
1 Sustaining national productivity

It is now a decade since the pick up in Australia's productivity growth first looked significant. At the time, there were questions as to whether it would endure and what lay behind it. As subsequently shown, the productivity turnaround was sustained through the 1990s, due in no small measure to broad structural reforms and policy changes. At a time when governments are looking to re-invigorate the reform process, past lessons can inform preparations for the challenges that lie ahead in sustaining productivity growth and raising living standards.

A strong economic and productivity performance

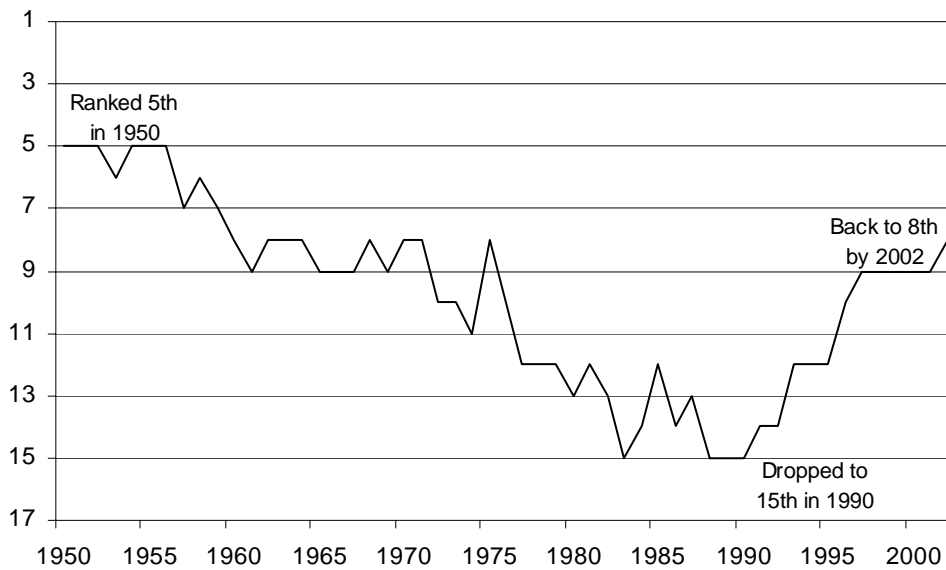
Australia's annual economic growth averaged nearly 4 per cent in real terms in the decade to 2001-02, a feat not achieved since the 1960s and early 1970s. Importantly, growth in the average real incomes of Australians also accelerated: GDP per capita grew at 2.7 per cent a year compared to an average of 1.4 per cent in the previous two decades.

The Australian economy has been one of the best performers in the OECD since the early 1990s, thereby reversing a long decline in comparative average income levels (figure 1.1). Australia's international ranking in per capita GDP among 22 OECD countries rebounded from its low point of 15th in 1990 to 8th in 2002. This higher national income has increased the purchasing power of Australian households and improved the community's capacity to fund infrastructure and services in areas such as health, education, the environment and social safety nets.

Productivity growth has been the mainspring of this good performance and it has co-existed with a greater use of capital and improved employment outcomes. Australia's productivity growth was stronger and more sustained in the 1990s than previously. It surpassed the growth achieved in the late 1960s, accelerating to record highs (figure 1.2).

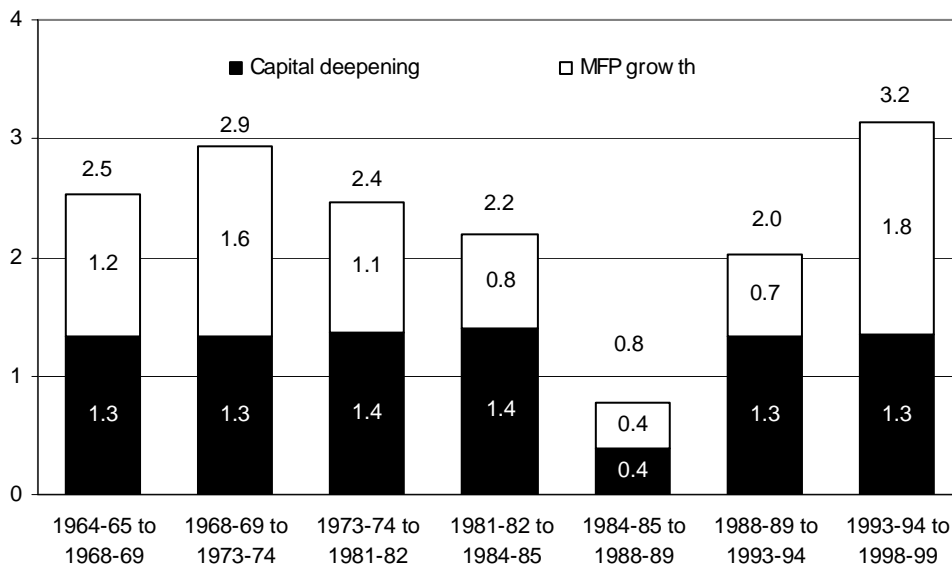
- The rate of growth in labour productivity in the market sector of the economy from 1993-94 to 1998-99 (the last complete productivity cycle) was 3.2 per cent a year, compared to 2.0 per cent, 0.8 per cent and 2.2 per cent in the previous three productivity cycles between 1981-82 and 1993-94.

Figure 1.1 Australia's per capita GDP ranking
 OECD countries, purchasing power parity 1999 US\$



Data source: GGDC 2003.

Figure 1.2 Sources of Australia's labour productivity growth
 ABS productivity cycles for the market sector^a, per cent



^a Productivity cycles are determined by the ABS and capture growth from productivity peak to productivity peak. The market sector covers about two-thirds of the measured economy but excludes such sectors as government administration, health and education in which output cannot be measured satisfactorily for productivity purposes.

Data source: ABS 5204.0 (November 2003) and Commission estimates.

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- Similarly, the rate of multifactor productivity growth — a measure of how efficiently Australia’s human and capital resources are being used — averaged 1.8 per cent a year between 1993-94 and 1998-99, up from an average of 0.6 per cent a year across the three previous productivity cycles from 1981-82 to 1993-94. It has been the major contributor to improved labour productivity and average income, since the rate of capital accumulation per worker — ‘capital deepening’ — has remained stable at around 1.3 per cent a year.

The underlying productivity performance of the economy since 1998-99 is more difficult to assess. To date, capital deepening has maintained its stable rate but multifactor productivity growth averaged only 0.4 per cent a year in the first four years of the latest cycle. Variability in macroeconomic conditions and so few observations in an incomplete productivity cycle suggest caution in drawing firm conclusions at this stage, particularly as multifactor productivity in the market sector jumped by 2.6 per cent in 2001-02 and a further 0.5 per cent in 2002-03.

From an international perspective, Australia switched in the 1990s from being a productivity growth laggard during the previous four decades to being a productivity growth leader, outperforming even the benchmark US economy.

A key area for Commission research in recent years has involved monitoring and analysing these trends in Australia’s productivity growth and investigating their determinants. This work, which was undertaken to inform policy debate and formulation, has provided some important insights into the drivers of productivity growth and the policies likely to sustain it. While overall living standards depend on a complex matrix of social, environmental and economic factors, productivity improvements remain central to the wellbeing of Australians.

Policy reforms have driven productivity

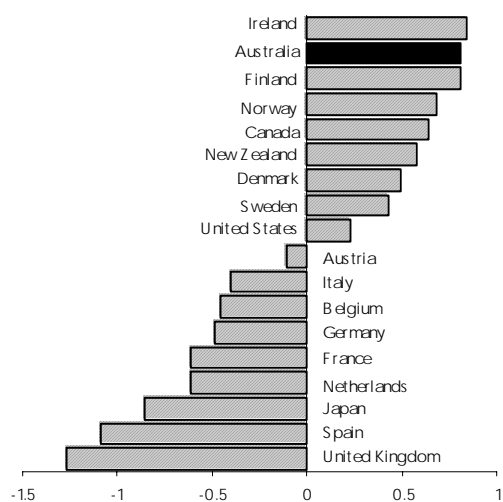
That Australia’s productivity surge in the 1990s represented a significant break from past trends is no longer in doubt. Notwithstanding successive data revisions and methodological improvements by the ABS and the use of a variety of analytical approaches, an acceleration of around 1 percentage point in labour and multifactor productivity in the 1990s over the 1980s is now clear. The productivity boost has provided the equivalent of an additional \$7000 on average to Australian households.

The timing, strength and internationally atypical nature of the acceleration in Australia’s productivity growth help to eliminate some of the ‘usual suspects’ as credible principal causes of the turnaround.

The surge in productivity cannot be explained away as the normal result of recovery from the early 1990s recession. The improved performance was both longer and stronger than in previous recoveries. Further, the relevant ABS measure of peak-to-peak productivity cycles reduces business-cycle effects on productivity estimates.

Australia was one of the three developed countries showing the strongest productivity acceleration in the 1990s (figure 1.3). Although the performance of the United States economy attracted much international attention, Australia's productivity surge started earlier and was of much greater magnitude (Parham et al. 2001). Unlike the experience of the 1950s and 1960s, Australia was not simply carried along by an international productivity boom. Indeed, as its post-World War II experience shows, an international boom is no guarantee of Australia doing better than the world's productivity leaders.

Figure 1.3 **Recent MFP trends^a**



^a Percentage points change in average annual MFP growth 1980-1990 to 1990-2000.

Data source: Derived from OECD 2003b, table A1.9.

firm level suggests a limited impact — around 2 tenths of a percentage point, a significant but relatively small part of multifactor productivity growth of 1.8 per cent a year (Parham et al. 2001; Gretton et al. 2003).

It has been asserted that increased ‘work intensity’ — an increase in hours worked and an unsustainable pace of work — meant that Australia's productivity performance in the 1990s was both mismeasured and unsustainable (box 1.1). However, hours worked are already taken into account in ABS productivity estimates. ‘Unsustainability’ has been disproved by the eight years of continuous productivity growth to 1998-99 and, though dipping for the next two years, multifactor productivity growth subsequently rebounded.

Nor can it be said that Australia has been favoured by any special technological ‘leap forward’. Other countries, including the United States, derived some benefit from rapid advances in the *production* of information and communications technologies (ICTs) in the 1990s. However, Australia produces little in the way of ICTs. In terms of the uptake of ICTs in the 1990s, Australia did move toward the top of the OECD ladder but they largely substituted for other forms of capital. While *use* of ICTs did contribute to Australia's pick up in multifactor productivity, research at both the aggregate and

Workforce skills are an important contributor to national productivity and to the capability to absorb and develop the technologies and other innovations necessary for long-run growth. It does not appear, however, that the productivity surge of the 1990s was due to any acceleration in Australia's workforce skills. To the contrary, skills grew faster and made a greater contribution to multifactor productivity growth in the 1980s (Barnes and Kennard 2002). Moreover, while Australia had relatively high average schooling attainment in the 1960s and 1970s, other countries' growth in average years of education exceeded that of Australia in the 1980s and 1990s.

Box 1.1 Microeconomic reform, productivity and work intensity

Was Australia's 1990s productivity surge produced 'on the backs' of workers and therefore illusory and unsustainable? There have been claims that increased work intensity — manifested in longer hours, unmeasured increases in hours worked and an increased pace of work — is sufficient to account for all the acceleration. Some disentangling is required.

- The trend to longer working hours in Australia over the last two decades is not disputed, but it is already captured in the ABS measures of productivity. Between 1982 and 1994, average hours worked by full-time workers increased from 42 to 45 hours per week, largely reflecting growth in the number of Australians working 50 hours or more per week (ABS 2003).
- There was a structural break in the mid-1990s, however, with working hours levelling off, and in the period since 2000, average hours worked fell back to around 44 per week. Wooden (2003) has examined claims that microeconomic reforms, such as enterprise and individual workplace agreements, eroded working time standards, and found them wanting. The trend to longer working hours was established long before these labour market reforms came into force; if the critics of reform were correct, working time hours would have accelerated from the mid-1990s when in fact they stabilised and then declined; and any erosion of working time standards was more likely a response by workers to constraints on real wage rates imposed under a more highly regulated and centralised system for setting wages and conditions. Far from being imposed by employers, long working hours in the main appear to reflect worker preferences for higher remuneration and other compensating job features (ABS 2003; Wooden and Loundes 2001).
- As expected, workplace and other reforms have entailed more effective use of labour *during* working hours — a genuine source of productivity gains. There is no evidence of any increase in unmeasured hours at work. Hours worked data used in estimating productivity are collected by the ABS directly from workers through household surveys and are beyond the reach of employer influence.
- Some critics of reform and the significance of its productivity pay-off argue that the 'pace of work' in the 1990s accelerated to an unsustainable extent so that the effect on productivity growth would be temporary. While acknowledging the results of surveys on perceptions of stress and pace of work and wider community debate on the appropriateness of work/life choices, it should be noted that Australia's multifactor productivity growth was sustained year on year from 1990-91 to 1998-99.

With such conventional explanations unable to account for the productivity surge, attention turned to other domestic factors that took hold in the 1990s. Although formal economic ‘proof’ is unattainable, studies of Australia’s aggregate productivity performance and its principal components, research on particular sources of productivity growth and on industry sectors, firm level studies, and cross-country analysis all point in the same direction.

This research has led to general agreement that microeconomic policy reforms have played a central role in Australia’s recent productivity surge. These reforms, with their focus on openness to foreign trade and investment and enhanced domestic competition, have been the drivers and enablers of Australia’s recent productivity growth. Together with stable macroeconomic settings for monetary and fiscal policies, the productivity surge has allowed Australia to pursue higher economic growth and living standards with fewer fears of inflationary pressures.

Concerted reform began in the 1980s with the lowering of barriers to foreign competition in goods and financial markets, deregulation of access to finance and the floating of the Australian dollar. As tariff reform and competitive pressures started to bite, managers began to devote more attention to improving the performance of their businesses rather than relying on government to provide shields against adjustment.

Two major impediments to improving competitiveness were the high costs of energy, transport and other services provided by inefficient public monopolies and a centralised system for ‘fixing’ wages and conditions, irrespective of the diverse circumstances of individual enterprises. Reforms in these areas followed.

A presumption of competition being in the public interest found ultimate expression in the national competition policy — the systematic program, agreed by all Australian governments in 1995, to extend competition throughout the economy.

This multifaceted reform effort was neither seamlessly implemented nor without adjustment costs. Reforms kicked in at different times, involved a mix of industry-specific and economy-wide measures with varying degrees of gradualism and occasional slippages and backsliding. Nevertheless, the overall thrust was to set in place the mechanisms to spur productivity growth by:

- encouraging greater specialisation and incentives to apply up-to-date technology and know-how through opening the economy to global trade and investment;
- creating stronger incentives for businesses to improve efficiency through a focus on cost control, innovation and responsiveness to customer needs by sharpening competition; and
- providing greater flexibility for businesses to use the managerial, production and distribution processes best suited to their workplaces.

These various reforms, when taken together, culminated in Australia's improved economic and productivity performance in the 1990s. Evidence of the pay-off to Australians can also be found in a range of additional indicators.

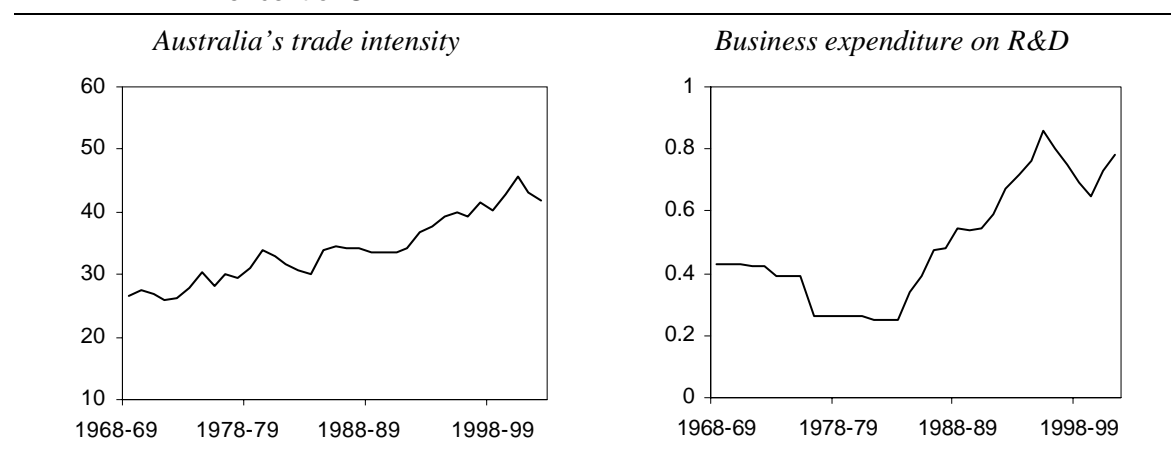
Other impacts of reform

Consistent with the objectives of reform and the observed step-up in aggregate productivity performance, there have been a range of important structural and behavioural changes in the Australian economy.

With the progressive relaxation of Australia's barriers to trade and investment, the economy has become more internationally integrated. The trade intensity of the economy — the ratio of exports plus imports to GDP — increased rapidly from around 27 per cent in the mid-1980s to 44 per cent in the early 2000s (figure 1.4). This reversed the trend from the 1950s through to the early 1970s of a closed economy and a declining trade intensity. Foreign direct investment in Australia also increased as a proportion of GDP, from around 17 per cent in early 1980s to around 30 per cent at present, and direct investment overseas by Australians has increased markedly.

Consistent with increased competitive pressures to raise performance, business expenditure on R&D as a proportion of GDP has doubled since the mid-1980s (figure 1.4). The industry mix of R&D has also changed, with strong growth in mining, property and business services, finance and insurance and, to a lesser extent, wholesale and retail trade. Broader measures of innovation — such as the rate at which new technologies, products and services, and managerial and organisational changes are introduced — are scarce, but the Australian Workplace Industrial Relations Surveys for 1990 and 1995 showed an increased incidence of innovation in medium-sized to large workplaces in Australia.

Figure 1.4 Trade intensity and R&D have increased
Per cent of GDP



Data source: ABS 5204.0, ABS 8104.0 and Commission estimates.

In response to reductions in protection, Australia's manufacturing sector has become increasingly globally oriented and production as a whole has risen by 40 per cent since the mid-1980s. Exports increased from 15 per cent to 24 per cent of manufacturing output in the 1990s, with import shares also rising. Highly assisted manufacturing activities (such as textiles, clothing and footwear) have declined, but there has been strong growth in activities linked to Australia's natural endowments and elaborately transformed manufactures, involving the production of differentiated products requiring higher skills and R&D intensities (PC 2003d).

Consistent with the incentive to shift to activities with a comparative advantage, manufacturing has continued to become more specialised. While volatile at times, intra-industry trade in Australian manufacturing has increased substantially, particularly since the late 1980s, indicating a capacity for Australia to develop capabilities within almost all areas of manufacturing, even those where international competitiveness has generally been declining. However, Australia's manufacturing sector does not appear to have shared in the expected productivity surge; indeed, its productivity growth slumped in the mid to late 1990s (box 1.2).

Box 1.2 Manufacturing's productivity performance is a 'puzzle'

Australia's manufacturing sector did not appear to experience the productivity surge that characterised the market economy as a whole from 1993-94 to 1998-99. Indeed, at an average annual growth of 0.5 per cent in this period, manufacturing's multifactor productivity growth was well below its long-run average of 1.8 per cent a year from 1974-75 to 2001-02. A productivity response to tariff reductions and industrial relations reforms might reasonably have been expected in the late 1990s.

The Commission's analysis of the performance of the manufacturing sector could not find any decisive factor underlying this slowdown in productivity growth (PC 2003d). However, aggregate trends appear to have masked action within the sector and responses to specific developments. For example, studies of whitegoods and automotive production show a response to reductions in high levels of trade protection (PC 1999c; PC 2002c). There is evidence of productivity benefits arising from use of ICTs and industrial relations reform, and the sharp rise in intra-industry trade in manufactures suggests greater efficiency of resource use. The gains from better management of supply chains in manufacturing will not show up as productivity gains in this sector but as improvements in wholesaling (where productivity growth *has* surged).

More recently, there are signs of manufacturing improving its multifactor productivity growth. Between 1998-99 and 2001-02, growth averaged 2.8 per cent a year, 1 percentage point above the sector's historical trend. It is not yet clear whether these high rates will merely return productivity to its long-run trend or will herald a real shift in the underlying trend of multifactor productivity in Australian manufacturing.

Trends in infrastructure prices over the past decade and a half have generally been consistent with government reform objectives across sectors such as electricity, gas, water and sewage, urban transport, ports, railways and telecommunications (PC 2002b). For example, electricity prices for businesses fell markedly (30 to 60 per cent in real terms) as efficiency improved and cross subsidies to households were unwound. Between 1990-91 and 2000-01, port authority charges fell in real terms by between 50 per cent and 60 per cent in Sydney and Melbourne, respectively; coal rail freight rates in the Hunter Valley fell by 60 per cent in real terms; and, under the influence of increased competitive pressures and technological advances, the real price of telecommunications services in Australia fell by more than 20 per cent. In areas such as urban transport, where prices were too low, fares rose, thereby reducing the drain on taxpayers. These price movements were not at the expense of service quality and the direction and magnitude of price trends were broadly similar in city and country areas. However, many government businesses in these sectors are still failing to achieve a commercial rate of return after more than a decade of reform (PC 2003a).

The productivity performance of individual utility sectors over time shows some strong linkages with earlier microeconomic reforms. These are most apparent for those industries previously dominated by uncompetitive public sector monopolies. Taking Commission estimates of average annual industry multifactor productivity growth between 1974-75 and 2001-02 as the benchmark, productivity in the electricity, gas and water sector nearly doubled between the mid-1980s and early 1990s; and productivity in communication services increased by 30 per cent from the late 1980s through to the end of the 1990s.

Reforms to Australia's industrial relations institutions and regulations have promoted a focus on enterprise and workplace productivity which was unachievable when employment conditions and work practices were determined by centrally-prescribed awards. The Commission's series of studies on workplace arrangements showed that inefficient work practices reflected incentives embedded in industry awards. In the case of stevedoring, for example, this included manipulating work flows to maximise overtime payments. But as also found in black coal mining, meat processing and on large capital city building projects, a wide range of restrictive practices were inhibiting productivity enhancements.

Reform of labour market regulation has made a difference. As a consequence of the flexibilities which today characterise waterfront enterprise agreements, the Commission recently found that Australia's ports have largely bridged the productivity gap with their overseas counterparts, notwithstanding the relatively small trade volumes and throughput at Australian terminals (PC 2003b). There has

also been some reduction in relative charges at container terminals since 1997, even though they incorporate a compulsory loading to finance redundancy payments.

Finally, as a consequence of greater competitive pressures in the Australian market place, productivity gains have not simply been appropriated by enterprises and employees in higher profits and wages. The evidence is that the productivity gains at the industry level have been predominantly passed on in the form of lower relative prices. The income growth that occurred in the 1990s was distributed evenly at an aggregate level between labour and capital (Parham et al. 2000).

Some lessons for policy re-affirmed

A range of Commission research on the recent performance of the Australian economy, of particular industry sectors and of firms, provides insights on the determinants of productivity but also points to some broader messages for policy development.

Pay-offs from broadly based reform

Sustaining microeconomic reform across sectors and activities is demanding of government but the pay-offs are there. A policy of broad-based reform recognises that there are increasing interdependencies among industries and complex complementarities in natural resources, capital, skills and entrepreneurship. Moreover, the productivity gains from such an approach can arise in ways that may not be anticipated by policy makers.

To illustrate, the stand-out contributor to Australia's productivity surge of the 1990s was wholesale trade — not itself a direct target of microeconomic reform. From a long-term average annual decline of 0.4 per cent between 1974-75 and 1993-94, the multifactor productivity growth of the wholesale trade industry accelerated to an average of 5.8 per cent a year between 1993-94 and 1998-99. Commission research showed that wholesale trade achieved a significant uplift in productivity in part through the innovative use of ICT (Johnston et al. 2000). Developments such as bar coding and scanning, computer-based inventory management, and communications and tracking systems, helped transform wholesaling from a storage-based activity to a fast flow-through logistics system.

However, it was the *reorganisation* of wholesale businesses that generated the greatest productivity gains — from reduced warehousing and handling — rather than the mere availability and acquisition of ICT. These organisational changes were driven in part by reforms which intensified competitive pressures in downstream activities. Australian automotive producers, for example, sought cost reductions all along the value chain, including wholesaling, as their protection

against imports fell. At the same time, organisational change in wholesaling was facilitated by the reform of industrial relations that allowed workplace changes such as split shifts and reduced rigidity of job demarcations.

These benefits from broad-based reform are demonstrated in firm-level research on ICT use in Australian services and manufacturing (Gretton et al. 2003). Although varying in degree across industry sectors, what matters for firm productivity are complementarities between management skills, the ability to reorganise production and investment in associated innovations including, but not limited, to ICT use. Broad-based reform best guarantees the flexibilities needed throughout product and factor markets if firms are to respond to the opportunities arising from such general-purpose technologies as ICT.

Such conclusions have also been supported by OECD researchers as part of the ‘Growth Project’. They found that the regulatory and institutional settings — governing prices and competition in goods and services markets, workplace relations and firm entry and exit — are important explanators of firm level productivity across OECD countries (box 1.3). Reforms which focus on opening markets to trade, removing anti-competitive regulation and promoting flexibility in workplace arrangements can enhance productivity throughout the economy.

Box 1.3 International insights on productivity performance

The OECD Growth Project set out to explore why some OECD economies performed better than others in the 1990s. It employed an array of analytical tools — including growth accounting, cross-country industry productivity models and comparative analysis of firm level longitudinal datasets — to provide a comprehensive analysis of recent trends in and determinants of productivity and economic growth (OECD 2003b).

The study confirmed the importance of underlying economic variables in the growth process — such as the accumulation of physical and human capital — that are promoted by stable macroeconomic conditions. However, the OECD also assessed how specific policy and institutional settings in product and labour markets shape productivity growth. Key findings were that:

- anti-competitive product market regulation inhibits productivity growth by reducing incentives for the uptake of existing technologies and for further innovation (as proxied by R&D expenditure);
- countries that have decentralised bargaining systems and lower hiring and firing costs are better equipped to innovate in industries characterised by multiple and rapidly evolving technologies (such as ICT); and
- regulations that raise the start-up and hiring and firing costs of small new entrants diminish incentives for market experimentation that underpin innovation and technology adoption when technologies such as ICT are diffusing rapidly and markets are risky and uncertain.

Industry-specific measures no guarantee of success

The Commission's research on the sources of Australia's productivity growth have reconfirmed the value of some longstanding principles for industry policy. First and foremost, good industry policy entails a set of policies directed at creating an environment for *all* Australian industries which is conducive to overall wealth creation and rising living standards. Special treatment of particular sectors is likely to reduce overall economic growth.

Notwithstanding the recognised deficiencies of previous attempts to promote particular industries, there are, for example, continuing calls for the Government to 'redress' Australia's trade deficit in ICT goods by providing selective support for domestic ICT production. This harks back to the mid-1990s debate on whether Australia should be a 'spectator or serious player', and claims that the prosperity of Australians depended on attracting 'information industries investments in the billions of dollars' (Goldsworthy 1997).

The experience has been that Australia has successfully applied ICTs without having to commit substantial taxpayer funds to establishing microchip plants. Furthermore, as a predominantly importing country, the dramatic global fall in ICT prices has helped raise our terms of trade and boosted Australian income. The same price fall also helps to explain the recent rapid growth in investment in ICT capital goods. The use of ICTs and synergies with the broad program of microeconomic reform — involving industry restructuring, the development of new products and services and better production and distribution systems — have been drivers of Australia's prosperity. While there may be some synergies between ICT production and use, and between ICT producers and users, their absence did not detract from Australia's economic performance in the 1990s.

The Commission's research on Australia's manufacturing sector reinforces the view that the pay-off from industry policy comes from improving the basics of economic governance rather than selective industry inducements. The growing trend towards intra-industry trade in manufactures — concurrent exports and imports of similar products — underlines the fact that comparative advantage often relies on highly specific factors (PC 2003d). These include particular local endowments, knowledge, workforce quality and reputation — rather than the industry to which firms belong. Similarly, the export success of Australian manufacturing firms was found to lie with firm-specific characteristics such as management, product design and quality and marketing expertise (Gabbitas and Gretton 2003).

Industry policy that targets particular industries or attributes cannot take account of the highly specific, changing factors that shape competitiveness at the level of individual firms. Micro-management by government of specific parts of industries

is informationally too demanding and can undermine incentives. Rather, effective industry policy should seek to enhance the economic environment in which all businesses operate.

Productivity potential not yet exhausted

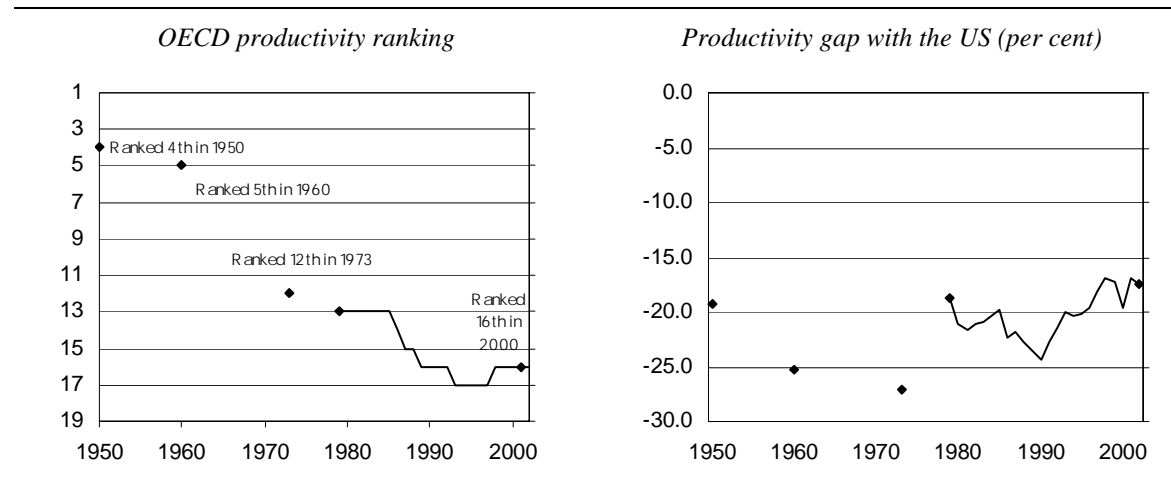
While Australia's productivity growth reached record highs in the 1990s, from an international perspective the economy was still in catch-up mode. Compared to the *levels* of productivity achieved in some other OECD countries, Australia would seem to be far from exhausting its productive potential (figure 1.5).

Though not without the usual caveats applying to such comparisons:

- in terms of GDP per hour worked, in 2002 Australia was at 83 per cent of the US level which, although up from 76 per cent in 1990, was only slightly above where we were in 1950; and
- the labour productivity level in Australian manufacturing, in particular, remains well below US levels.

Levels of productivity of the US economy as a whole, or in particular sectors of it, may not be feasible for Australia's relatively small economy and set of resource endowments. Nevertheless, they point to a potential for achievement that should be actively pursued. This would be reinforced if recent estimates are indicative of a softening in Australia's productivity performance.

Figure 1.5 Indicators of Australia's productivity gap
Purchasing power parity 1999 US\$, GDP per hour worked



Data source: GGDC 2003.

Sustaining Australia's productivity performance

There are both external and domestic challenges to sustaining Australian living standards that heighten the imperative for us to do better.

Internationally, the continuing globalisation of trade and investment and the growing competitive strength of developing economies such as China are providing new opportunities to enhance Australians' living standards through access to cheaper, better and more varied goods and services. At the same time, as the Commission's recent inquiry on Australia's textile, clothing, footwear and leather industries concluded, this will also result in adjustment and job losses, at least in labour-intensive standardised production, regardless of future assistance arrangements. Making the most of global opportunities requires a policy focus on facilitating and supporting adjustment processes and removing those domestic impediments that dull incentives to be cost conscious, innovative and to search for new markets.

Compounding such external challenges is the gathering international retreat from multilateralism in trade policy and the rise of discriminatory 'regional' trade agreements. To the extent that Australia is excluded from preferential deals, we could be exposed to terms of trade and income losses. But by engaging in such deals, Australia may suffer adverse outcomes from trade diversion and the increased transaction costs that are almost inevitably associated with the rules of origin covering bilateral trade agreements. Econometric research by Commission staff supports the proposition that 'preferential' agreements do not necessarily generate welfare gains for their members (Adams et al. 2003). This sharpens the need for Australia to undertake of its own accord those measures that will enhance its economic performance and international competitiveness.

On the domestic front, Australians face two looming challenges that add to the productivity imperative.

- One is environmental sustainability. Dealing with the legacy of (often unwitting) environmental mismanagement will demand additional resources in rectification. Special attention needs to be given to handling the adjustment consequences of policy reforms, especially in regional areas.
- Secondly, while Australia has benefited from a relatively high participation of its population in work, the demographics of our ageing society — with a projected doubling of the proportion of people over 65 years of age by 2040, as people live longer and have fewer children — will reduce per capita income growth for given productivity growth, while potentially raising the costs of health and other services.

In some areas, past reforms will provide useful guidance to the future policy agenda and, indeed, there remain parts of the existing reform program that need to be completed. These include remaining industry protection, as well as some contentious non-tariff issues such as the most appropriate operation of Australia's quarantine system. The latter has been raised in the current negotiations on an Australia–United States preferential trade agreement and under the WTO disputes mechanism. Water reform and industrial relations reform are also unfinished. And, with the existing national competition policy program entering its final phase, governments will need to consider how best to renew and re-invigorate their commitments to competition policy.

There is also a wider reform agenda that Australia needs to grasp. A number of critical policy areas present new complexities for reform and few 'tried-and-true' solutions to fall back on. These include:

- getting the best out of Australia's 'social infrastructure' — health, aged care and other community services — which account for a sizeable and growing share of GDP and whose quality and efficiency is a key to future living standards;
- raising the performance and accessibility of our education and training systems and ensuring appropriate signals for their use — given the importance of education and skill acquisition not only to personal development but also to deepening the human capital on which innovation and economic growth depend;
- raising employment participation of the Australian working-age population, including by reducing long-term unemployment (the major contributor to poverty) and premature 'retirement' from the workforce;
- related to this, ensuring that the incentives in, and the operation of, social safety net mechanisms targeting social hardship, including from job losses associated with policy change, do not detract from personal achievement and economic performance; and
- devising better mechanisms for redressing and avoiding adverse environmental consequences of economic activity.

Such areas are difficult to deal with because of the blend of objectives that arise, but all call for a systematic analysis of the role of incentives on human and economic behaviour and the necessary trade-offs in policy choices. The Commission's inquiry and research work has an important contribution to make in informing community understanding of such complex issues (chapter 2).

The productivity performance of the Australian economy in the 1990s provides confidence that well-conceived and broadly based reforms do enhance overall living standards. Reforms directed at sustaining productivity in all areas of the economy will ensure Australians continue to reap those rewards.

