Compared with other OECD countries with similar water conditions, Australia is also going quite far in reforming agricultural water pricing arrangements. However, due to various factors, including falling world commodity prices, rural/regional Australia has been undergoing important structural change, with some regions experiencing high growth but others being hit hard as their core activities decline. This makes the water reform politically difficult to implement.

Full cost recovery is also a stated objective for rural water, but interpreted in a narrow sense, as it excludes the costs of existing infrastructure.[74] On this restricted interpretation, charges should thus cover operational costs as well as the costs of infrastructure maintenance; governments may decide not to implement cost recovery fully, but they are supposed to make subsidies transparent. There is no comprehensive information on progress in that area, as it was not included in the last assessment of the National Competition Council, but it has been slower than anticipated. Some states do not endorse the full cost recovery principle; Queensland, for example, plans to subsidise 10 to 15 per cent of the rural water supply in 2004. On average, charges covered about 124 per cent of operational costs, and probably only about 65 per cent of operational and maintenance costs in 1998-99, but with a large variation across irrigation schemes. Irrigators using water from the Snowy river electricity dam, for example, do not pay for any of the operational, maintenance or refurbishment costs of the dam,[75] while others are probably reaching cost recovery in the narrow sense.

Average cost recovery does not ensure efficiency especially when there is a wide variation in the cost of providing water to individual irrigators. The prices paid by each irrigator should reflect the costs of providing water to individual irrigators. Most irrigation schemes charge a volume-based component, but 17 per cent still charge a land area component, and volume charges are still generally based on average costs for the irrigation group. While it was part of the COAG water reform agreement, the coverage of environmental costs is not implemented yet, and is seen as a long-term objective only.

The water pricing reform also included a commitment that new water development projects in rural areas would be both economically viable and ecologically sustainable, and that a robust evaluation process should be used for that purpose. While these principles seem to have been respected in most states, concerns have been expressed regarding projects conducted in Queensland, involving large public subsidies and in some cases unclear environmental effects.[76] Some of these projects, in particular, have contributed to rapid growth in irrigated development in the Northern part of the Murray-Darling Basin, while water management plans and the evaluation of downstream impact of the projects had not yet been completed. The penalty imposed on Queensland by the National Competition Council for non-compliance with commitments (amounting to 25 per cent of competition payments, or A$ 15 million, withheld for six months until reform commitments were made) has halted progress in those projects, until a clearer cost benefit analysis is available. The problem remains, however, that "economic viability" is not clearly defined, and departs from "commercial viability", since the Commonwealth and States governments can factor possible "community economic benefits" into the evaluation.

Water trading

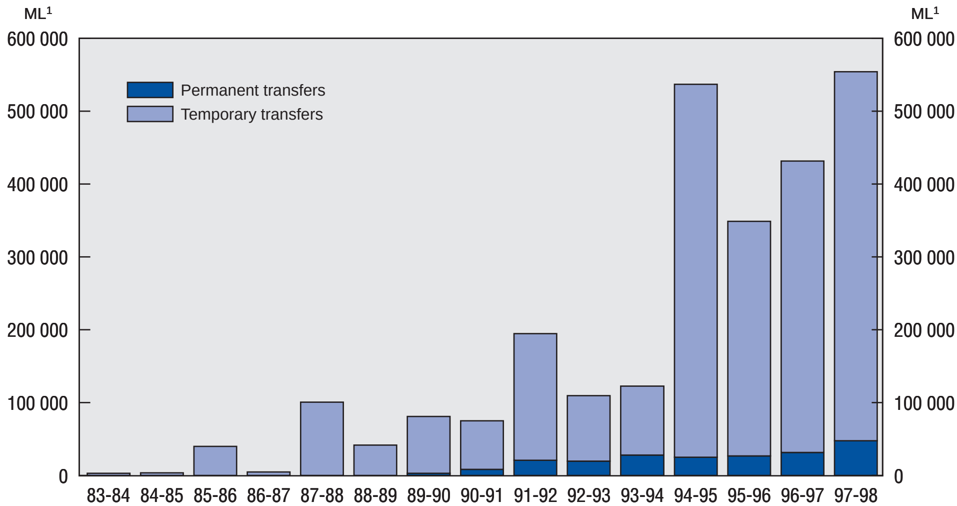
The structure of water rights is such that the link between pricing and trading in water management reform is not straightforward. Pricing reform – which affects what water users pay suppliers for the use of their rights – is needed to ensure appropriate economy in water use by individual holders. An expansion of trading should improve the reallocation of water, between holders of rights as well as to users with no initial allocation, allowing water to go from low to high value uses. Water rights differ across states, but they tend to share a number of characteristics, which make them unsecured and imperfect. Entitlements generally specify a volumetric allocation, but the actual allocation may not be by volume, due to the high variability of supply. In some states, such as South Australia, the required adjustments to entitlements in period of low water supply are made according to considerations of the potential injury to the various water users, and would often represent a proportional re-allocation of entitlements, while in period of high flows, licensees may also be assigned "surplus" rights.[77] In other states, like New South Wales, rules for adjusting allocation have been incorporated in the entitlements through a priority system, with "high security" rights, in general for permanent crops, and "low security" rights for mostly annual crops. Water rights are usually issued for a given number of years, although they are commonly renewed in practice.

Trading developments

Transferability of water rights was first introduced in 1979 in South Australia. Initially limited to annual transfers, it has been progressively extended to other states, to various types of users and to permanent transfers. By the early 1990s, permanent trading had been allowed in the three south-eastern states of the Murray-Darling Basin. The COAG water reform, however, has made the development of water markets part of the general policy framework, at the same time as the Murray-Darling Basin Ministerial Council introduced an overall cap on water diversion in the basin at its 1993-94 level,[78] to avoid increasing environmental pressure on rivers and ensure the security of supply for existing users.

Trading volumes, mostly concentrated in the Murray-Darling Basin, have been increasing over the years, but apply mainly to temporary transfers, as shown in Figure 33 for New South Wales, the state with the largest irrigation industry. By contrast, the permanent water market has not experienced much growth, failing to exceed more than 0.5 per cent of the total water entitlements available for trade in New South Wales. On average, in 1997-98, 7.3 per cent of total water entitlements were traded in Australian irrigation areas where trade is taking place, of which only 1.8 percentage points applied to permanent trading.[79] While in theory, there should be no distinction between annual and permanent transfers, since it should be possible for a series of temporary transfers to be equivalent to a permanent one, this may not be so straightforward in practice.[80]

Figure 33. **Water entitlement transfers in New South Wales**

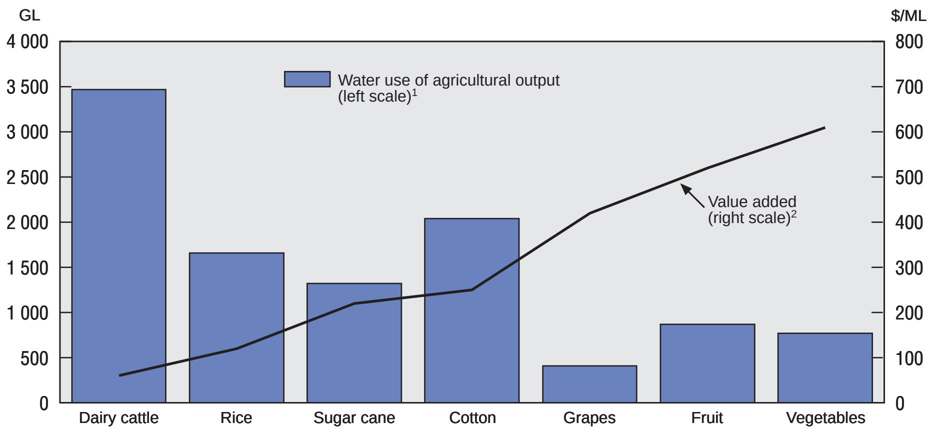


1. Million of litres.
Source: Australian Agricultural and Resource Economics Society, 2000.

The expected benefit from developing water markets is the equalisation of the marginal "productivity" of water use. The wide variation in average value added among agricultural activities illustrated in Figure 34 suggests that marginal productivity varies a lot and hence that the potential to increase the efficiency of water use exists in Australia, even when restricted to agricultural uses. In fact, although comprehensive information on the nature of transfers is lacking, most trading seems to be taking place among agricultural users. Permanent transfers seem to be moving water in the expected direction, that is from low-value-pasture and broad-acre farming to higher value horticulture, viticulture and vegetable production.[81]

Overall, this points to a relative thinness of the market when it comes to permanent transfers, at least. Most studies on Australian water markets see this as problematic; for example, investment in high-value horticultural enterprises may be incompatible with a movement of temporary water alone.[82] The reason is that water conditions are extremely variable from year to year, which makes water supply inherently unreliable relative to many other parts of the world.[83] However, provided that the temporary market is working well, it is not obvious that the thinness of the permanent market is problematic *per se*.[84] There are nevertheless some market imperfections which may explain the thinness of the market.

Figure 34. **Water use and value added intensity of selected agricultural industries**
1995-1996



1. Water use in GL (billion of litres).
2. Value added per ML (million of litres) of water supplied.

Source: Australian Academy of Technological Sciences and Engineering and the Institution of Engineers (1999).

Reasons for a thin market

To some extent, the thinness of the market can be explained by the inherent properties of water and water use, in particular its spatial dimension, which make it a non-homogenous good. Transfers of water entitlements, in particular permanent ones, are subject to approval by the appropriate water authority, to ensure that there is no negative externality caused by the trade. A major cause of concern is that changing the spatial location of water may damage the environment, in particular by increasing salinity (see following section), so that states require environmental assessments and water management plans. In Victoria, land has been designated as high or low salinity impact zones, and transfers to high salinity zones are forbidden. Water authorities also review the effects of trade on the security of supply of third parties, which may be affected, as water may have to come from a different source (reservoir or river). For example, the further upstream a water entitlement is moved, the more reduced the security of supply becomes, as less storage options are available.[85]

Differences in water entitlement specification across states also introduce heterogeneity. Water transfers between farmers in different states were not permitted in the past, but since 1998, an interstate pilot trading scheme has begun on part of the river Murray. Initially restricted to private diverters, the scheme now includes irrigators belonging to irrigator groups. Administrative and legal procedures have been amended to facilitate interstate transactions in high-security entitlements only. In order to limit the impact of trading on supply security, an exchange rate of 0.9 has been established for transfers from South Australia to Victoria or New South Wales (that is upstream transfers).[86] As for environmental clearance, the same processes apply as for intrastate trading.

A number of direct or outright restrictions also weigh against permanent trading, although it is difficult to estimate the extent to which they are binding. In some jurisdictions or regions, trade out from irrigation use is not permitted, and land-ownership and irrigation development approval are needed to purchase water. In other cases, trade out of a given irrigation district is limited to a very small percentage of total water entitlements, sometimes also for temporary trading.[87] In part, these restrictions are meant to prevent water entitlements Fmoving to "absentee landlords". They are also intended to protect remaining irrigators from substantial rises in price that may be necessary to cover water delivery system costs in the event of a rapid reduction in water supplied in an area. However, alternative pricing mechanisms for joint cost recovery are possible to design, that would remedy this problem and remove the need for such administrative regulations. Finally, limits also apply to the share of individual rights that can be transferred on a permanent basis even within a given district – 40 per cent in the largest irrigation district of New South Wales, 25 per cent in South Australia.

These various restrictions have *de facto* prevented intermediaries from intervening in the market.[88] Allowing the development of intermediaries would have a number of advantages. Their presence would enhance transparency. But probably the main advantage to be expected from their development would be to allow the spreading of the risks associated with the inherent unreliability of water supply, which would boost the development of long-term trading. High search costs incurred in establishing the price of permanent water rights may also partly explain the paucity of permanent trading; price information seems to be more readily available for temporary trading.[89] In fact, while parties to a permanent transaction have to report the quantity of water rights transferred, they are not required to report prices. The dispersion observed in prices may also to some extent result from these relatively high transaction costs. Introducing a price-reporting requirement would enhance the efficiency of the market. This could be done by the regulatory agencies, as in the land or housing markets, or even possibly by private intermediaries, if those were allowed to intervene on the market.

Difficulties in clearly specifying water rights may also slow the transition to market-based allocation mechanisms. In particular, the uncertainty remaining about the minimum flows allocated to the environment may hamper trading. These flows, referred to as "environmental flows", constitute one of the instruments retained in the water reform to improve the sustainability of water use. The establishment of an overall cap on diversions has increased the security of water

Box 6. Minimum environmental flows

One element of the COAG water reform framework is for jurisdictions to give priority to determining allocations or entitlements to water, including formal allocations to the environment as a recognised use of water. Historically, the environmental rights to water use have been residual to commercial developments, which has resulted in the severe degradation of river ecosystems. Most states have now reformed or are in the process of reforming their water legislation to assign a prior right to the environment. Yet, progress in the determination of formal allocation rules for the environment has been uneven, and, when developed, the rules remain approximate and *ad hoc*, mainly due to limited ecological data and incomplete understanding of the environmental consequences of current levels and patterns of water and land-use.[1] Further research is needed to develop appropriate rules for minimum flows,[2] as well as to determine the appropriate level of the overall cap on diversions in the Murray-Darling Basin. As concluded by the 2000 Review of the Operation of the Cap, there is no certainty that it currently represents a sustainable level.

Environmental flows are a contentious issue in the Australian debate, as they involve a trade-off between current and future uses and the environment. There has indeed been a rescheduling of commitments from 2001 to 2005 to implement the provisions for environmental flows included in the COAG water reform. Environmentalists argue that the environment should have a strict prior right prior to water allocation decisions, which comes down to bringing environmental allocations into the cap. Irrigators, on the other hand, call for a trade-off among economic, social and environmental objectives, and require an enhancement of the security of their water rights. Efficiency and distributional issues are difficult to separate.

One proposal is that environmental flows should be purchased directly from water markets. In theory, this could achieve a more efficient environmental outcome, as water would be bought from lower value uses. In practice, at the current stage of market development, there are still doubts about the efficiency of that solution (water for sale may be unavailable, while the buying or selling of environmental water may have an inflationary or deflationary effect if the market is swamped, and the transaction costs may be high). There are also distributional issues involved: if environmental flows were to be bought from current users, this would amount to making the general taxpayer pay instead of irrigators. In fact, any measure increasing the security of water rights at their current level would require the taxpayer to compensate irrigators in the future if their rights have to be reduced. Market mechanisms may allow desired environmental outcomes to be met in a more cost-effective way, but they cannot set the targ et. A combination of the "market" and "regulatory" approaches could also be used.[3] Increasing the efficiency of irrigation networks by financing engineering works out of public funds – transmission losses are currently substantial – and keeping the savings for the environment, is another option considered. It would be important, however, that proper incentives for water savings be provided in the first place through full economic pricing of water.

Box 6. **Minimum environmental flows** (*cont.*)

Another issue in the management of environmental flows is the level at which the decision has to be taken. While it is important, as enshrined in the principles of the water reform, to have community involvement in the decisions regarding flow rules, devolving responsibilities at the regional/local level is not efficient, as the environmental consequences of decisions are not only felt locally, but also by downstream users. Water planning in Queensland, for example, does not take into account the impacts on downstream water in New South Wales and South Australia. A regional perspective is needed, calling for more interstate co-operation in this field.

1. For a review of progress regarding the environmental part of the COAG water reform, see Cullen *et al.* (2000).
2. Determining environmental requirements is complex, as many factors have to be taken into account, such as timing, quantity and duration of flows, rainfall, land-use, diversions, transmission losses, daily flows and seasonal variation (Siebert *et al.*, 2000).
3. Siebert *et al.*, 2000.

rights for current users, but reductions in overall water allocations to irrigators in order to provide for environmental water allocation (as for example in 1998 in New South Wales) have attenuated such rights. In principle, environmental flows based on clearly established rules should not impair market efficiency, as buyers and sellers should factor them in the transfer price. In practice, nevertheless, there is still significant uncertainty as to what environmental flows should be (see Box 6), and the uncertainty regarding the future regulatory framework for environmental flows may impede water trading, as farmers may expect water value to rise in the future, if overall diversions are further restricted. A further policy-related uncertainty which may reduce permanent trading relates to the future subsidisation of irrigation infrastructure, as this obviously matters for the return on investment of potential traders.

The challenge of salinity

Nature of the problem

Agriculture is an important source of environmental degradation in Australia, as in many other OECD countries, as intensive crop production and regional concentration of livestock farming have brought rising levels of nutrient surpluses, ammonia and greenhouse gas emissions, among others, with consequent increases in water and air pollution. In Australia, a particular feature of this degradation is the problem of soil and water salinisation. Massive land clearing for agricultural purpose, combined with irrigation in some places, has initiated changes to groundwater balances, mobilising salts which have had significant adverse effects on soil and water quality, albeit some distance away and removed in time from where and when actions were taken (see Box 7). At least 2.5 million

Box 7. Nature of the salinity problem in Australia

Australia is geologically and climatically prone to concentrating salt in the landscape, as it combines a generally flat terrain with low rainfall, high evaporation, and very limited sub-surface drainage to the sea. Groundwater and rivers are thus naturally very salty, and salt often occurs at the land surface in the form of salt lakes or salinised land. However, human-induced land use changes have exacerbated these conditions, making rising salinity a critical problem.

Two types of salinity are normally distinguished, dryland salinity and irrigation salinity. D*ryland* salinity results from changes in the water balance of landscapes following the removal of native vegetation and the introduction of European-type agriculture. The deep-rooted and perennial native vegetation uses most of the rainfall, so that there is limited leakage to groundwaters. By contrast, shallow-rooted crops such as wheat and pastures for livestock production use less water and increase groundwater recharge. The result is a general elevation of water tables, which most often increase down-basin flow, and lead to higher groundwater pressures at some point lower in the catchment. This pushes the salt contained in groundwater and in the soil to the surface, where it concentrates by evaporation, and also increases discharges of saline groundwater to streams.

Given the time scale of hydrogeological processes, it may take from tens to thousands years before the increase in groundwater recharge translates into increased discharges and salinity, so that much of the effect of past actions is yet to come. The potential for increased groundwater recharge varies across regions, with the soils and climate. Where the soils are shallow, they are less capable of storing seasonal rainfall, and groundwater recharge can be greater. This is also the case where the growing season does not coincide with the dominant rainfall season, such as for example in the south of the country, which experience cold, wet winters and hot, dry summers. The time it then takes for a change in the rate of recharge to be fully reflected in the rate of discharge depends on the slope of land and soil characteristics.

In *irrigation* areas, the problems that can result from the removal of native vegetation have been compounded by the application of large additional quantities of water, very often without drainage facilities to remove excess water, which has substantially added to the leakage into groundwater. In practice, the two types of phenomena (dryland and irrigation) have combined to increase salinity both in land and water.

hectares (5 per cent of the country's cultivated land) is currently affected by dryland salinity, and a recent audit[90] estimates that approximately 5.7 million hectares are within regions mapped to be at risk or affected by dryland salinity. The area affected or at high risk could rise to 17 million hectares around 2050,[91] concentrated in the populated parts of the country (Table 18). One-third of the rivers are in extremely poor conditions, concentrated mainly in the southern part of the country. The costs of salinity include the loss of productive land for agriculture and reduced yields from irrigated crops and pastures, but also damage to infrastructure, such as roads and buildings,[92] and costs to urban and industrial water users. At risk from increased salinity is also the quality and variety of a range of environmental assets, both on land and riverine eco-systems. In 1998, the costs of dryland salinity, excluding biodiversity costs, were estimated at A$ 270 million annually (about 1.7 per cent of agricultural value added), but they may well rise substantially in the long run.[93]

A number of key aspects of the salinity problem make it a difficult issue for policy to tackle. First, the causes and effects of the problem are not always felt in the same place. In some cases, the farmer causing the problem is the one suffering from it, but in most cases, the most acute impact is a long distance (even hundreds of kilometres away) from the source. This externality problem is made more complex by the fact that it extends over state boundaries, which makes the usual institutional/administrative division ineffective to deal with it. Second, given the long time lags involved (see Box 7), landholders implementing land-use changes are not those who will experience the consequences. Third, there is

Table 18. **Areas at high risk of developing or being affected by dryland salinity**
By State

	Area affected – PMSEIC report		Area affected or at high risk – National Land and Water Resources Audit			
	Thousands of hectares and percentage of total State surface					
	1997		1998/2000		2050	
State/Territory						
New South Wales	120	0.1	181	0.2	1 300	1.6
Victoria	120	0.5	670	2.9	3 110	13.7
Queensland	10	0.0	. .	. .	3 100	1.8
Western Australia	1 804	0.7	4 363	1.7	8 800	3.5
South Australia	402	0.4	690	0.7	600	0.6
Tasmania	. .	. .	54	0.8	90	1.3
Total	2 476	0.4	5 658	1.2	17 000	2.7

Source: Report to the Prime Minister's Science, Engineering and Innovation Council, "Dryland Salinity and its Impact on Rural industries and the Landscape", December 1998; and National Land and Water Resources Audit.

significant uncertainty as to the precise linkages between actions and salinity effects as well as to the length of time for action to take effect. Fourth, given the diffuse nature of causes and effects, it is quite difficult (or costly) to monitor both actions and consequences. All this makes it difficult to convey a proper "signal" for landholders' response.

Policy response

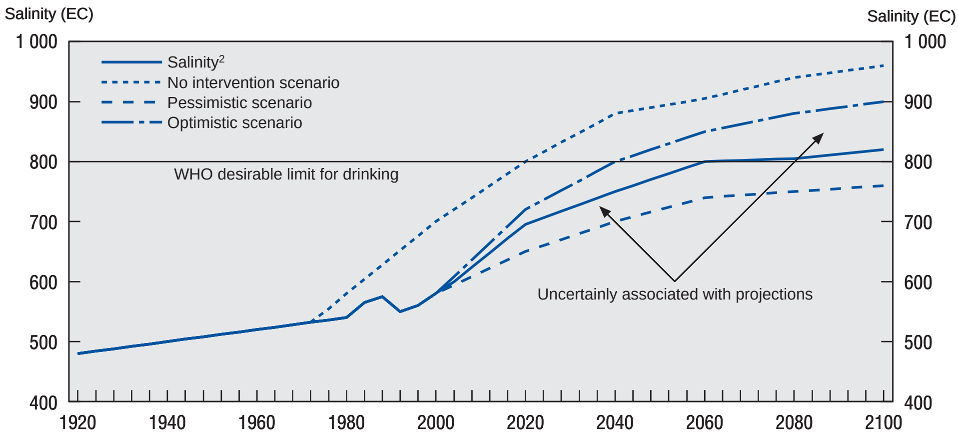
Three main types of technical options exist for salinity mitigation: changes in land and water use and management practices; engineering salt-interception schemes (which pump saline groundwater and collect the salt through evaporation), and river flow management. To date, the main policy initiative to mitigate salinity has been taken in the Murray-Darling Basin – which concentrates most of Australian irrigated agriculture and where most of the salinity effects were initially felt – relying mainly on salt-interception schemes which provide immediate reductions in river salinity.

The Murray-Darling Basin Salinity and Drainage Strategy

Launched in 1988, the strategy provided a framework for joint action by the New South Wales, Victorian, South Australian and Commonwealth governments to manage waterlogging and land salinisation in irrigation areas and river salinity in the lower Murray. Engineering schemes to intercept salt had already been constructed in the lower part of the river, but the cost of further schemes was increasing and downstream users were reluctant to build new schemes while salt discharges from upstream were continuing.[94] The strategy is a schedule to the Murray-Darling Basin Agreement Act (1989) – one of the few instances that binds government to common action within the Australian federation; it imposed rights and responsibilities on the government members, holding them accountable for actions taking place after 1988 that affect salinity. The four governments jointly engaged to finance a programme of works for groundwater pumping,[95] to reduce salinity at Morgan (just upstream of Adelaide, South Australia's capital town) by 80 EC, to come close for most of the time to the 800 EC threshold for desirable drinking water quality.[96] There was no a precise time commitment. The states may take actions which exacerbate salinity, such as further drainage works and irrigation developments, to the extent that they earn "salinity credits" through additional engineering works.

Ten years after the commencement of the strategy, the contribution of engineering works to the reduction in salinity at Morgan has been of the order of 76 EC, while irrigation developments and water management changes have resulted in a 19 EC salinity increase, giving a net reduction of 57 EC. This has deferred the expected date of average salinity at Morgan breaching the threshold for desirable drinking water quality from 2020 to 2040-50 (Figure 35). This one-off

Figure 35. **Forecast of salinity at Morgan (South Australia)**
Electrical conductivity (EC) units[1]



1. Electrical conductivity (EC) units are used as measures of water salinity. The threshold for desirable drinking water quality according to WHO is 800 EC.
2. Recorded salinity until November 1988, projections thereafter.

Source: Murray-Darling Basin Commission.

reduction in salinity, however, does not improve the trend, which is due to actions taken in the past.[97] Although the 80 EC reduction target was set with reference to the threshold for desirable drinking water quality, cost considerations have also been taken into account in designing and implementing the strategy. In fact, a rapid cost-benefit analysis shows that the benefits of the works have exceeded their costs.[98] The marginal costs of engineering salt-interception schemes are increasing, however, though the Murray-darling Basin Commission estimates that there are still another 50 EC of works which would provide positive net benefits.[99] That engineering works have provided net benefits does not imply that the overall salinity and drainage strategy has been cost-effective, however. Victoria and New South Wales have used some of their "salinity credits" for irrigation development and water management changes,[100] and an evaluation of the economic and environmental costs and benefits associated with these developments, which would be required to assess the cost-effectiveness of the strategy, is not available.

Land management

To address the underlying causes of dryland salinity, which has been found to contribute much more than expected to river salinity,[101] land management measures have to be used. Groundwater recharge can be reduced in some regions by improving the water-use efficiency of pastures and cropping rotations or by replacing agriculture with plantation or agro-forestry systems. Until recently, there was no clearly specified objective or strategic approach for dryland salinity mitigation. To date, most of the land management measures with impacts on dryland salinity have been implemented as part of wider land management programmes, such as Landcare and Bushcare, which are parts of the Natural Heritage Trust (NHT), a Commonwealth government initiative for land and water management and the conservation of biodiversity.[102] The Landcare programme aims at addressing the causes of land degradation, relying on relatively small projects identified and implemented at the landholder or community level. Since 1997, the Bushcare programme finances projects to conserve native vegetation or replant, also mainly at the community level, the goal being to reverse the decline in Australia's native vegetation cover with no net loss by June 2001. These programmes may have increased community awareness of environmental issues at stake in land and resource management, but there is increasing recognition that incremental changes at the local level can deliver only marginal changes, not commensurate with the scale of the dryland salinity problem.[103] In addition, the local approach has meant that programmes are not necessarily prioritised towards areas where they would provide most benefits in terms of controlling dryland salinity.

Land clearing has been going on at relatively high rates over the last years in some states, especially Queensland, but also New South Wales and Tasmania.[104] Clearing of native vegetation is estimated to average about 300 to 340 thousands hectares per year, in net terms (with over 340 thousands hectares in Queensland), while 10 000 hectares had been revegetated and 120 000 hectares of native vegetation had been protected in one year and a half under Bushcare.[105] Subsidising revegetation and allowing land clearance at the same time is obviously not cost-effective.[106] In large part, this inconsistency reflects an institutional problem, as states have primary constitutional responsibility for land-clearing regimes, while the Commonwealth has been financing the Bushcare Programme, thus illustrating the difficulties of policy co-ordination in a federal country mentioned earlier.

The recently-released National Action Plan for Salinity and Water Quality is the first concerted and targeted national strategy to address the salinity problem, in particular dryland salinity, supported by a A$ 1.4 billion public financing (half of which from the Commonwealth government) over seven years. Targets and standards for salinity are to be developed in collaboration between the Commonwealth and the States, and integrated catchment/regional management plans addressing salinity will be established. Given the nature of the salinity process, in particular the regional variability of the benefits derived from salinity mitigation and the potentially large distance between where land use actions are taken place and where the salinity effect is felt, it is appropriate to design and implement policies at the regional/catchment level. The plan also recognises the necessity to prohibit land clearing in areas at high risk of land or water degradation, and envisages the creation of a number of market-based mechanisms to achieve more desirable salinity outcomes as well as greenhouse gas abatement

The choice of instruments and targets

The extent to which economic instruments – *i.e.* instruments using price incentives – could be used for salinity mitigation is currently a matter for debate.[107] Directly addressing salinity through economic instrument would require a "tax base" to be identified, with direct links to salinity. But although much progress has been made in assessing salt levels and future salinity hazard, significant uncertainty remains as to the links between land-use and management actions and salinity. While the effects of land-management practices or land-use changes on water recharge can usually be measured, there is no direct link between recharge rates and salinity effects, which depends on discharges (see Box 7). Besides, the effects of revegetation on salinity vary across region with the climate and soil conditions. The effects on salinity of improvement in water use efficiency are also not straightforward to assess, as they affect not only groundwater recharge but also the run-off, with a net effect on river salinity for downstream users varying across location and time. Introducing, for example, a tradeable scheme that would cover diffuse sources of salinity is not possible. A trading scheme exists in the Hunter River (Box 8) to deal with industrial point sources, which although important at the margin, are not the main source of salinity problems. It was initially planned to integrate diffuse sources in that scheme, but uncertainties over the link between vegetation and salinity make both monitoring and control extremely difficult. Extending the scheme to include diffuse sources thus seems impossible at the moment, and plans to do so have been shelved.

Intermediate targets have therefore to be set, such as end-of-valley salinity levels, revegetation or irrigation improvement. To the extent that actions can be identified as intermediate targets, as for example revegetation of specific areas where it is assessed to have effect on recharge rates, economic instruments can be applied to achieve these indirect targets. Indeed, subsidies provided for revegetation can be improved as an economic instrument by structuring them to improve the link between the subsidy and the environmental outcome. In fact, the National Action Plan for Salinity and Water Quality includes measures heading in that direction. In two pilot areas, a competitive bidding for subsidies for re-vegetation projects would be organised. The various environmental benefits associated with re-vegetation (in terms of salinity, biodiversity and other possible environmental impacts), which vary according to the land location, would be taken into account, along the lines already used in the Conservation Reserve Programme

Box 8. Managing salinity discharges from point sources: the Hunter River salinity trading scheme

The policy aimed at managing salinity discharges from coal mines and electricity companies in the Hunter River in New South Wales was reformed in 1995, from a pure licensing approach to an approach combining command and control regulation and the use of market-based instruments in the following way:

- Saline discharges are prohibited during low flow periods, when they cause most damage, and are authorised without any limit during periods of flood flows.
- In periods of high flows, saline discharges are managed by a pilot cap-and-trade system. The total amount of salt that can be discharged by mining and electricity companies is calculated daily so as to respect thresholds for salinity levels in three distinct locations ranging from 600 EC to 900 EC. Discharge entitlements, which give the right to a share of the total allowable discharges for periods of one or two years, are allocated for free, based on a number of criteria including the environmental performance of the firm as assessed at the inception of the scheme, output, employment and site-specific conditions.

This new scheme can be considered as successful, as salinity targets were not exceeded due to discharges by the scheme participants. However, to date, this seems to result more from the regulatory provisions of the scheme than from the effectiveness of the cap-and-trade system. In fact, the utilisation rate of the total amount of salt that can be discharged has been low (only 13 per cent) as most participants have been able to meet the bulk of their discharge needs by discharging into flood flows. Trading has also been relatively scarce (one transaction in 1995, two in 1996, none in 1997, twenty in 1998, eighteen in 1999 and twenty-two in the first eight months of 2000) and although participants are not required to disclose whether or how much they are paying when they trade, it appears that much of the temporary trading has been on a bilateral *quid pro quo* basis without money exchange, although longer-term trades have had a price.

The importance of the trading mechanism is likely to grow over time as economic activity in the region increases, as can be expected from current developments. The interest in trading may also increase once the pilot scheme is formalised, especially if, as currently envisaged, the Environment Protection Agency of new South Wales introduces a gradual auctioning of discharge entitlements, which would also facilitate new entry.

in the United States.[108] This system would also help to minimise the costs of meeting a given re-vegetation target.[109] In the longer run, however, to provide a consistent system of price signals, in the same way as subsidies are provided for revegetation, governments could also consider taxing land-clearing according to the environmental damage that it is evaluated to cause.

To determine which actions are most beneficial, and how resources should be allocated, cost-benefit analysis has to be used. The Murray Darling Basin Commission is currently undertaking such an assessment, considering the options of reforestation and improvement in irrigation water use. The analysis takes into account the costs of salinity for agriculture and urban and industrial water users – but not other infrastructure costs neither environmental costs – and tries to identify the most cost-effective options. Preliminary results indicate that overall costs are relatively low and that although revegetation would be highly effective in some areas, improvement in water use for irrigation or changes in the location of irrigation would greatly contribute to mitigating salinity in some places. Accelerating the implementation of the water reform in rural areas would thus also contribute significantly to improving the cost-effectiveness of policy for salinity mitigation. Indeed, a full "economic" pricing of water would increase the incentives for using it efficiently, and including the environmental costs associated with water use in its price would further increase the consistency of governments policies in this domain.

Climate change mitigation

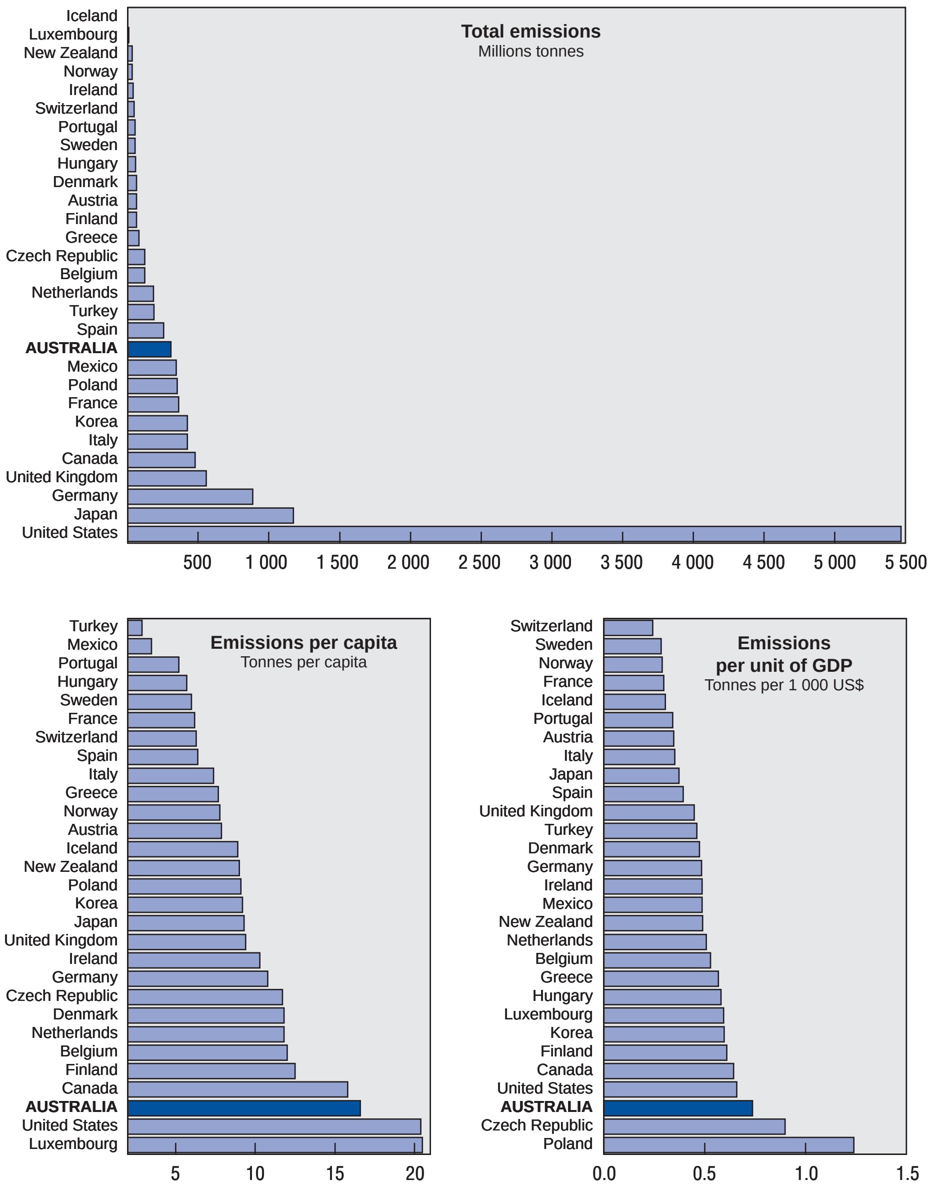
Climate change is a challenging issue for Australia. The statement by the United States that it opposed the Kyoto Protocol has caused uncertainty as to the outlook for the Protocol and its targets. However, Australia has stated that it remains committed to the pursuit of emissions reductions, as well as to the unrestricted international trading of greenhouse gas (GHG) emission allowances within any global agreement. As in other OECD countries, curbing greenhouse gas emission growth to a significant extent would entail significant structural change and adjustment costs, especially as 84 per cent of electricity is generated from coal, the fuel with the highest global-warming potential. Moreover, if the Kyoto Protocol or another international agreement to limit greenhouse gas emissions were implemented, as the world's largest coal exporter, Australia would also have to face a reduction in demand for coal exports and the associated terms of trade implications. The policy setting is also complicated by the fact that given the country's energy structure, policy effects may be unequally distributed across states, with those relying more on natural resources and coal, such as Queensland, New South Wales and Western Australia, bearing a higher cost than the others. On the other hand, a relatively high share of Australian greenhouse gas emissions in 1990 was related to changes in land-use, providing more scope for reduction here compared with other OECD countries. Treatment of these emissions is still under negotiation among the Parties to the Protocol, however, and uncertainty thus remains on the role that land-use management options may play in reaching the target.

The costs of meeting the Kyoto target

Australian emission intensities of carbon dioxide are the third highest in the OECD both per capita and per unit of GDP (Figure 36). Australia, along with

Figure 36. **Carbon dioxide emission intensities**

1997



Source: OECD.

most other countries, will not meet the general commitment made in 1992 (when the United Nations Framework Convention for Climate Change was established at Rio de Janeiro) that greenhouse-gas emissions be no higher in the year 2000 than in 1990. Under the terms of the as-yet unratified Kyoto Protocol, Australia has been permitted an 8 per cent average increase in greenhouse gas emissions in the period 2008 to 2012 compared with their 1990 level. In 1999, greenhouse gas emissions, excluding those due to changes in land use, were about 17 per cent above their 1990 level and official projections are that, on unchanged policies, these emissions by the year 2010 would be 23 per cent above their 1990 level. Preliminary estimates of emissions from land and forests, although highly uncertain, show a decrease of around 30 per cent between 1990 and 1999 based on the United Nations Framework Convention for Climate Change (UNFCCC) accounting rules. Under these rules, the increase in greenhouse gas emissions over that period is 7.3 per cent.[110] The Kyoto Protocol provides for some of these rules to be revised, but no agreement on all of the revisions has yet been reached. Despite the uncertainties, the importance of emissions from land clearing in the base year (they represented about 30 per cent of total emissions in 1990) means that they will play an important role in meeting the Kyoto target. It remains difficult to judge how close Australia is to meeting its Kyoto target but it is likely that use of international carbon trading will be an important element in Australian policy. In the absence of such flexibility mechanisms, it is clear that further policy action will be required to meet the target (as is the case in many other OECD countries).

One of the options under the Kyoto Protocol is indeed to purchase emission permits from other countries. Australia is an active supporter of the use of such mechanisms.[111] Model simulations covering the three main greenhouse gases provide a cost estimate, in terms of GNP foregone for Australia in 2010, of 0.6 per cent with no emissions trading and 0.5 per cent with unrestricted trading among the so-called Annex B countries.[112] The same simulations show that the Australian target could be met with an implicit carbon tax (or a price of an emission permit) of US$206 per tonne (at 1992 prices) without trade or US$87 with full Annex B trading.[113] Comparable OECD simulations (but in which Australia is grouped with other countries) provide a significantly lower estimate for the price of permit with trading of US$58 per tonne. In any case, these simulations do not take into account possible emission reductions from changes in land use. A quantitative evaluation of the marginal abatement costs associated with reducing land clearing is not available, but it is very likely to be lower than those of reducing emissions from energy use, especially since reducing land clearing (or even revegetating) may have ancillary benefits, in particular on salinity. Including this option would probably lower the implicit carbon tax required to meet the target, and thus the overall costs of meeting it.

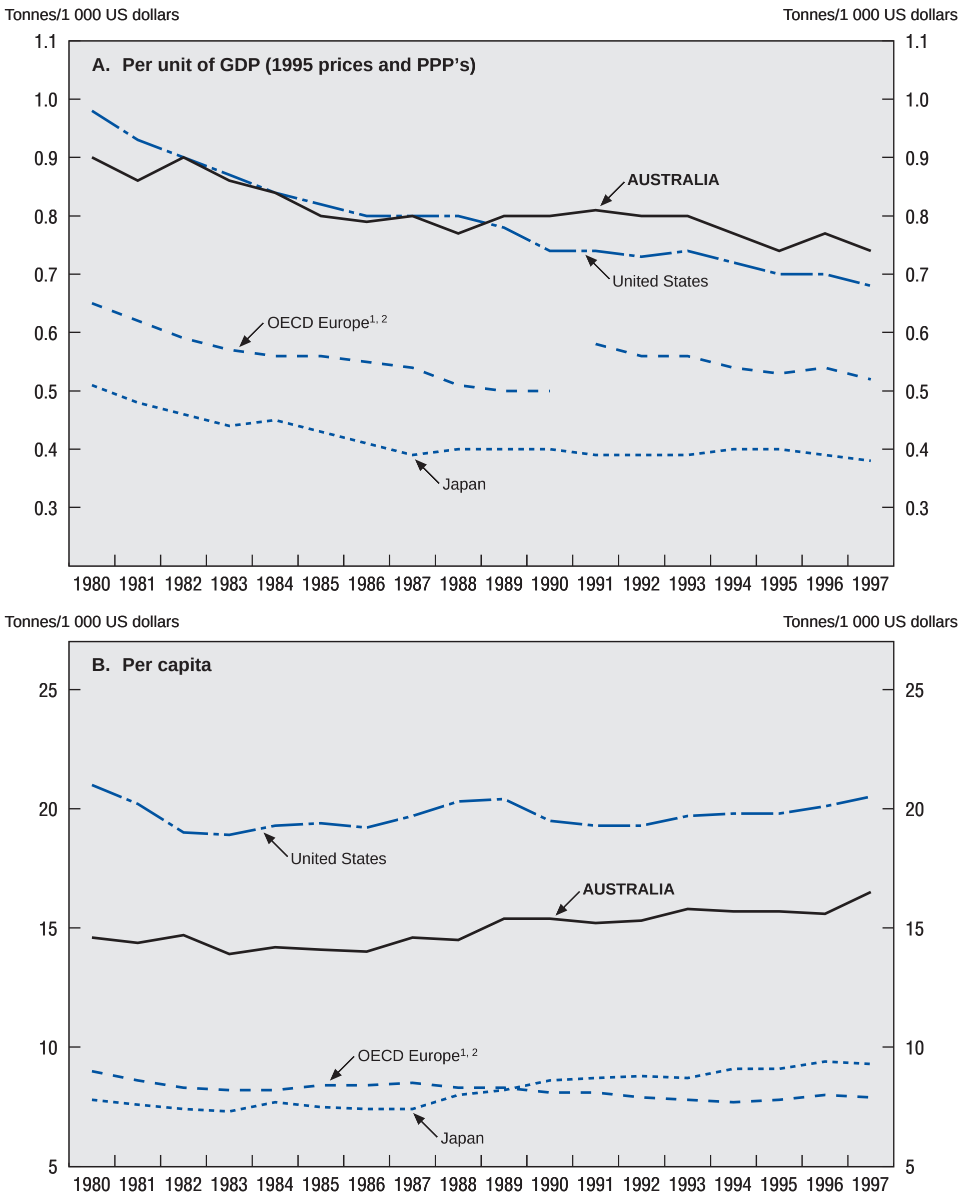
However, in the longer run, even with a substantial amount of trading, an international agreement to mitigate climate change would certainly require a significant decline in Australian greenhouse gas emissions, including reduced fossil fuel use. This would require a shift in carbon dioxide intensity trends, whose decline has slowed in terms of unit of output in the late 1980s, and are still on a rising path in per capita terms (Figure 37). Electricity generation accounts for about 37.5 per cent of total national GHG emissions and the scope for fuel substitution in that sector is large.[114] In the current framework in which the carbon externality is not internalised, coal has a strong price advantage over alternative fuels such as natural gas or renewables and substitution is not economical. There are some expectations that, in the long-run, as the liberalisation of the gas market will further proceed, gas price will be reduced, opening some possibility for substitution of coal by gas.[115] Curbing emissions from transport, the component projected to grow most rapidly, would require considerable improvements in fuel economy, or reduction in transport activity, or technological advances to increase the scope for fuel switching (*e.g.* to fuel cells).

Mitigation measures

The framework for Australia's greenhouse response is provided by its National Greenhouse Strategy (NGS), which was launched in 1998. The NGS consists of 86 measures, comprising a mix of regulatory, voluntary and market-based approaches.[116] The Greenhouse Challenge, initiated in 1995, which registers voluntary commitments from firms from all sectors (with the exception of households and private transport), has been one of the main initiatives taken to mitigate greenhouse gas emissions up to now. The coverage of the programme is extensive, embracing for example 98 per cent of emissions from the electricity sector. However, as in other OECD countries (Box 9), the effectiveness of such voluntary initiatives can be questioned, due in particular to doubts about accountability and verifiability. It is indeed always difficult with such agreements to determine whether a particular action would have taken place in their absence, as evidenced in the evaluation report of the Greenhouse Challenge.[117] Independent verification of baseline, inventories and action plans, introduced since 1999 for a random sample of participants, may partly remedy that problem. Their effectiveness could be further improved if complemented by specification of clear targets and actions to be taken in case of non-compliance. In any case, these types of agreements provide few incentives for firms to take measures that go beyond the "no regret" opportunities, and administrative and monitoring arrangements which ensure that they do effectively reduce emissions are very costly.

Measures have also been implemented to favour the production and use of renewable energy. The main one up to now is probably the initiative announced in 1997 to increase the share of renewable electricity in Australia by 2 per cent by

Figure 37. **Evolution of carbon dioxide emissions intensities**



1. Excluding Czech Republic, Hungary and Poland.
2. Including West Germany until 1990 and total Germany afterwards.

Source: IEA.

Box 9. **Voluntary agreements: the international evidence**

The OECD has recently conducted an evaluation of voluntary approaches for environmental policy (OECD, 1999*c*). In general, the environmental effectiveness of voluntary approaches, and in particular negotiated agreements (involving commitments elaborated through bargaining between an industry and a public authority), is found to be modest.

First, the evidence points to the central role of the industry in the target-setting process, the scope for deficient participation of firms (free riding) and the uncertainty over regulatory threats, leading to generally rather unambitious goals. Second, at the implementation stage, negotiated agreements perform poorly due to non-enforceable commitments, poor monitoring and lack of transparency. In addition, as far as economic efficiency is concerned, it seems that the burden-sharing between firms is more driven by equity considerations than by cost-efficiency concerns, and that voluntary agreements do not rely on price mechanisms to induce pollution abatement. Finally, the usual claim that negotiated agreements tend to reduce administrative burdens is not confirmed either by empirical evidence or analytical arguments.

An evaluation conducted by Krarup (1999) on voluntary agreements in energy policy in some European countries (Denmark, Germany, France, the Netherlands and Sweden) also provides similar conclusions. While the agreements reviewed had clear targets, no business-as-usual estimation had been carried out before the schemes were implemented. In the end, targets were achieved, but they were found to correspond to outcomes that required no behavioural changes. Some of the agreements had achieved significant abatement but at a high cost, while others had low effects at low cost.

Voluntary approaches can play some beneficial role when used as complement to traditional command-and-control systems, as they allow for some flexibility in meeting targets. Although it has been rarely implemented up to now, voluntary agreements may also be mixed with economic instruments. However, the target itself should be set outside the negotiated agreement, as in some of the Dutch agreements, for example. Possible safeguards against the main drawbacks of voluntary approaches include: clearly established targets, characterisation of a business-as-usual scenario, credible regulatory threats, reliable monitoring, penalties for non-compliance and third-party participation in the process of setting objectives and performance monitoring.

the year 2010.[118] While the target was fixed rather arbitrarily, a cost-effective trading approach has been proposed for its implementation, similar to that already used in Denmark and announced in Belgium.[119] Electricity generated from renewable sources would give the right to renewable credits or certificates, and electricity retailers and wholesale purchasers will be able to meet their 2 per cent target by obtaining certificates through contracts with renewable generators or by purchasing them from other parties. A A$ 40 per MWh penalty will apply to those who fail to meet their obligations. Interim targets have been adopted and have been operative since 1 April 2001. The trading mechanism will provide for useful flexibility in meeting the target.

To go beyond "no-regret" opportunities, broad-based economic instruments that internalise carbon externalities will be needed. Australia is considering the possibility of setting up a market for GHG emission quotas,[120] but has recently announced (August 2000) that it will not implement a mandatory scheme ahead of an international market or its ratification of the Kyoto Protocol. While not ruling out the eventual introduction of such a scheme, the government position reflects, at least in part, the view that introducing a domestic trading scheme before an international one is in place would reduce the competitiveness of Australian energy-intensive industries, and result in "leakage" of energy-intensive activities from Australia to its competitors, many of which are developing countries not committed to reducing their GHG emissions. OECD analysis, on the other hand, suggests that it could be possible to devise compensation mechanisms that alleviate the loss of competitiveness of energy-intensive firms associated with the introduction of a domestic emission trading scheme prior to an international one; in the longer run, some loss of competitiveness of energy-intensive firms is in any case inevitable if domestic emissions are to be significantly reduced.[121]

Setting up a trading scheme or a carbon tax of broad sectoral coverage is the most cost-effective way to achieve emissions reductions, as it would ensure the equalisation of marginal domestic abatement costs. Given the diverse range sources of GHG emissions and the need to include sinks, there are many design questions of a technical nature that would need to be resolved prior to the implementation of a trading system. It is important that these technical issues be pursued rapidly. The fact that firms are showing reluctance to enter the second round of agreements under the Greenhouse Challenge, because they fear they will be penalised for actions already taken if a trading scheme is set up, may be an example of the costs of waiting. After the deep structural microeconomic reforms that have been implemented under the framework of the National Competition Policy, in particular in the energy/electricity sector, the conditions are now met in Australia for economic instruments to deliver their full potential benefit. Energy market players themselves see the absence of any pricing mechanisms for GHG emissions as one of the major impediments to reducing those emissions.[122]

As part of the Measures for a Better Environment, announced at the end of 1999 at the same time as the tax reform measures (see Chapter II), A$ 400 million of public money is to be provided over the next four years for large-scale greenhouse gas emission reductions. The Greenhouse Gas Abatement Programme (GGAP) consists of a form of competitive tender for subsidies for greenhouse gas abatement projects of all sorts, based for example on renewables, energy efficiency, afforestation or non-CO_2 gas abatement. To ensure the cost-effectiveness of the subsidy, the Australian Greenhouse Office will try to maximise the quantity of CO_2 equivalent emissions saved per dollar of public funding as well as per dollar of overall cost (private and public). A main disadvantage of this measure, compared with an economic instrument such as a tax or tradable permit scheme, is that the administrative costs, in particular those required to ensure that projects will result in abatement which is truly additional, will be very high, as in the case of voluntary agreements. A raw calculation based on the estimated marginal price per ton of carbon indicates that the abatement that could be expected from that programme would be 7 to 15 million tonnes of carbon dioxide equivalent or 1.6 to 3.2 per cent of 1999 estimated GHG emissions. (Estimated emission savings from the first year of operations of the GGAP are consistent with these OECD calculations.) Further reductions, which would be increasingly costly, would require additional funding, showing the limits of this type of programme, which aims to reduce GHG emissions without affecting energy-intensive sectors.

Another measure included in that same package is the allocation of up to A$ 264 million over the next four years to the conversion of diesel-fuelled electricity generators to renewable energy technology in remote, off-grid areas.[123] The cost-effectiveness of emission reductions resulting from that measure is questionable, as this sum, which represents more than a quarter of the envelope available for greenhouse gas abatement over the period 2000-04, could certainly have been used so as to deliver more reductions in GHG emissions per dollar of public funding. In fact, the measure aims at achieving multiple objectives, including regional ones.

Transport tax policy provides a negative signal

Transport is an important and rapidly-growing contributor to GHG emissions, accounting for 16 per cent of emissions (excluding land clearing) in 1999. Provisions included in the recent tax reform, however, have reduced fuel tax rates and fuel prices for specific sectors, in particular for businesses and non-urban transport, which runs counter to mitigation effort.

To avoid an increase in the rate of tax on fuel and of fuel prices at the time of the introduction of the goods and services tax (GST), the Commonwealth government reduced the excise rate.[124] In addition, existing rebates were increased or extended and new ones introduced (Table 19), which decreased transport fuel taxes for business users in general by around 15 per cent, and by around 55 per cent for heavy vehicles, particularly those operating outside large metropolitan areas. Because of pollution and congestion concerns, heavy vehicles in large urban areas have less access to lower fuel taxes, but enforcement problems may be expected which are likely to lead to some tax avoidance. To avoid a deterioration in the relative prices of other modes of transport *vis-à-vis*

Table 19. **Changes in diesel fuel taxation as of 1 July 2000**
Cents per litre

	Previous	Current
Normal excise rate	44.1	37.5
Heavy vehicles (between 4.5 and 20 tonnes outside large metropolitan areas;		
above 20 tonnes	. .	19.7
Off road		
Agriculture, forestry and fishing	0	0
Mining	0.9	0
Hospitals, nursing and aged persons homes, some private residences	10.6	0
Rail transport and marine industry	. .	0
Non-metropolitan areas	. .	36.5
Remote areas	. .	35.5

Source: Commonwealth Treasury of Australia.

road, the rebates and special provisions have also been granted to rail and marine transport, as well as to alternative fuels. The total expected tax revenue loss is of the order of A$ 4.4 billion.[125] An assessment of the net tax revenue loss would require an estimate of the GST revenue from fuel, which is presently not available. More recently, following the increase in fuel price on world markets, the Commonwealth government further reduced fuel excise tax by 1.5 cents a litre, but also permanently removed the half-yearly indexation of fuel excise. While the effects of these changes in terms of traffic growth may be limited in the short run, transport prices will have an effect on transport volumes and therefore on emissions in the long run.[126]

The reform moves road transport taxation, at least for business transport, even further from a structure needed to internalise road transport externalities. Fuel taxes and annual vehicle registration charges (for heavy vehicles only)[127] are the two existing instruments that could be used to recover the costs.[128] However, these were not designed to fully recover external costs, in particular environmental ones.[129] The annual vehicle registration charge allows the environmental characteristics of vehicles to be taken into account, but it is an imperfect instrument as it is not related to use, and it was anyway not used to try offset the previous effect. In sum, the new tax regime reduces the real price of all types of business transport, especially for regional road transport and rail and marine transport. The recent removal of indexation of fuel excise tax will also result in a reduction of the real price of fuel for both private and business transport. In March 2001, the Prime Minister announced an inquiry into the whole structure of fuel taxation and it is important that it takes account of the environmental aspects of fuel taxation.

Urban transport accounts for over half of greenhouse gas emissions attributed to transport. Urban density is rather low, much closer to that of North American cities than to European ones, and 93 per cent of passenger transport is via private road vehicles.[130] Transport distances of urban commuters are relatively long, and congestion is becoming increasingly frequent. In fact, urban transport causes about 9.5 per cent of total GHG emissions (out of 16.1 per cent for the total transport sector), of which 3 percentage points are due to congestion only.[131] The outlook for transport in urban areas generally is for increasing levels of car ownership, usage and congestion and relatively stable or possibly falling levels of public transport usage. Appropriate urban development and transport policies would comprise a mix of measures, including urban planning. But road-pricing mechanisms would also be needed to internalise environmental costs, which have been estimated to represent 4.5 cents per vehicle-kilometre in 1996 (of which 2 cents from greenhouse gas emissions) or 38 per cent of total infrastructure and external costs.[132]

The need to integrate sink enhancement policy

As already noted, compared with other OECD countries, a large share of 1990 Australian GHG emissions comes from land use change and forestry activity and agriculture. There is still uncertainty as to how some of the sources of these emissions will be accounted for in the Protocol. The inclusions of emissions from land use and land use changes has been agreed, but the accounting methodology remains to be defined and there is still no agreement on the inclusion of additional sinks (such as soils, forests planted before 1990).[133] Australia has been active in international negotiations on implementation of the sinks provision as it could be an important and relatively low cost abatement option. This is especially so when the associated benefits of land management policy in terms of soil salinity are taken into account. It is also establishing a national carbon accounting system to measure and monitor greenhouse sinks.[134]

Australian governments have put in place a number of programmes aiming at preserving or increasing vegetation cover. Some of them, like the *Bushcare* and *National Landcare Programmes*, are part of land management policies (see above). More recently, other projects have directly aimed at reducing greenhouse gas net emissions. These include the *Bush for Greenhouse Programme* which is funding a "carbon broker" service, providing assistance to businesses investing in environmental planting so as to be able to claim carbon offsets if a trading scheme is implemented.[135] The GGAP mentioned above is also meant to include re-vegetation projects. The fact that there are a number of programmes aiming at the same intermediate goal but providing different type of support raises some concerns regarding the cost-effectiveness of the policy approach, as it is difficult to ensure that marginal environmental benefits (in terms of carbon sequestration and salinity reduction mainly) are equalised across programmes. It would in fact be important to try to integrate the various existing programmes in that domain and establish as close a link as possible between the subsidy and the various environmental outcomes. A relatively large-scale (national or regional) auction-type system for re-vegetation subsidies would be more cost-effective. It will also be important to link sequestration actions to the possible future cap-and-trade scheme in some way.

Assessment and agenda for action

As far as environmental protection and resource management are concerned, Australia's size and federal structure have affected the way problems have been dealt with. In one case where cross-border co-operation was important, it took a specific Commonwealth Act, setting up the Murray-Darling Basin Commission, to create the necessary institutional framework. The new Environment Protection and Biodiversity Conservation Act, which came into force in July 2000, is intended to focus the responsibilities of the Commonwealth on matters of national environmental significance and reduce duplication between the different levels of government. The Commonwealth government has been slow to use taxes and charges to influence environmental outcomes (as have state level governments). Australian governments are much more favourable in principle and in practice to trading schemes. However, the main trading schemes concern resource management – notably water and fisheries – and with very limited exceptions neither taxes nor trading schemes are currently used for pollution control. Hence, substantial scope exists for expanding the role of economic instruments in many fields. At a minimum, existing energy taxes should be better aligned with environmental externalities, and preferential regimes for fuel taxes be progressively eliminated.

Agriculture is an important sector where environmental externalities have not been well reflected in decision making, as is the case in most OECD countries. Water has historically been significantly underpriced (again as in most OECD countries) and the effects of land and water management practices on salinity have only recently been understood. Current policy in water management and salinity has to deal with this legacy.

Although experience with water trading is still limited, it is nevertheless the widest in the OECD. The Australian Water Reform Framework, as part of the overall competition policy, aims to improve the efficiency of water management through pricing and trading while trying to take account of the effect of flow regulation on the environment. It provides a good example of integration of micro-economic reform and environmental policies. The Murray-Darling Basin Agreement Act has also provided for the required interstate co-operation on water (and salinity) issues, fitting the geographical scale of the problem to be dealt with. To increase the efficiency gains as well as the volumes traded, however, restrictions on trading should be removed and water entitlements be separated from land property rights, as proposed in the National Action Plan for Salinity and Water Quality. Restrictions on trading out of a given irrigation district should also be removed, as well as limitations on the share of individual rights that can be transferred, provided the possible environmental effects of transfers are taken into account. Allowing the development of intermediaries on water markets would also increase liquidity and efficiency, and allow risks associated with the inherent unreliability of water supply to be spread; the inability to do this appears to inhibit longer term trading. To further enhance market efficiency, it would also be important to encourage price reporting, whether through public regulatory agencies or private intermediaries.

While the reform of urban water pricing is already well advanced, rural water pricing is lagging. The main obstacle seems to be concerns not to hurt the "rural constituency" and the unwillingness to further reduce farmers revenue and increase the rural/urban gap. Gains from trading will be limited unless user contracts are structured to incorporate prices that better reflect both infrastructure and identifiable environmental costs and scarcity rents, as well as clear rules on defining environmental flows, where progress has so far been very uneven. Indeed, the long term objective of the COAG water reform agreement to cover environmental costs in water charges should support this goal. Such pricing will bring to the fore some of the distributional issues, between holders of water rights and water users, and between agricultural and non-agricultural users, which currently hinder development of more efficient water management. The rules for allocating the environmental flows should be clarified. Progress in this domain as been uneven so far, due in part to incomplete scientific understanding of the environmental consequences of current level and patterns of water and land use, but also in part to distributional issues, that would be made clear when deciding about rules. This would also remove part of the disincentives to sell permanent water rights that the uncertainty about environmental flows creates.

Salinity involves complex interregional and intergenerational effects, and there remains much uncertainty on the links between land management actions and its effects on salinity. The policy response has up to now focused on irrigation salinity. River salinity in South Australia has been reduced mainly through engineering salt-interception schemes funded jointly by the states concerned and the Commonwealth under the Murray-Darling Basin institutional framework. Cost-benefit analysis, which has been regularly used by the Murray-Darling Basin Commission in the design and implementation process of the strategy, shows that these works have provided net benefits. However, the cost-effectiveness of policy in this domain would also be enhanced by accelerating the implementation of water pricing reform in rural areas, in particular to incorporate environmental costs, as it would increase the efficiency in water use and redirect water use towards less damaging activities.

To address dryland salinity, which will be the main source of future salinity increases, more long-term land management measures, including re-vegetation and prevention of land clearing, will have to be taken. There is now increased recognition that Landcare and Bushcare types of programmes can make only a marginal contribution to dealing with dryland salinity. Moreover, relatively large scale land clearing has taken place in some states at the same time as publicly financed re-vegetation programmes were under way, revealing a co-ordination problem in the federal set-up, as states govern land clearing regulation while re-vegetation is financed by the Commonwealth. Re-vegetation and cessation of land clearing seem to be essential parts of the recently agreed National Action Plan for Salinity and Water Quality, which will bind both states and the Commonwealth to specified salinity targets. If subsidies are to be used for re-vegetation, it would be important to improve the link between subsidy and salinity and other environmental outcomes, which vary according to the location. The opportunities to integrate the various programmes existing for revegetation should be exploited, for example, with those currently directed at greenhouse gas mitigation, to ensure a cost-effective allocation of resources.

Although some progress towards more cost-effective and better co-ordinated policy measures seems likely, an unanswered question so far concerns what the overall aims for salinity should be. This involves many trade-offs including across current and future generations. An important trade-off exists between agricultural output and salinity: although cost-benefit analysis has shown that the engineering works in the Murray-Darling Basin were justified in themselves, in the longer run the benefits of maintaining agriculture in its current form in large parts of Australia need to be compared with the costs of dealing with resulting salinity and other environmental costs, which affects both agriculture and other sectors. The physical complexity of the salinity problem and the long time lags involved are often thought to limit the use of economic instruments such as salinity trading schemes to address salinity problems directly. However, economic instruments can be applied to indirect targets; indeed the subsidies for revegetation are an economic instrument, which could perhaps be complemented by a tax on land clearing. The planned pilot schemes to refine the allocation of subsidies, through better targeting their location and to introduce competitive bidding for them, seems promising to improve cost-effectiveness. The relative prices that emerge will provide information useful for other purposes, including cost-benefit analysis (whose wider use is necessary in setting targets and allocating resources) and possible taxes.

The connection between salinity and climate change policy in Australia is an example of linkages unusual among OECD countries. Reductions in land clearing, and revegetation programmes have the effect of considerably reducing net emissions of CO_2. The statement by the United States that it opposed the Protocol has caused uncertainty as to the outlook for the Protocol and its targets, but Australia remains committed to the pursuit of emissions reductions, as well as unrestricted international trading of greenhouse gas (GHG) emission allowances within any global agreement. To date, policies have relied on a mix of regulatory, market-based and voluntary measures. The latter are high-profile but are administratively burdensome and of uncertain effectiveness. The recent programme of competitive tender for greenhouse gas abatement, although aiming to maximise abatement associated with any given public funding, is likely to suffer from similar weaknesses.

Although liberalised energy markets are working more efficiently, a consequence has been an increased use of coal fired generating capacity. In addition, the modification of fuel prices resulting from the recent tax reform is also likely to encourage GHG emissions, which seems to run counter to the government's mitigation objective. The plan to use a market for credits in renewable electricity, as in some other OECD countries, to increase by 2 percentage points to 12.5 per cent the share of electricity produced with renewable energy will reduce greenhouse gas emissions by 2010. This may be a relatively cost-effective way to achieve some emission reductions, but does not itself provide a significant incentive to reduce emissions from other energy use. To achieve significant GHG emission reductions, structural adjustment towards a less GHG-intensive economy would be required. In the OECD's view, this would be most efficiently achieved by putting a price on emissions, either through an economy-wide tax or a permit trading scheme which could be linked to land clearance and revegetation programmes as well as the renewable energy market. Sink enhancement is also an option in Australia, and it would be important to integrate this into such a scheme.

Notes

1. However, government investment statistics are expected by the Australian Bureau of Statistics (ABS) to be subject to greater revisions as the general government accounting systems have not yet fully adjusted to the new accrual basis.
2. A detailed discussion of this link can be found in the *Reserve Bank of Australia Bulletin* (2000), "Statement on Monetary Policy", November, Box A. For Bibliography see Annex I.
3. The WCI has been developed by the ABS to provide a more accurate indicator of changes in wage rates than current measures available in the Average Weekly Earnings Survey and the national accounts surveys. The WCI measures changes in the wage cost of a representative sample of employee jobs (for a fixed "basket" of jobs). It is a "pure price" index reflecting changes in hourly rates of pay resulting from a range of sources including award variations, enterprise and workplace agreements, centralised wage fixing, individual contracts, and informal agreements. Given that the number of observations of the WCI is so far still rather small, the data are not seasonally adjusted.
4. The jump in AWOTE in the second half of 2000 may also be a correction of this measure's surprising weakness a year earlier.
5. The Reserve Bank first indicated an informal inflation target in 1993. A clear and transparent Statement on the Conduct of Monetary Policy was agreed between the Treasurer and the Reserve Bank Governor in August 1996, which formalised the medium-term targeting approach. The Statement also underlined the independence of the Reserve Bank in conducting monetary policy.
6. Underlying inflation is here defined as the consumer price index (CPI) excluding "volatile items" (fruit, vegetables and automotive fuel). In addition, an adjustment has been made for the estimated price-level effect of GST. As a result, the twelve monthly rates of underlying inflation are taken as 2¼ per cent for the September quarter of 2000, and 2 per cent for the following two quarters.
7. Econometric research by Gruen, D., J. Romalis and N. Chandra (1997) suggests a mean lag of about 1½ years between changes in the cash rate and its impact on economic growth. These estimates are, however, subject to considerable uncertainty and may, of course, no longer hold.
8. The MCI used in previous *Surveys* combines the effects of a real short-term interest rate, a real effective exchange rate and the terms of trade, the effects of which can be substantial for a commodity exporter like Australia. For technical details see footnote 25 of the 2000 OECD *Economic Survey of Australia*.
9. Analysis of the RBA suggests that during the first seven months of 2000 the *expected* interest differential between Australia and the United States played a major role in the Australian dollar's weakness against the US dollar. However, it fails to explain the Australian dollar's depreciation since August 2000. See *Reserve Bank of Australia Bulletin* (2000), "Statement on Monetary Policy", November, especially Box B.

10. The State/local sector moved to a deficit in 1998-99, mainly because several jurisdictions taking steps to fund previously unfunded superannuation liabilities this year.
11. Major policy decisions that have reduced revenue include: the 1.5 cents/litre reduction in petrol and diesel excise from 2 March 2001, and the decision to abolish the semi-annual CPI indexation of petroleum excise, at a cost of A$ 4.6 billion over four years; a reduction in the draught beer excise at a cost of A$ 630 million over four years; and the increase in the tax-free and Medicare levy thresholds for senior Australians and pensioners.
12. New policy decisions since MYEFO have increased outlays by around A$ 2.8 billion for 2001-02. Major policy initiatives include: funding of A$ 1.6 billion over four years for Australia's road network; a research and innovation commitment of A$ 3 billion over five years in the context of *Backing Australia's Ability* innovation package; the provision of more than A$ 5 billion over four years to implement the military enhancements outlined in the Defence White Paper, *Defence 2000: Our Future Defence Force*; and additional funding of A$ 1.7 billion over four years to improve Australia's welfare system, in the *Australians Working Together* package.
13. While the Commonwealth sector has historically recorded a negative net worth, the State/local government sector has an estimated positive net worth of 55.4 per cent of GDP in 2001-02, the difference reflecting mainly the significant funding by the Commonwealth to the States for capital works.
14. Opinions are divided on whether private debt can fulfil all the desirable functions of public debt. Corporate securities (even when they are government-sponsored) may not be able to achieve the same risk status as government debt and therefore cannot act in a satisfactory way as a substitute benchmark for a risk-free security. This in turn may affect the pricing of private assets and the development of corporate security markets. On the other hand, certain classes of corporate debt might be able to fulfil similar function as public debt despite a (somewhat) higher risk status. Market participants could use collateralisation and/or employ implicit government guarantees to upgrade certain types of private debt. This could make them closer substitutes for central government debt with regard to risk characteristics. Some analysts argue that even when the risk and liquidity characteristics of private debt securities differ from those of government debt, they may still able to fulfil some functions of the latter (OECD, 2001*a*).
15. On the basis of the projections of the Retirement Income Modelling (RIM) Unit, expenditure on pensions will increase to 4.5 per cent in 2050, from 3.0 per cent in 1999, after taking into account the reduction in pension expenditures resulting from the superannuation savings accumulated under compulsory arrangements. Without them, pension expenditures would increase to around 4.8 per cent of GDP by 2050.
16. Under the RIM model, a combination of retirement income streams derived from SG at 9 per cent, plus age pension, provides an individual on Average Weekly Ordinary Time Earnings (AWOTE) a replacement rate of 65 per cent after 35 years of contributions and about 77 per cent after 40 years. The adequacy of retirement income and replacement ratios depends on the investment strategy adopted. The aggregate analysis shows replacement ratios for workers increasing significantly from 45 per cent currently to 59 per cent by 2038 (Tinnion and Rothman, 1999).
17. The compulsory contribution rate stands currently at 8 per cent of earnings and is set to rise to 9 per cent by 2002-03. The effect of the superannuation guarantee scheme on household saving depends on the extent that compulsory earnings substitute for voluntary saving. Morling and Subbaraman (1995) conclude that a 1 percentage point

rise in the contribution rate increase the household saving rate by about ¼ percentage point, which implies an offset impact of about three-quarters. The gradual increase in the compulsory contribution rates over the 1990s, is therefore possible to have exerted some positive impact on the household saving rate in Australia (Lee, 2000).

18. Superannuation benefits may be taken as a lump sum, a retirement income stream or any combination. Retirement income streams can be broadly classified into immediate and deferred annuities, superannuation pensions and allocated pensions and annuities (Bateman and Piggott, 1997).
19. The government has also tightened the preservation rules for contributions, as from 1 July 1999. Under the new rules, all undeducted contributions made from 1 July 1999 will not be accessible until minimum retirement age. For those born before 1960, until they are 55. For those born after 1960, the age limit increases for each year of birth until the age limit of 60 is reached.
20. Tinnion and Rothman (1999) conclude that lower income earners do marginally better taking all their accumulation as a lump sum. For average and higher income earners, the best results were achieved when incorporating a life pension as a part of the investment mix.
21. The definition of a SMSF requires that all members (fewer than five) of the fund to be trustees of the fund or directors of the body corporate trustee, and also ensures that employees cannot be members of their employer's SMSF except where they are relatives.
22. The regulation of SMSFs has been transferred from the Australian Prudential Regulation Authority to the Superannuation Branch of the Australian Taxation Office. Legislation has also been introduced into Parliament that allows the division of superannuation in the event of dissolution of marriage. Where parties are not able to reach an agreement the court will be given the jurisdiction and power to order that the superannuation will be divided. These changes will provide greater certainty, consistency and fairer outcomes for both men and women.
23. RIM Unit estimates show that for individuals in all tax brackets receiving SG employer contributions only, superannuation is a tax-preferred investment over a working lifetime of up to 40 years duration, even when taking into account the significant reductions in marginal tax rates and capital gains tax implied by the introduction of the broad-based tax reform package. Overall, the extent of relative advantage of superannuation as an investment varies by type of portfolio used, the duration of the investment, the tax bracket of the individual and whether the investment is made through employers and member contributions (Rothman, 2000).
24. For a discussion on the alternative options for taxing superannuation saving, see Bateman and Piggott (1997). Starting from the proposition that the "best" superannuation tax option is a benefit tax levied at the beneficiary's marginal personal tax rate, Doyle *et al.* (1999) propose a withholding tax (a contributions tax) which would have impacts on individual contributors equivalent to a benefit tax, while altering the time profile of tax collections to address tax revenue cash-flow shortfall concerns relative to current tax system.
25. These estimates refer to a base case scenario which assumes that real cost per person for long-term aged care and the quality of long-term aged care remain unchanged over the projection period. The base case scenario is thus driven by expected demographic developments. GDP growth projections in the base case scenario are based on historical productivity performance (Madge, 2000).

26. See Madge (2000).

27. Such reforms include the introduction of Lifetime Health Cover and "no gaps" or "known gaps" options. The "gap" is paid by members, and is the difference between the fees charged by doctors for in-hospital medical services and the combined health insurance benefit and Medicare Benefit Schedule fee which is covered by Medicare. The exploration of cost-effective payment models for day hospital and after care facilities, treatment of chronic and complex conditions, and rehabilitation also aim at encouraging private health care participation.

28. The new scheme was contained in the 1999-2000 Budget. Lifetime Health Cover operates with a threshold age of 30 years. Members who join by the age of 30 and maintain their membership are rewarded with lower premiums. To ensure an equitable and fair transition, a 12-month grace period – from 1 July 1999 to 30 June 2000 – was introduced to allow people who were not insured to take out hospital coverage at the base rate premium. Current members of health funds who have hospital cover, regardless what their age, will be treated as having joined a fund by age 30. Special provisions apply to people who were aged 65 and over in July 1999.

29. Duckett and Jackson (2000) conclude that the subsidy to the private health insurance exceeds budgetary assistance for the mining, manufacturing and primary agricultural industry combined. Segal (2000) concludes that the cost of the private health insurance rebate has blown out to A$ 2.8 billion a year, but that the cost savings to the public hospital sector from the potential diversion of demand from public hospitals is estimated at around A$ 1.4 billion a year at most.

30. The government initially indicated that it would introduce the new system on 1 July 2001, but subsequently decided to delay implementation as many businesses would not be ready by that date, especially considering the changes in GST and PAYG.

31. The submissions identified a number of technical points, which implied that draft measures were unworkable. A new round of consultations are now under consideration, which will focus on principles that can protect legitimate small business and farming arrangements, while at the same time addressing the issue of tax abuse in the trust area. Nevertheless, the timeframe for such consultations has yet to be announced.

32. A non-fixed, or discretionary, trust is one where some part of the income or capital may be distributed at the discretion of a trustee or another entity. "Hybrid trusts", *i.e.* trusts that have both fixed and non-fixed elements are considered as non-fixed trusts under the proposed legislation.

33. Integrity provisions (the alienation of personal services income measures) were introduced last year to prevent individuals from avoiding tax by diverting income gained from their personal efforts or skills to an entity such as a company, partnership or trust. The measures, which took effect from 1 July 2000, impose restrictions on the ability of an individual to retain personal services income in an entity and on deductions which can be claimed.

34. Multifactor productivity is defined as the productivity of the main primary factors of production – labour and capital – in generating value added. The market sector excludes activities which are not valued in the market. The sectors excluded are: property and business services; government administration and defence; education; health and community services; and personal and other services, including ownership of dwellings. In recent years, the market sector accounted for a little less than two-thirds of GDP. Over the past three decades, increased multifactor productivity

accounted for around two-thirds of the 80 per cent rise in per capita incomes in Australia, the rest being due to increased inputs of labour and capital.

35. Although projections of the timing of future "dividends" from structural reform are, of course, extremely uncertain at the time of the design of reforms, the experienced increase in the growth rate of multifactor productivity and hence of potential output in the 1990s seems broadly in line with predictions of the Industry Commission (1995). Their study suggested that the full implementation of the National Competition Policy (see below) alone would raise the level (not growth) of real GDP in the long run, once all adjustments have taken place, by 5½ per cent. This estimate does not seem unduly optimistic.
36. See Dowrick (1998) whose estimates control for the effects of the business cycle, technological spillovers from other countries, the expansion of international trade, differences in human capital stocks and periodic changes in the rate of invention. Dowrick's findings confirm that over the 1990s underlying productivity growth in Australia accelerated by around 1 percentage point per annum, in line with a number of other analyses, *e.g.* Industry Commission (1997) and Parham (1999). Apart from cyclical and technological factors, the Productivity Commission (1999*b*) also examined other "non-reform" explanations such as increased work intensity, the negative influence of higher wages on employment, and measurement errors. No evidence was found that was sufficient for any of these factors to have caused the trend increase in multifactor productivity in the 1990s.
37. Oliner and Sichel (2000).
38. See Table 1 of D. Gruen (2001) and J. Simon (2001).
39. Awards are oriented towards occupations and industries rather than individual workplaces, and many firms are still covered by multiple awards. The central role played in the past by industrial tribunals in determining wages and employment conditions was based on the premise that it was in the public interest that the state intervened on an ongoing basis in the employer-employee relationship. See Wooden (2000).
40. This was achieved, *inter alia*, by removing the previous requirement to notify relevant trade unions that negotiations were being undertaken and by making non-union agreements subject to the same compliance tests as the union agreements.
41. In order to safeguard broad public support, the WRA stipulates that any new collective or individual agreement has to meet a "global no-disadvantage test", to make sure that workers entering these agreements would not be worse off as a result of reform. But unlike the previous narrow "line-by-line" version of the "no-disadvantage test", the new test allows award entitlements to be traded off as long as a new enterprise agreement is in more general terms no less favourable to the employee than the relevant award or relevant law.
42. ABS Employee Earnings and Hours Survey, May 2000, Cat No. 6306.0.
43. See Trends in Federal Enterprise Bargaining, March Quarter 2001 at: *www.dewrsb.gov.au/workplaceRelations/publications/enterpriseBargaining/2001/March/default.asp*.
44. See Hawke and Wooden (1998); Buchanan, van Barneveld, O'Loughlin and Pragnell (1997).
45. Unprotected industrial action is any action which occurs outside of a bargaining period. It embraces a wider definition than simply being part of a pattern bargaining campaign, although industrial action in pursuit of pattern bargaining can be one form of unprotected industrial action.

46. A study by the Productivity Commission (2000*a*) of working arrangements on large capital city building projects found that pattern bargaining over remuneration levels is widespread and "discourages innovative subcontractors from introducing more productive or efficient work arrangements in their enterprises and so can act as a constraint on future productivity growth".
47. See the OECD *Jobs Study* (1994), Part II, Chapter II, and OECD (1999*b*), *Employment Outlook*, Chapter II.
48. There are, of course, potentially substantial social and economic benefits from employment protection legislation, among them reduced contracting costs by setting general rules and standards, encouraging increased investment in firm-specific human capital, and early notification of job loss to allow job search prior to being laid off. These are discussed in the OECD *Jobs Study* (1994), Part II, Chapter III.
49. The *Workplace Relations Amendment (Unfair Dismissal) Bill* 1998 was rejected by the Senate on two occasions. A more recent initiative, the Workplace Relations Amendment (Termination of Employment) Bill 2000, proposes further amendments to the termination of employment provisions of the WRA. It addresses a number of technical and procedural problems which have become evident during the operation of the WRA. This Bill is currently before the Senate.
50. For more details see OECD, *Review of Labour Market Policies in Australia* (2001*b*), Chapter I, and in particular Box I.2.
51. See also OECD *Review of Labour Market Policies in Australia* (2001*b*).
52. Job outcomes compare favourably to those achieved by the former Job Club labour market programme, and training is delivered at about half the cost-per-job. Three-month post-assistance job outcomes were 37 per cent for Job Search Training, compared to 25 per cent for Job Clubs. The unit cost and cost-per-job outcomes for Job Search Training were estimated to be A$ 425 and A$ 1 130 respectively. The corresponding costs for Job Clubs were A$ 625 and A$ 2 500.
53. Unlike in most other OECD countries that have unemployment insurance systems, Australia's unemployment benefits are in the nature of social assistance: they are means-tested, of indefinite duration and dependent on family circumstances. The condition for unemployment benefit eligibility is that claimants must be available for and actively seeking work and must accept any suitable work opportunities including full-time, part-time and casual employment.
54. Eardley, Saunders and Evans (2000) quote several surveys, including one showing substantial support for Work for the Dole among participants themselves, and cite findings from a general opinion survey conducted between April and June 1999: between 72 and to 84 per cent of respondents support requirements on young unemployed and long-term unemployed to "take part in a "work for the dole' scheme, undergo a training or retraining program", "undertake useful work in the community" and "improve reading and writing skills".
55. DEWRSB (2000).
56. Richardson, A. (2000).
57. Other assistance measures include expansion of the assessment component of Intensive Assistance; an expansion of assistance available to people with disabilities; and more practical support for indigenous Australians. In particular, the Budget package simplifies and better co-ordinates programmes and assistance for unemployed people and expands the range of available assistance places It improves the access of older unemployed people and Indigenous Australians to social services and support,

and better helps them to get back to work; provides parents with individualised assessment and enhanced support; improves work capability assessment and expands and improves employment assistance; and expands employment services in rural areas with the new Rural Area Servicing Strategy through Rural Transaction Centres.

58. Other incentives include Training Credits of up to A$ 800 which will be available to job seekers to cover the cost of accredited training, including that provided by employers; and a Literacy and Numeracy Training Supplement to assist job seekers to improve those skills.

59. On the basis of the estimations of the National Centre for Social Economic Modelling (1999), around 35 000 young people who left school early in 1998 will not undertake education and training again at any stage during their lifetime. The total cost to Australia of one year's early school leavers is estimated at A$ 2.6 billion.

60. VET in Schools permits senior secondary school students to study VET programmes at school, resulting in both a senior certificate and national vocational qualifications. There has been a significant increase in the number of senior secondary students undertaking VET in Schools, growing from approximately 60 000 in 1996 to a projected 167 000 in 2000. In addition, there were about 1 600 senior secondary students in 1998 who commenced part-time school-based New Apprenticeships, increasing to an estimated 7 000 persons in 2000.

61. The new Framework for Vocational Education in Schools encompasses career information and guidance, work-related learning, enterprise education, vocational learning and student support services, as well as both general and dual accredited vocational education and training courses, structured workplace learning and school-based New Apprenticeships.

62. The relationship between the rate of change in R&D and the acceleration of TFP is confirmed by Bassanini *et al.* (2000). Using data on a panel of OECD countries Cardarelli (2001) estimates that for a country with a relative TFP level of 79 per cent, as Australia in 1997, a 1 per cent rise in total expenditure on R&D increases the rate of growth by between 0.1 and 0.4 percentage points in the first year and by diminishing amounts thereafter. The study's findings suggest that R&D facilitates the "catch up" process to the technological frontier.

63. As part of the National Competition Policy, the Commonwealth and States and Territories agreed to review the national access arrangements after five years of operation. This review is currently underway and is to be completed in October 2001.

64. The Treasurer intervened in the global allocation of resources in gas field exploration, by rejecting the take-over bid of a multinational energy company for Woodside, Australia's largest independent oil and gas group, on the grounds of "national interest".

65. See Gizycki and Lowe (2000).

66. The protection of superannuation savings funds has been improved through the passage through the Senate in December 2000 of the Financial Sector Legislation Amendment Bill (No. 1) 2000, which strengthens the enforcement parts of the *Superannuation Industry (Supervision) Act* 1993 (SIS Act). It improves the enforceability of offence provisions under the SIS Act, by converting some of them from fault liability to strict liability offences.

67. A range of Working Groups are considering issues relating to the capacity-building of regional community-based bodies; the composition, structure and content of regional

National Resource Management Plans; the necessary land and water policy reforms and changes; the elements of a communication programme; biodiversity; standards and targets on salinity, water quality and associated water flows; and options for market-based incentives in Natural Resource Management.

68. It also provides a more direct relationship between the proponent and the Commonwealth, allowing, for example, the proponent to trigger the referral and assessment process, which was not possible under the previous legislation.

69. In particular, all accredited approval decisions need to be based on management plans which must not only be in force under a State law but have been tabled for potential disallowance (for the purpose of accreditation only) in both houses of Federal Parliament.

70. The private sector is involved in biodiversity conservation via a number of local, regional and national activities, both for philanthropic or commercial purposes. Private funds have been used to acquire wildlife and habitat, support education in the value of wildlife and biodiversity, and community involvement in government funded activities.

71. The Murray-Darling Basin accounted in the mid-1990s for some 60 per cent of total water use. Irrigated area increased at a rate of 3.7 per cent per year between 1983-84 and 1993-94.

72. In the Second Tranche Assessment of June 1999, the NCP found that too little information had been provided for it being able to judge if reform commitments had been met in Queensland. The December 1999 supplementary second tranche assessment concluded that, despite progress, full cost recovery has not been implemented, in particular where reform is being encouraged by state authorities instead of being required.

73. In 1999, the Producer Support Estimate (PSE) was estimated at 6.4 per cent, which is less than one sixth of the OECD average. The PSE is 1 per cent of total farm receipts in New Zealand, 23 per cent in the United States, 40 per cent in the EU, and over 60 per cent in Iceland, Japan, Korea, Norway and Switzerland.

74. By and large, the groups of irrigators did not have the capacity to pay for historic debt. Attempts to recover capital costs would therefore probably have prevented the current use of water for irrigation. The 1998/99 *Benchmarking Report of the Australian Irrigation Provider*, issued in February 2000, indicates that the provision made for asset replacement represented on average 50 per cent of the loss in asset value each year. By contrast, urban water utilities were required to fully account for their accrued debt and realise a positive rate of return on their assets. For a discussion of the differentiated treatment, see Fisher (2000).

75. Fisher (2000).

76. See Productivity Commission (1999*a*) and National Competition Council (1999).

77. Low security rights are specified as a proportion of the available resource, and not in nominal terms.

78. More precisely, the cap set each year is not the volume of water that was used in 1993-94, but rather the volume of water that would have been used with the infrastructure (pumps, dams, channels etc.) that existed in 1993-94, assuming similar climatic and hydrologic conditions to those experienced in the year in question.

79. Source: 1998/99 Australian Irrigation Water Provider, Benchmarking Report, February 2000.

80. Administrative restrictions or differentiated tax treatment, about which information is lacking, may be obstacles.
81. Bjornlund and Mc Kay (1998) obtained this result having surveyed about 50 per cent of the permanent transactions that took place in South Australia between 1987 and 1993. The Productivity Commission (1999*a*) also notes that water trading has allowed significant new investment in wine and horticultural activities in some parts of Victoria.
82. Crase *et al.*, 2000.
83. Brennan and Scoccimarro (1999) indicate that the ratio for annual variations in maximum to minimum flows ranges from 300 to 1 000 in Australia, against 3 to 15 in North America.
84. What should matter for the holder of both sellers and buyers is the shadow price (or opportunity cost) of water rights. In a dry year, the shadow price of water should go up, and even holders of permanent rights should consider selling it if it is more profitable for them to sell it rather than to use it for their usual activity.
85. The transfer can also result in transmission gains or losses in the rivers and channels through which the water moves.
86. Hence, a sale of 10 megalitres from South Australia would mean a receipt by an irrigator in New South Wales or Victoria of 9 megalitres, the difference remaining in the river.
87. For example, in Victoria, Goulburn-Murray Water can prevent trading if more than 2 per cent of the total water right is traded out of an area in any irrigation season. According to Challen (2000), in South Australia, the net reduction to total entitlement of the Central Irrigation Trust, composed of the ex-government irrigation areas that were privatised in 1997 irrigators, has not been allowed to exceed one per cent of the total entitlements. In the largest irrigation district of New South Wales, temporary transfers outside the district have been restricted by local rules (Crase *et al.* 2000).
88. It is not clear whether there are also outright legal restrictions on intermediaries participation to water markets.
89. This is apparently less of a problem for temporary trading, as irrigation districts tend to centralise and diffuse the relevant price information (Crase *et al.* 2000).
90. The Commonwealth and States have contributed collaboratively to the National Land And Water Resources Audit for it to prepare an assessment of resource condition needed for decision making.
91. See "A National Action Plan for Salinity and Water Quality", Council of Australian Governments, November 2000.
92. In affected areas, roads last only about a quarter of their normal life. Salinity damages public infrastructure, but also the foundation of private dwellings.
93. Report to the Prime Minister's Science, Engineering and Innovation Council, "Dryland Salinity and its Impact on Rural industries and the Landscape", December 1998. The amount includes A$ 130 million in lost agricultural production, A$ 100 million in infrastructure damage and A$ 40 million in loss of environmental assets.
94. The downstream impact of increased irrigation salinity had become the basis of court action between South Australia and New South Wales. According to Gutteridge *et al.* (1999), over 90 per cent of the salinity impacts in the Murray Valley for water supply are experienced in South Australia.

95. The capital costs of construction of these jointly-funded salt-interception schemes is shared equally among the Commonwealth, New South Wales, Victorian and South Australian governments, and the operating costs among the three State governments.

96. Salinity is generally measured in Electrical Conductivity (EC) units. According to the World Health Organisation, the threshold for desirable drinking water quality is 800 EC. At 1500 EC, options for consumptive use become much more limited, as susceptible irrigation crops cannot be grown, more tolerant ones can but at high risk, and adverse ecological effects are likely to occur. In the previous decade, 1975-85, salinity exceeded 800 EC 42 per cent of the time at Morgan. The notional aim of the Salinity and Drainage Strategy was to bring it to 800 EC 95 per cent of the time.

97. Salinity at Morgan is now below 800 EC for more than 90 per cent of the time compared with 60 per cent for the pre-strategy period.

98. The annual costs for water users of increasing salinity by one EC, or alternatively the benefits of decreasing salinity at Morgan, have been estimated to range between A$ 65 000 and A$ 152 000, while the annual costs of reducing the salinity level at Morgan by one EC unit (through new or enhanced engineering schemes) have amounted to A$ 52 700 on average between 1988 and 1998. The further upstream the salinity increase takes place, the higher the costs. The lower bound corresponds to a place located downstream of the major irrigation areas. "The Salinity Audit – A 100 year perspective, 1999", MDBC. Source: OECD calculations based on Goss *et al.* (2000).

99. According to the Murray-darling Basin Commission, each EC unit reduction measured at Morgan currently costs about A$ 1million in capital (*i.e.* A$ 50 000 yearly) and A$ 40 000 in yearly operating costs. Assuming that benefits have not changed, with a A$ 90 000 annual cost, not all salt-interception work are cost-effective.

100. Integrated land and water management plans that address salinity and other environmental concerns have also been implemented. These plans, covering about two million hectares, have directed public and private investment towards improving water use practices on farm and minimising losses in supply infrastructure.

101. Sixty to 70 per cent of salinity increase at Morgan in 2050 is attributable to dry-land sources.

102. The Commonwealth government is committed to spend A$ 1.5 billion over five years under the programme that was launched in 1997. An extension of the NHT over a further five years has been recently announced in the 2001-02 Budget.

103. See March 2000 report of the Standing Committee on Agriculture and Resource Management entitled "Management of Dryland Salinity – Future Strategic Directions" and "Mid-Term Review of the Natural Heritage Trust – Dryland Salinity and Associated Vegetation Management Study, Final Report", The Virtual Consulting Group, November 1999.

104. The number of hectares cleared in 1997 as reported in the National Greenhouse Gas Inventory were 16 400 for New South Wales, 350 000 for Queensland and 10 000 for Tasmania. Estimates for 1999 by the Australian Conservation Foundation are 32 800 for New South Wales, 400 000 for Queensland and 10 000 in Tasmania (see"Greenhouse Implications of Increased Rates of Land Clearing, *www.acfonline.org.au/campains/landclearing/official/glc.htm*).

105. See the Mid Term Review of the Natural Heritage Trust – Bushcare program, CSIRO, November 1999.

106. Of course, in principle, it could be the case that land clearing has been authorised in areas where salinity impacts would be evaluated to zero, while re-vegetation is financed in areas where it is thought to reduce salinity. This does not seem to be the case however.
107. For a discussion of the potential role of economic instruments in salinity management, see Bell *et al.* (2000).
108. See OECD (2000*a*), pp. 136-7.
109. Other pilots under the National Action Plan are expected to involve the use of a "trust" or market intermediary to bring together and facilitate private trading between private landowners who provide eco-system services such as for salinity, carbon and biodiversity and both private and public investors in those services. Details of how eco-system services would be measured and how such markets could function and currently being developed.
110. The estimates of emissions from land clearing may change significantly in the future, as changes in methodology and a quantum improvement in data should allow robust trends to be established in the near future.
111. Apart from straightforward permit trading among Annex B countries, the Kyoto Protocol includes two other "flexibility mechanisms": Joint Implementation, where an emitter in one country invests in emissions reduction in facilities in another Annex B country with an emission target, earning credits for use at home, and the Clean Development Mechanism, which is similar except that the reduction takes places in a developing country without an overall ceiling on its own emissions.
112. Brown *et al.* (1999). Annex B to the Protocol lists the countries accepting emission targets, that is the OECD countries with the exception of Korea, Mexico and Turkey, plus Russia, Belarus and Ukraine.
113. *Ibid.*
114. 1999 National Greenhouse Gas Inventory.
115. International Energy Agency, *Energy Policies of IEA Countries – Report of Australia* (forthcoming).
116. The Commonwealth and all States and Territories have developed plans for implementing the NGS measure for which they are responsible, with those requiring national co-ordination being handled through a number of joint Commonwealth-State Ministerial Councils.
117. Until 1999, the task of describing the baseline path was the responsibility of the participating companies. The 1999 Greenhouse Challenge evaluation report indicated that over the period 1995 to 2000 the actions taken by firms participating to the programme were expected to result in a reduction of GHG emissions of 16 per cent compared with the baseline for industrial firms, and 3 per cent for firms in the electricity sector. That same report, however, noted that: "In practice (in the Challenge, in other international programs and for this evaluation), it has not been possible to quantify consistently and reliably for individual organisations which actions would have occurred in the absence of a programme (business as usual) and which actions are a direct result of the program."
118. This amounts to 9 500 GWh.
119. See OECD (2000*b*) and OECD (2000*c*).
120. The Australian Greenhouse Office is undertaking a feasibility study on the implementation of such a scheme. It has already published four discussion papers, discussing

the comprehensiveness of such a scheme, permit issuance, the possibility to include carbon sinks, and measurement, monitoring and compliance issues.

121. For a discussion of the leakage and loss of competitiveness arguments, see O'Brien and Vourc'h (2001) and OECD, *Economic Outlook* (2001*c*).

122. Allen Consulting Group, 1999.

123. This is funded from excise paid on diesel used to generate electricity by publicly-owned generators.

124. This reinforced the *real* decrease in real fuel prices, as the prices of other goods increased with the GST.

125. The cost of reduction in excise rates is estimated by the Treasury at around A$ 2.2 billion; the off-road rebate is estimated to cost A$ 1.5 billion in 2000-01, the on-road rebate for heavy vehicles A$ 620 million, and the fuel grant scheme for remote areas A$ 110 million.

126. The Department of Transport and Regional Services estimates the price elasticity for petrol demand in Australia to be around -0.1 for the short run and up to -0.7 in the long run.

127. Heavy vehicles are defined here as those with a gross vehicle mass greater than 4.5 tonnes.

128. Toll charges, which are almost non-existent in Australia (the only existing toll has been recently introduced on one highway section in Melbourne) would probably be a cost-effective instrument on the major corridors, although fuel taxes are also an accurately-targeted instrument when it comes to internalising the costs of greenhouse gas emissions alone.

129. Even when considering road costs only, the Bureau of Transport Economics (BTE) found that the existing road user charging system undercharged heavy vehicles by about one third of the costs they cause on road wear, thereby providing a competitive advantage on long distances to road transport over rail. It also implies that other externality costs, in particular environmental ones, are not covered. Since rail transport is now benefiting from the same rebate as heavy road transport, the recent tax reform levels the playing field between the two transport modes, but it reduces heavy road transport cost recovery ratios further.

130. Figure for 1995 taken from BTE Information sheet 14, *Urban Transport – Looking ahead*, 1999.

131. BTE, 2000.

132. Bray and Tisato (1997). This figure corresponds to the average cost, but arguing that divergence between marginal and average cost for non-time components is expected to be considerably lower than for time costs, the authors assume that, on balance, non-time marginal costs equals non-time average costs. Road and accident costs are estimated to be 3.1 and 5 cents per vehicle-km respectively. Bray and Tisato also provide an upper estimate of environmental costs of 7.3 cents per vehicle kilometre, including 2.9 for greenhouse gas emissions.

133. LULUCF emissions are treated under article 3.3. of the Kyoto Protocol, while emissions from additional sinks pertain to article 3.4.

134. A$ 9 million have been invested so far for that purpose.

135. The Bush for Greenhouse Programme provides A$ 5.5 million over five years.

Bibliography

Allen Consulting Group and McLennan Magasanil Associates (1999),
"Energy Market Reform and Greenhouse Gas Emission Reductions", A Report to the Department of Industry, Science and Resources, March [*www.isr.gov.au/resources/energy%5Freform/em%2Dreportpw.pdf*].

Australian Council of Social Service (2001),
"Budget 2001: Closing the Gap", Federal Budget Priority Statement 2001-02 February 2001, ACOSS *Paper* 112, February.

Australia Taxation Office (2000),
Business Tax Reform: A *Snapshot Guide*, First edition, November, Canberra.

Bassanini, A., Scarpetta S. and I. Visco (2000),
"Knowledge, Technology and Economic growth: Recent Evidence from OECD Countries", *Economics Department Working Paper*, No. 259, OECD, Paris.

Bateman, H. and Piggot, J. (1997),
"Private Pensions in OECD Countries: Australia", *Labour Market and Social Policy Occasional Papers*, No 23, OECD, Paris.

Bell, R., C. Mues and S. Beare (2000),
"Salinity management – Some public policy issues in the Murray Darling Basin", *Outlook* 2000, ABARE.

Bjornlund, H. and J. McKay (1998),
"Factors affecting water prices in a rural water market: A South Australian experience", *Water Resources Research*, Vol. 34, No. 6.

Bray, D. and P. Tisato (1997),
"Broadening the Debate on Road Pricing", 21st Australian Transport Research Forum, Adelaide, September.

Brennan, D. and M. Scoccimarrro (1999),
"Issues in defining property rights to improve Australian Water Markets", *Australian Journal of Agricultural and Resource Economics*, Vol. 43, Issue 1, March.

Brown, S., D. Kennedy, C. Polidano, K. Woffenden, G. Jakeman, B. Graham, F. Jotzo and B.S. Fisher, (1999),
"Economic Impacts of the Kyoto Protocol: Accounting for the Three Major Greenhouse Gases", ABARE *Research Paper* 99.6, Canberra.

Buchanan, J., K. van Barneveld, T. O'Loughlin and B. Pragnell (1997),
"Wages Policy and Wage Determination in 1996", *Journal of Industrial Relations*, Vol. 39, March.

Bureau of Transport Economics (1999),
"Competitive Neutrality between Road and Rail", *Working Paper* 40, September.

Bureau of Transport Economics (2000),
"Urban Congestion – the Implications for Greenhouse Gas Emissions", *Information sheet* 16, May.

Burniaux, J.M. (2000),
"A Multi-Gas Assessment of the Kyoto Protocol", OECD, *Economics Department Working Paper*, No. 270 (October).

Cardarelli, R. (2001),
"Technology Transfer and R&D: A Cross-Country Regression", in "Australia: Selected Issues and Statistical Appendix", IMF *Country Report*, No. 01/55, International Monetary Fund (IMF), Washington DC, April.

Challen, R. (2000),
Institutions, Transaction Costs and Environmental Policy, Edward Elgar, Cheltenham and Northampton.

Commonwealth of Australia (2001),
"Backing Australia's Ability: An Innovation Action Plan for the Future", Big Island Graphics and Corporate Communications, ISR, Canberra.

Crase, L., L. O'Reilly and B. Dollery (2000),
"Water markets as a vehicle for water reform: the case of New South Wales", *The Australian Journal of Agricultural and Resource Economics*, 44:2, June.

Cullen, P., J. Whittington and G. Fraser (2000),
Likely Ecological Outcomes of the COAG Water Reforms, Co-operative Research Centre for Freshwater Ecology, University of Canberra, February.

DEWRSB (2000),
Work for the Dole: A Net *Impact Study*, Evaluation and Program Performance Branch.

Dowrick, S. (1998),
"Explaining the Pick-Up in Australian Productivity Performance", in Productivity Commission and Australian National University.

Doyle, S., Kingston G. and J. Piggott (1999),
"Taxing Super", *The Australian Economic Review*, Vol. 32, No. 3.

Duckett, S. and T. Jackson (2000),
"The New Health Insurance Rebate: An Efficient Way of Assisting Public Hospitals", *Medical Journal of Australia*, Vol. 172.

Eardley, T., P. Saunders and C. Evans (2000),
"Community Attitudes towards Unemployment, Activity Testing and Mutual Obligation", *Social Policy Research Centre Discussion Paper*, No. 107.

Financial System Inquiry, chaired by S. Wallis (1997),
Financial System Inquiry Final Report, AGPS, Canberra.

Fisher, T. (2000),
"Water: Lessons from Australia's First Practical Experiment in Integrated Microeconomic and Environmental Reform", *Microeconomic Reform and the Environment*, Productivity Commission Workshop Proceedings, October.

Gizycki, M. and P. Lowe (2000),
"The Australian Financial System in the 1990s", in Gruen, D., and S. Shrestha (eds.).

Goss, K., J. Powel and B. Newman (2000),
"Murray-Darling Basin Salinity; The Audit and Implementation Strategy", Murray Darling Basin Commission, Canberra, mimeo.

Gruen, D., J. Romalis and N. Chandra (1997),
"The lags of monetary policy", *Research Discussion Paper*, No. 9702, Reserve Bank of Australia, June.

Gruen, D. and S. Shrestha (eds.) (2000),
The Australian Economy in the 1990s, Proceedings of a Conference, Reserve Bank of Australia, Sydney.

Gruen, D. and G. Stevens (2000),
Australian Macroeconomic Performance and Policies in the 1990s, in Gruen, D. and S. Shrestha, (eds.) (2000).

Gruen, D. (2001),
"Australia's strong productivity growth: Will it be sustained?", *Reserve Bank of Australia Bulletin*, February.

Gutteridge, Haskins and Davey (1999),
Salinity Impact Study – Final Report, February.

Hawke, A. and M. Wooden (1998),
"The Changing Face of Australian Industrial Relations: A Survey", *Economic Record*, Vol. 74, March.

Hilmer, F.G., M. Rayner and G. Taperell (1993),
"The Independent Committee of Inquiry", *National Competition Policy*, AGPS, Canberra.

Industry Commission (1995),
The growth and revenue implications of Hilmer and related reforms: A report by the Industry Commission to the Council of Australian Governments, Canberra, AGPS, March.

Industry Commission (1997),
Assessing Australia's Productivity Performance, Research Paper, Canberra, AGPS, September.

Johnston, A., D. Porter, T. Cobbold and R. Dolamore (2000),
Productivity in Australia's Wholesale and Retail Trade, Productivity Commission Staff Research Paper, AusInfo, Canberra.

Krarup, S. (1999),
"Voluntary agreements in energy policy", mimeo, Institute of Local Government Studies, Copenhagen.

Lee, J. (2000),
"Australia: Household Saving", in "Australia: Selected Issues and Statistical Appendix", *IMF Staff Country Report No.* 00/24, International Monetary Fund (IMF), Washington DC, March.

Madge, A. (2000),
"Long-Term Aged Care: Expenditure Trends and Projections", *Productivity Commission Staff Research Paper*, Canberra, October.

Morling, S. and R. Subbaraman (1995),
"Superannuation and Saving", *Research Discussion Paper* 9511, Reserve Bank of Australia.

National Centre for Social and Economic Modelling (1999),
"The Cost to Australia of Early School-Leaving," Dusseldorp Skills Forum, October.

National Competition Council (1999),
Supplementary second tranche assessment, December.

National Competition Council (2000),
Reforming the Professions, AusInfo, Canberra.

National Competition Council (2000*b*),
Reforming the Taxi Industry in Australia, Staff Discussion Paper, available on the NCC webside *www.ncc.government.au* (in March 2001).

National Competition Council (2000*c*),
Annual Report 1999-2000, AusInfo, Canberra.

O'Brien P. and A. Vourc'h (2001),
"Enhancing Environmentally Sustainable Growth: Experience in OECD Countries", OECD, *Economics Department Working Paper*, No. 293, May.

OECD (various years),
Economic Survey of Australia, Paris.

OECD (1994),
The OECD Jobs Study, Evidence and Explanations, Part II: *The adjustment potential of the labour market*, Paris.

OECD (1997),
Employment Outlook, Paris.

OECD (1999),
Action Against Climate Change: The Kyoto Protocol and Beyond, Paris.

OECD (1999*b*),
Employment Outlook, Paris.

OECD (1999*c*),
Voluntary Approaches for Environmental Policy: an Assessment, Paris

OECD (2000*a*),
Economic Survey of the United States, Paris.

OECD (2000*b*),
Economic Survey of Denmark, Paris.

OECD (2000*c*),
Economic Survey of Belgium, Paris.

OECD (2001*a*),
Financial Market Trends, No. 78, March, OECD, Paris.

OECD (2001*b*),
Review of Labour Market Policies in Australia, Directorate for Education, Employment and Social Affairs.

OECD (2001*c*),
Economic Outlook, No. 69, Paris.

Oliner S.D. and D.E. Sichel (2000),
"The Resurgence of Growth in the late 1990s: Is Information Technology the Story?", *Journal of Economic Perspectives*, No. 14.

Parham, D. (1999),
The New Economy? A New Look at Australia's Productivity performance, Productivity Commission Staff Research Paper, Ausinfo, Canberra.

Productivity Commission and Australian National University (1998),
Microeconomic Reform and Productivity Growth, Workshop Proceedings, *AusInfo*, Canberra.

Productivity Commission (1999*a*),
Impact of Competition Policy Reforms on Rural and Regional Australia, Canberra.

Productivity Commission (1999*b*),
Microeconomic Reforms and Australian Productivity: Exploring the Links, Commission Research Paper, Vol. 1: Report, AusInfo, Canberra.

Productivity Commission (2000*a*),
Work Arrangements on Large Capital Building Projects, Labour market Research Report, AusInfo, Canberra.

Productivity Commission (2000*b*),
Trade and Assistance Review 1999-2000, Annual Report Series 1999-2000, AusInfo, Canberra.

Reference Group on Welfare Reform (2000),
Participation Support for a More Equitable Society, Final Report of the Reference Group on Welfare Reform ("McClure Report"), July.

Reserve Bank of Australia Bulletin (2000),
"Statement on Monetary Policy", November.

Review of Business Taxation (1999),
A Tax System Redesigned, Canberra.

Richardson, A. (2000),
"Impact of the Mutual Obligation Initiative on the Exit Behaviour of Unemployment Benefit Recipients: the Threat of Additional Activities", 7th National Conference on Unemployment, 30th November to 1st December 2000.

Rothman, G. (2000),
"Assessing the Tax Advantages of Investment in Superannuation", Paper presented to the Eighth Colloquium of Superannuation Researchers, University of New South Wales, 10 and 11 July 2000, Retirement and Income Modelling Unit, The Treasury.

Segal, L., (2000),
"Background Paper to Senate Inquiry into Public Hospital Funding and Options for Reform: Comment on the Private Health Insurance Rebate", Health Economics Unit, Monash University, August.

Siebert, E., D. Young and M. Young (2000),
"Market-based opportunities to improve environmental flows" – Scoping report to Environment Australia, CSIRO Land and Water, June.

Simon, J. (2001),
"Australian use of information technology and its contribution to growth", *Reserve Bank of Australia Bulletin* (forthcoming).

Tinnion, J. and G. Rothman (1999),
"Retirement Income Adequacy and the Emerging Superannuation System: New Estimates", Conference Paper 99/2 presented to the Seventh Annual Colloquium of Superannuation Researchers, University of Melbourne, 8 and 9 July 1999, Retirement and Income Modelling Unit, The Treasury.

Van den Noord, P. (2000),
"The Size and Role of Automatic Fiscal Stabilisers in the 1990s and Beyond", *Economics Department Working Paper* No. 230, OECD, Paris.

Wooden, M. (2000),
"Industrial Relations Reform in Australia: Causes, Consequences and Prospects", Inaugural Lecture, University of Melbourne.

Annex I

Business tax reform implementation

Measures commenced before or on 1 July 2000

– Phased reduction in the company tax rate (34 per cent in 2000-01 and 30 per cent in 2001-02).

– Reform of the capital gains tax (CGT) arrangements through: removing indexation and averaging; lowering the nominal CGT rate, by subjecting only 50 per cent individuals' capital gains and 67 per cent of superannuation funds' capital gains to taxation; concessions for small business, venture capital and scrip-for-scrip rollovers.

– Removal of accelerated depreciation and balancing charge rollover relief, adoption of effective life depreciation.

– Introduction of measures to address the alienation of personal services income; broadening the tax base of life insurers; integrity measures relating to prepayments, losses and lease assignments, loss duplication, value shifting.

– Establishment of the Board of Taxation – greater community consultation in developing tax legislation.

Measures to commence from 1 July 2001

– The Simplified Tax System, which provides eligible small businesses with a cash basis of recognising income and deductible expenses, simpler depreciation and trading stock rules.

– The Unified Capital Allowances system, which will reduce compliance costs by simplifying the many amortisation regimes currently in the law. It will also recognise certain capital allowance "blackhole" expenses.

– New thin capitalisation arrangements, to prevent multi-national corporations allocating a disproportionate amount of debt to their Australian operations.

– A debt/equity test, establishing a coherent and certain basis for classifying hybrid (part debt/part equity) instruments as either debt (eligible for "deductibility") or equity (eligible for "frankability").

Measures to commence from 1 July 2002

– Consolidation regime to allow groups of wholly-owned companies to be treated as single taxpaying entity.

– General value shifting rules, to ensure that appropriate tax treatment is given to capital gains and losses generated through arrangements which cause shifts in value between assets.
– A demerger mechanism in the tax law to improve flexibility in business structures.
– Simplified imputation arrangements, to streamline the operation of the existing imputation system; and provision of imputation credits for foreign dividend withholding tax.
– The introduction of foreign income accounts.
– Exemption from tax of temporary residents on their foreign source income to encourage skill intensive businesses to locate in Australia.
– Introduction of a Non Resident Withholding Tax regime.
– Tax treatment of life insurance policyholders to ensure bonuses are taxed at policyholders' marginal tax rates.

Measures with commencement dates yet to be determined

– Taxation of financial arrangements (TOFA), providing a comprehensive and coherent framework for taxing financial arrangements.
– The issues of leasing, the treatment of partnerships and joint activities; the application of the uniform capital allowance regime to buildings and structures; and changes to the transfer pricing provisions .
– The treatment of gains on the disposal of non-resident interposed entities, to be considered further following a review of Double Taxation Agreement policy.
– As part of a more general review of foreign source income rules, changes to the rules applying to foreign trusts require further consideration.
– Tax Value Method/rights. As part of the work on the tax value method, the Board of Taxation will also consider those aspects of the associated "high level rules" and "rights" issues outlined in the Ralph Report that are relevant to the development of the tax value method.
– General anti-avoidance rule. The Government is continuing to develop measures that will streamline the existing anti avoidance provisions along the lines identified by the Ralph Report.

Sources: National Submission and *Treasurer Press Release*, No. 016, 22 March 2001, Canberra.

Annex II

Environmental policy legislation

Constitutional responsibilities

The Constitution gives the states and territories most powers and responsibilities for natural resource management and environmental protection, including management of Crown land, Crown forests, national parks and reserves, native wildlife, fisheries and pollution control. The Commonwealth manages its own lands, including some national parks and the marine environment outside state coastal waters (three nautical miles), and is also responsible for protecting features of national environmental significance, such as World Heritage areas and threatened species. In addition it implements obligations entered into under international environmental treaties, such as those dealing with climate change, destruction of the ozone layer and protection of biodiversity.

National legislation

In the early 1970s, a series of watershed national Acts on environmental matters was passed, including the Environment Protection (Impact of Proposals) Act (1974), the Australian Heritage Commission Act (1975) and the National Parks and Wildlife Conservation Act (1975). Also, a number of significant High Court cases led to a gradual increase in Commonwealth interest in the protection and management of national assets. In 1992, all jurisdictions signed the *InterGovernmental Agreement on the Environment*, which laid down the basic parameters of operations and roles. The States were given responsibility for the management of living and non-living resources and land-use decisions; and the Commonwealth's triggers and processes for involvement, though indirect, were more clearly set out.

The 1974 Commonwealth legislation was enacted at a time when some of the States did not have comprehensive environmental legislation. However from the 1970s through to the 1990s most States enacted comprehensive and integrated environmental legislation. There was thus a growing disparity between more progressive State legislation and an outdated Commonwealth framework. As a result, in 1997, the Council of Australian Governments negotiated *The Heads of Agreement on Commonwealth/State Roles and Responsibilities for the Environment*, in which the parties agreed that the Commonwealth had a role to play in all of the matters of national environmental significance. These principles were to be subsequently enshrined in the legislation, based on its Constitutional Head of Power on the making of international treaties. The Heads of Agreement also specified that any new legislation should maximise the Commonwealth's reliance on State assessment and decision-making processes that meet relevant criteria.

Environment Protection and Biodiversity Conservation Act

The aim of the *Environment Protection and Biodiversity Conservation Act*, in force since July 2000, is to provide protection for matters of national environmental significance. It replaced five existing Acts and establishes a streamlined process for environmental assessment and approvals by clarifying when the Commonwealth will be involved in environmental assessment and approvals. It does so by:

- Reducing Commonwealth/State duplication in assessing and approving development projects through the use of bilateral agreements, which will accredit State assessment processes and, where appropriate, decisions.
- Allowing a person or organisation responsible for a project to trigger the assessment and decision process early in the planning phase and confirm if the Act applies to their project.
- Setting clear time frames for decision-making.
- Requiring the Environment Minister, when making an approval decision, to take into account the need to integrate environmental, economic and social considerations.

The legislation, for the first time, defines the Commonwealth's role in protecting the environment. It introduces a streamlined assessment and approvals process, which applies to actions likely to have a significant impact on any of the matters of national environmental significance. The EPBC Act aims to promote ecologically-sustainable development (ESD), through formally requiring environmental impacts to be taken into account when considering project approvals. It also requires Commonwealth agencies to report annually on how their activities are working towards the objective of ESD.

Annex III

Calendar of main economic events

1999

November

The Reserve Bank of Australia (RBA) maintained the cash rate at 4.75 per cent between December 1998 and October 1999. In November 1999, the RBA raised the cash rate by 25 basis points to 5.00 per cent.

2000

February

The RBA increased the cash rate by 50 basis points to 5.50 per cent.

The second Job Network three-year contact period to provide A$3 billion of employment services began on 28 February 2001. The number of Job Network sites rose from 1 400 in the first tender round to over 2 100 in the second, providing a significant increase in the geographic coverage of Job Network services. Intensive Assistance providers were also established which specialise exclusively in specific clients groups, such as Aboriginal people and Torres Strait Islanders. Other changes to the tender included: introducing managed price competition for Intensive Assistance, increased accountability requirements from Job Network providers for Intensive Assistance, a new bonus for Job Search Training placements and an increased focus on quality of services.

April

The RBA increased the cash rate by 25 basis points to 5.75 per cent.

May

The RBA raised the cash rate by 25 basis points to 6.00 per cent.

The Australian Industrial Relations Commission (AIRC) awarded a safety net increase of A$ 15 per week for all award rates. The increases are absorbable into all above-award payments and are estimated to directly effect around a quarter of the workforce.

The 2000-01 Budget was delivered by the Treasurer. In accrual terms, a fiscal surplus of A$ 5.4 billion, or 0.8 per cent of GDP, was forecast for 2000-01. In cash terms, an underlying surplus of A$ 2.8 billion was forecast for 2000–01. This is consistent with the Government's medium-term fiscal strategy of maintaining fiscal balance, on average, over the course of the economic cycle.

June

The Corporations Law Amendment (Employee Entitlements) Bill 2000 was passed by the Commonwealth Parliament. The Bill amends the Corporations Law to increase protection for employee entitlements in two ways:

- First, it will ensure directors don't use asset stripping techniques to avoid paying employees their proper entitlements.
- Second, a new offence will be added to the Corporations Law which targets agreements and transactions entered into for the purpose of avoiding payment of employee entitlements. Severe penalties will apply for breaches of these provisions.

July

As part of the Mutual Obligation Initiative, from 1 July 2001 all job seekers are required to enter into a Preparing for Work Agreement, designed to give job seekers a plan of action designed for their circumstances.

The Lifetime Health Cover scheme commenced. Under this scheme, people who take out hospital cover early in their lives will pay lower premiums than those who take it out when they're older. Lifetime Health Cover will increase the stability of the industry by encouraging younger and healthier people to take out private health insurance. It will also help to contain the rising cost of health insurance premiums and maintain the objectives of community rating.

Deregulation of the dairy industry came into effect on 1 July 2000. Producers in the state of Victoria, who are responsible for more than 60 per cent of national production, saw the need to reduce costs to enable processors to meet international competition in both the export and domestic market. In December 1999, they voted overwhelmingly for deregulation. The State government of Victoria enacted legislation for the removal of farm gate pricing and supply management arrangements from 1 July 2000. Other state governments agreed upon nationwide deregulation as Victorian producers were expected to move into higher priced regulated markets across the borders.

On 1 July the New Tax System came into effect. It reforms income tax, indirect tax, family assistance, business tax and Commonwealth-State financial relations. Key elements of the new tax system include:

- Cuts in personal income tax worth A$ 12 billion per annum.
- A cut in the company tax rate from 36 per cent to 34 per cent. There will be a further cut to 30 per cent on 1 July 2001.
- Increases in Government benefits. All pensions and allowances were increased by 4 per cent.
- Introduction of a broad based 10 per cent goods and services tax (GST).
- All GST revenues will be paid to the State and Territory Governments.
- The introduction of the Australian Business Number system.
- The abolition of the multi-rate wholesale sales tax (WST).
- The introduction of the Pay As You Go (PAYG) system for income tax instalments to replace a number of separate payments systems.

August

The Board of Taxation was established to advise the Government on the development and implementation of taxation legislation as well as the ongoing operation of the tax system. In particular, it will ensure that there is full and effective community consultation in the design and implementation of tax legislation. The Board is supported by a secretariat provided by Treasury and has a capacity to commission research and other studies approved or referred to it by the Treasurer.

The RBA raised the cash rate by 25 basis points to 6.25 per cent.

September

In 1999-2000, the Commonwealth general government sector achieved an underlying cash surplus of A$ 12.7 billion and an accrual fiscal surplus of A$ 13.5 billion. The fiscal surplus of A$ 13.5 billion was A$ 3.8 billion higher than estimated at the 2000-01 Budget. Stronger than expected taxation revenue and lower expenses both contributed to the higher than expected surplus in 1999-2000.

- Revenue was around A$ 2.0 billion higher than estimated at the 2000–01 Budget. The additional strength in revenue was primarily due to greater than expected revenue from companies and small business.
- Expenses were around A$ 2.0 billion lower than estimated at the 2000-01 Budget. This outcome reflects lower than anticipated spending by a number of agencies and across several functions. Expenditure on demand-driven programmes (such as personal benefits payments) was largely as forecast at the 2000-01 Budget.

November

The Prime Minister, Premiers and Chief Ministers at the Council of Australian Governments endorsed a National Action Plan for Salinity and Water Quality (the National Action Plan). It involves a funding package of A$ 1.4 billion from the Commonwealth, States and Territories. The significant funding allocation is over a seven year period and complements the Commonwealth's Natural Heritage Trust. Key objectives of the Action Plan are to:

- prevent, stabilise and reverse trends in dryland salinity affecting sustainability of production, the conservation of biological diversity and the viability of infrastructure; and
- improve water quality and secure reliable allocations for human uses, industry and the environment.

The Council of Australian Governments confirmed the importance of National Competition Policy in sustaining the competitiveness and flexibility of the Australian economy and contributing to higher living standards. The Council also agreed to several measures to clarify and fine-tune National Competition Policy implementation arrangements, which will establish a practical framework for the ongoing commitment to this policy and safeguarding the flow of benefits it is delivering to Australians as a whole.

The Treasurer announced the States and Territories will receive approximately A$ 450 million in 2000-01 competition payments. This follows independent assessments of their progress implementing National Competition Policy reform commitments by the National Competition Council in June and September 2000. With the exception of Queensland and Northern Territory all States and Territories will receive their full allocation of payments. In relation to Queensland, a 10 per cent suspension was applied over its failure to put in place an adequate Community Service Obligation framework to address competitive neutrality concerns arising from the operation of Queensland Rail. A further

5 per cent was suspended in relation to insufficient progress implementing of two part tariffs for urban water charges. These suspensions amount to approximately A$ 12.9 million. The Northern Territory has had 5 per cent of its payments suspended in relation to its failure to introduce the national driver demerits point scheme. These amounts may, however, be restored following subsequent positive assessments by the Council.

The Minister for Financial Services and Regulation announced a major reform of the regulatory framework for the general insurance industry that will significantly modernise the prudential supervision of general insurers and enhance the protection of Australian policyholders.

It is proposed to restructure the Act to provide the Australian Prudential Regulation Authority (APRA) with the authority to make standards under the Act. The new framework would be three-tiered: at the top would be the Act containing the high level prudential principles; underneath would sit the Prudential Standards; and below that a set of guidance notes. This new standards-making power will be consistent with similar powers conferred on APRA under the *Banking Act* 1959 and the *Life Insurance Act* 1995. This is consistent with the approach of the Financial System Inquiry (Wallis Report), which argued for greater consistency in the supervisory regimes across regulated financial service providers. Following reform to the Act, it is expected APRA will implement four prudential standards covering: Capital Adequacy; Liability Valuation; Reinsurance Arrangements; and Risk Management. These standards will replace the prudential supervisory requirements currently contained in the Act itself.

December

The Federal Government released its Defence White Paper, entitled *Defence* 2000: *Our Future Defence Force*. It is a blueprint for the future security of Australia and a stronger, more capable Defence Force. The White Paper provides long-term direction for the development of Australia's armed forces.

The Government announced that the Australian social security system would change from a passive and rigid structure that does not encourage participation to one based on engaging people in social and economic participation. The long-term objective of this change is to significantly reduce the number of jobless people and families, significantly reduce welfare dependence and develop stronger communities in Australia's cities and regions. Further details are to be announced in the May 2001 Budget.

The Commonwealth Government announced its decision to retain the general tariff rate at 5 per cent and to retain the 3 per cent duty on business inputs under the Tariff Concession Scheme. The decisions follow the Government's consideration of the Productivity Commission Review of Australia's General Tariff Arrangements.

The Government accepts the Productivity Commission's view that there are benefits to be obtained from the removal of the general tariff, but that such benefits would be relatively small. However, the Commission also identified that there would be transitional costs as a consequence of reducing the general tariff to zero.

The Government is committed to removing the general tariff when there are clear and substantive benefits including trade benefits in doing so, and duty on business inputs can be removed when there are clear net benefits, both to be addressed within the context of responsible fiscal policy.

The Government introduced legislation into the Parliament to implement the Simplified Tax System (STS). Businesses with an average annual turnover of less than A$ 1 million can elect to join the STS from 1 July 2001. The STS will deliver a number of benefits by reducing the time and money that participating small businesses need to spend on bookkeeping and income tax compliance.

The *Financial Sector Legislation Amendment Act* (No.1) 2000 was passed by the Commonwealth Parliament. The Act strengthens the enforcement parts of the *Superannuation Industry* (*Supervision*) *Act* 1993 (SIS Act). It improves the enforceability of offence provisions under the SIS Act, by converting some of them from fault liability to strict liability offences. The Act also enhances the prudential regulation of Authorised Deposit-taking Institutions.

2001

January

The Financial Reporting Council (FRC) was formally established under the *Australian Securities and Investments Commission Act* 1989. The FRC is the peak body responsible for the broad oversight of the accounting standard setting arrangements for the Australian private, public and not-for-profit sectors. It comprises key stakeholders from the business community, the professional accounting bodies, governments and regulatory agencies. The functions of the FRC include furthering the development of a single set of accounting standards for world-wide use. The FRC is not able to direct the independent standard setter, the Australian Accounting Standards Board, in relation to particular standards.

The Government released *Backing Australia's Ability – An Innovation Action Plan for Australia*. The plan outlines the next steps in the Government's strategy to promote education, and research and its commercialisation. It involves additional investment of A$ 3.0 billion over five years. *Backing Australia's Ability* addresses three particular elements of the innovation system: the generation of ideas, the commercial application of those ideas and the development and retention of Australian skills. The major initiatives include:

– a doubling of funding for Australian Research Council grants and an additional A$ 914 million for research infrastructure in universities, major national research facilities and world-class centres of excellence in the key enabling technologies of information and communications technologies (ICT) and biotechnology;

– an extension of the Research and Development (R&D) Start Programme, targeted at small and medium-sized enterprises; reform of the R&D tax concession, including a premium rate for additional R&D activity and a rebate for small companies; a pre-seed fund to assist universities and public sector research organisations to bring their research towards a commercialisation stage; and

– additional fully-funded undergraduate places in universities, with priority given to ICT, mathematics and science; an income-contingent loans scheme for postgraduate fee-paying students to assist and encourage lifelong learning; over A$ 130 million to foster scientific, mathematical and technological skills and innovation in government schools; and adjusted immigration arrangements to attract more migrants with ICT skills.

Further information can be obtained at *www.innovation.gov.au*.

February

The Government announced changes to ease the compliance burden for taxpayers in the Pay As You Go (PAYG) system and, to simplify and streamline goods and services tax (GST) payment and reporting arrangements for small businesses Lodgement dates for quarterly GST payments will also be extended.

An option will be introduced for qualifying taxpayers to have their quarterly PAYG instalments calculated for them by the Australian Tax Office. This instalment will be calculated from the previous available year's income adjusted by a GDP factor with the balance adjusted upon an annual income tax return. Further, taxpayers with a balance on their last assessment of less than A$ 250 will be taken out of the PAYG system and only be assessed annually.

The streamlined GST reporting arrangements are for businesses that report and pay quarterly, with a turnover of less than A$ 20 million. Also, an option to pay quarterly GST instalments based on 25 per cent of the previous year's net GST amount, adjusted by a GDP factor will be introduced for businesses with a turnover less than A$ 2 million.

The Government released an exposure draft of the *New Business Tax System (Thin Capitalisation and Other Measures) Bill* 2001 on 21 February. The legislation will take effect from 1 July 2001. Consultations and submissions received following the release of the exposure draft have provided input to the development of the legislation.

The Government announced the withdrawal of draft legislation providing for the taxation of trusts like companies. The Government also announced the commencement of a new round of consultations on principles which can protect legitimate small business and farming arrangements whilst addressing any tax abuse in the trust area.

The Government announced agreement on revised Australia-New Zealand social security arrangements. The new arrangements successfully remove a significant long-standing irritant in trans-Tasman relations. They secure a durable and affordable approach to bilateral social security payments for both countries and remove uncertainties about the extent of and responsibilities for future costs. They retain the existing free flow of Australians and New Zealanders across the Tasman to travel, to study, to work, to live and to settle.

The RBA cut the cash rate by 50 basis points to 5.75 per cent.

March

The Government announced several decisions in relation to excise and related issues concerning the price of fuel in Australia.

- With effect from 2 March 2001, fuel excise was be reduced by 1.5 cents/litre.
- The ACCC will be given special power to monitor the passing on of the reduction in excise and also the delivery of the Fuel Subsidy Scheme that was introduced when the goods and services tax was introduced last year.
- The ACCC was also asked to examine in consultation with those involved in the market place the feasibility of imposing a cap on fluctuations in retail fuel prices throughout Australia.
- The next element of the Government's decision is that we will legislate immediately to abolish all future half-yearly indexation of fuel excise.
- There will be an inquiry into the total structure of fuel taxation in Australia.

The Commonwealth Government announced an increase in the grant available under the First Home Owners Scheme from A$ 7 000 to A$ 14 000 for those first home buyers who sign a contract to build a new home or to buy a previously unoccupied new home on or after 9 March 2001. The grant will revert back to A$ 7 000 for new home contracts entered into after 31 December 2001. The grant will remain at A$ 7 000 for first home buyers who purchase existing homes.

The Treasurer announced the timetable for delivering the remaining elements of the business tax reform package. An orderly phasing of the further changes will assist business adjust to the new provisions and ensure that the benefits of the new tax system and business tax arrangements can be fully captured.

April

The Government introduced the Financial Services Reform Bill into the House of Representatives on 5 April. The Bill contains proposals to introduce a harmonised regime for the licensing of financial service providers and financial markets; clearing and settlement facilities; and a harmonised disclosure regime for all financial products – including securities, derivatives, superannuation, life and general insurance. The Bill has been referred to the Parliamentary Joint Committee on Corporations and Securities.

The Commonwealth Parliament passed legislation to reduce the rates of excise and customs duty on beer sold in individual containers exceeding 48 litres (*i.e.*, draught beer) from 4 April 2001. The cost of the reduction will be around A$ 175 million in 2001-02.

The Treasurer made orders under the *Foreign Acquisition and Takeovers Act* 1975 prohibiting Shell acquiring a substantial shareholding in Woodside which would result in a change of control of Woodside. The Act allows a proposal to be prohibited on national interest grounds. On this occasion the Treasurer decided that the Shell proposal was contrary to the national interest. The Treasurer took into account that Woodside is a joint venturer with Shell in the North West Shelf ("NWS") project, Australia's largest developed energy resource, and that Shell operated competing projects in other countries. The Treasurer was not satisfied that conditions could be found that satisfactorily mitigated the risk associated with Shell's other interests.

The Australian Prudential Regulation Authority (APRA) announced plans to review the *Life Insurance Act* 1995 over the next two years. The review will examine options to integrate the prudential requirements for life insurance companies and friendly societies. It will also examine ways to harmonise the structure of the Act with the other APRA administered Acts, and ensure the Act's compliance with the International Association of Insurance Supervisors principles for effective supervision. Given that the Life Insurance Act was comprehensively modified in 1995 and is widely regarded as among the most sophisticated in the world, it is not expected that the review will result in any fundamental changes to the Act.

The RBA cut the cash rate by 50 basis points to 5.00 per cent.

May

The Australian Industrial Relations Commission (AIRC) awarded a safety net increase of A$ 13 per week for award rates of pay up to and including A$ 490 per week, A$ 15 to those earning up to A$ 590 per week and A$ 17 per week for award rates above A$ 590 per week. The increases are absorbable into all above-award payments and are estimated to directly effect around a quarter of the workforce.

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