

# Microeconomic Policies and Structural Change

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## 1. Introduction

From about the mid 1980s, Australia has sought to improve the performance of its markets and industries by actively implementing a program of microeconomic reform. It was recognised that there was a plethora of distortions which had the effect of promoting inefficient performance, and the reform program was directed towards removing these distortions. These reforms held the promise of significantly increasing real GDP per capita. Financial deregulation and reductions in protection came first in the early to mid 1980s. After this, governments turned their attention to improving the performance of public enterprises and regulated industries. Government services were subjected to competitive tendering. In the 1990s governments turned their attention to more difficult sectors, such as the natural monopoly utility industries, which they have been attempting to open up to more competition. Reform is still ongoing, though much of the effort is being directed towards completing and redesigning reforms already started, and extending the scope of competition policy. There remain some areas, such as health and education, which are regarded, rightly, as difficult, and in which there has been limited progress.

Now is a good time to review progress, since sufficient time has elapsed for many of the reforms to produce measurable outcomes. In this paper, a start is made by looking briefly at the overall productivity picture. Reforms are not directed solely at productivity, and their possible other consequences are examined in Section 3. Reform brings costs, some of which may be taken account of in productivity measures, and some of which may not; these are considered in Section 4. Next the winners and losers from reform are identified. In Section 6 the problem areas of reform are examined, since not all reforms seem to have delivered what they promised. The difficult further areas for reform are considered in Section 7. In the final section, some conclusions are drawn.

## 2. Microeconomic Reform and Economic Performance

### 2.1 The productivity boom

The broad picture is that microeconomic reform seems to be delivering what was expected of it. The most measurable consequence of reform is that on productivity, and in this respect, expectations have been confirmed. During the 1990s there has been a sustained productivity boom in Australia (see Dowrick (1998); Dawkins and Rogers (1998); Productivity Commission (1999b); Gruen and Stevens (this volume)). While other countries have also experienced high productivity growth (and also have

been undertaking reforms), Australia's productivity growth has been amongst the most rapid in recent years. The pattern has been very consistent with what could have been expected. It is comparatively rare that empirical outcomes conform so well to prior expectations. It should be remembered that consistency is not the same as causality, and there is always the problem of specifying the counterfactual, i.e. what would have happened in the absence of reform.

Both the magnitude and timing are consistent with the view that microeconomic reform has been a primary contributor to the productivity boom. Microeconomic reform was expected to add some 5 per cent to 10 per cent to measured GDP (some reforms will not add to the measured GDP) (Industries Assistance Commission 1989). Over the past decade, Australia's productivity growth has been something like  $\frac{1}{2}$  per cent higher than that of other OECD countries – this would have added about 5 per cent to GDP over the period. Not all the gains have been achieved, as there are still several industries undergoing reform. The timing is about right as well; the improved productivity growth starts to become evident a little while after reforms had been effected. The initial phase in reform, mainly in trade-related industries, was in the mid 1980s, and the reforms to utilities and transport began in the late 1980s. The productivity boom is evident from the early 1990s, especially as the economy began to recover from the recession. If the recession had not occurred, the impact would probably have been evident earlier.

## 2.2 Specific reforms and performance

The microeconomic evidence, on particular reforms in particular industries, is consistent with the overall story. In a number of industries where reforms have been undertaken, productivity has grown more rapidly than before. There were several types of reforms, which have impacted on different sectors of the economy. These include:

- Trade reforms – these consisted of reductions in protection, and impacted mainly on the manufacturing sector since the mid 1980s.
- Deregulation of markets – these took place from about the middle of the 1980s, and have particularly affected service industries, such as banking, transport and telecommunications.
- Reforms to natural monopolies – structural reforms and implementation of incentive regulation, mainly from about the early 1990s onwards.
- Public-sector reforms – these have included competitive tendering and contracting out, and have been extended in scope over the 1990s.

The impact of reform is particularly evident with the utility and transport industries. Growth in total factor productivity (TFP) and multifactor productivity (MFP) have been rapid. TFP is a productivity measure that accounts for all factors of production (including, for example, intermediate inputs), while MFP accounts for the main factors of production (which would normally include capital and labour). This suggests that productivity performance in the Australian industries has been catching up, to an extent, with best practice overseas (see Table 1). Those industries

**Table 1: Productivity Growth and Productivity Gap**  
Selected industries

Measure	Industry	Productivity Growth		Productivity Gap	
		Period	Growth %	Period	Australia as per cent of best practice
TFP	Rail freight <sup>(a)</sup>	89/90–97/98	8.3	1998	64
TFP	Airlines <sup>(b)</sup>	88/89–98/99	7.1	1993	62
TFP	Electricity <sup>(c)</sup>	84/85–93/94	3.4	92/93	68
TFP/MFP	Telecommunications <sup>(d)</sup>	85–94	8.0	1992	51
MFP	Electricity, gas, water <sup>(e)</sup>	88/89–97/98	3.4		
MFP	Manufacturing <sup>(e)</sup>	88/89–97/98	1.7		
MFP	Transport storage <sup>(e)</sup>	88/89–97/98	1.1		
MFP	Communications <sup>(e)</sup>	88/89–97/98	2.8		
MFP	Finance and insurance <sup>(e)</sup>	88/89–97/98	2.5		
MFP	Market sector <sup>(e)</sup>	88/89–97/98	1.7		

Sources: (a) Productivity Commission (1999a)

(b) Forsyth (2000)

(c) Bureau of Industry Economics (1996)

(d) Bureau of Industry Economics (1995)

(e) Productivity Commission (1998b)

which were diagnosed as particularly poor performers, such as rail and electricity, have experienced very high productivity growth (Productivity Commission 1999a, 1999b; Table 1). The performance of the Australian industries, compared with performance in other countries, has also been good (see Table 2). In some industries, such as banking, there have been substantial reforms though it is difficult to obtain measures of productivity (Oster and Antioch 1995). This also applies to reforms in the public sector, where contributions to GDP are measured in terms of inputs. Reforms such as contracting out will result in lower measured output of the sector, even though the actual output in terms of real government services may not have changed.

The contribution of the trade-related reforms is also not easy to measure. It is not enough to look at individual affected industries and observe whether their productivity has increased. This is because part of the impact of trade liberalisation is through the substitution of one industry for another. An import-competing industry contracts or is eliminated, and other, more productive industries elsewhere in the tradeables sector expand. However, there would normally be some productivity effect on the industries affected by liberalisation. This would come about, firstly, through

**Table 2: Productivity Growth, Selected Industries and Countries**  
1989–94, per cent per annum

Country	Multifactor Productivity Growth				
	Manufacturing	Electricity, gas, water	Transport, storage, communication	Finance	Total
Australia	3.3	3.0	5.2	-1.5	0.9
US	1.5	0.3	3.9	-0.7	0.8
Canada	1.6	-1.6	2.3	-1.5	0.2
Belgium	-0.8	3.4	2.2	2.8	1.0
Netherlands	0.7	1.4	3.5	-	0.8
OECD	0.4	0.3	2.5	-1.0	0.6

Source: Industry Commission (1997), *Assessing Australia's Productivity Performance*, Research Paper, Table D4

contraction of the industry leaving the more efficient firms and weeding out the less efficient firms, and secondly through firms faced with more import competition increasing their productive efficiency in order to survive.

The evidence is that the trade-related reforms have contributed to productivity improvement. The manufacturing industry has increased its productivity growth somewhat. Also, studies of the response of economies to trade liberalisation, including Australia, have found evidence of direct links between liberalisation and performance (Dowrick 1994; Chand, McCalman and Gretton 1998; Productivity Commission 1999b).

### 2.3 Reform and transaction costs

One way through which microeconomic reform may be contributing to improved performance may be through its effects on transaction costs. Transaction costs have been falling, and this has made possible more efficient production in those industries which must pay those costs. When transaction costs fall, it is possible for industries to achieve greater scale economies, for example, by centralising production. Greater specialisation and gains from trade become feasible; for example when firms contract out services which others have a comparative advantage in producing.

In Australia, as in other countries, costs have been falling in a range of service industries, and this has reduced the costs of doing business facing firms in other industries. Improved telecommunications and data transfer are facilitating decentralisation of production, and enabling production to take place at the lowest-cost locations. Faster and cheaper aviation is facilitating the movement of people. Lower shipping and freight costs are enabling changes in production technology, such as just-in-time production. All of these are having an impact on productivity growth,

though not in any clearly measurable manner. The gains, which could be substantial in aggregate, are spread across industries throughout the whole economy.

Microeconomic reform is only part of the explanation of reduced transaction costs; much of the reduction would have taken place regardless. However, there is a distinct contribution. Improved productive efficiency of service industries, such as transport and telecommunications, has led to reductions in prices and facilitated more specialisation and trade. More open markets, in communications and banking, have meant that new competitors can enter, and this has added pressure for greater product innovation. Less protection of incumbent producers has resulted in more niche production based on comparative advantage in manufacturing.

In some sectors there have been substantial changes in the ways of doing business. This is evident in the provision of government services, which are now much more likely than before to be contracted out to private operators. The typical industrial firm relies much more on specialist firms for accounting, legal and information technology services. Manufacturers are less likely to have fully integrated production of the whole product, and are more likely to source components elsewhere. Industries in Australia, which were not able to compete on world markets, such as tourism and software development, are now trading internationally.

It is difficult to evaluate the contribution of reform to growth through this mechanism. The role of falling transaction costs could be moderately important for a country like Australia, which is a long way from its markets. In several service industries, reform is a substantial part of the explanation of price reductions over the last decade, and the opening up of markets has helped the provision of new services in such industries as telecommunications, aviation and banking.

## **2.4 The productivity boom – is it all due to microeconomic reform?**

While a boom in productivity was to be hoped to be a consequence of reform, it would be rash to attribute all the increase in productivity growth to this reform. As in other countries, other factors have been at work.

One explanation, which has attracted considerable interest elsewhere, is that of technological improvement. There is evidence that in the past decade, the pace of technological improvement has stepped up. In particular, the information technology revolution, coupled with the pervasive use of computers, may well have resulted in a boost to productivity growth. The contribution of this source of growth has attracted a good deal of attention in the US, and its full significance is still being debated (see Gruen and Stevens (this volume)). It is plausible that technological improvements, and especially those in information technology, have been a major reason for the high productivity growth. At the micro level, improved information technology has resulted in substantial reductions in staffing in banks, transport and telecommunications. This is a process that has been going on for some time, not just since 1990, but it is possible that the pace has increased, and that the productivity dividends are now being reaped.

Another force has been globalisation. Australia, like other countries, has been relying more heavily on trade, and taking more advantage of the gains from trade. Some of this can be attributed to reforms such as the reductions in protection, but this is clearly a process which would have been going on even if Australia had maintained protection. Distance has limited Australia's participation in global markets, but the barrier created by distance is being reduced, as freight and passenger costs fall, and communications are improved. If Australia had not been undertaking reform, this would have been a positive influence on productivity growth.

Finally, the nature of the inputs, especially labour inputs, has been changing. Productivity is usually measured using a simple indicator of labour input, such as employees, or hours worked. There are likely to be problems with this measure, and they are likely to result in an overestimate of the true productivity gain. With more extensive education, the quality of labour, and the amount of human capital, will have been increasing; hence the labour input will be understated by employees or hours worked. It is also possible that those who are working are being expected to work harder (see Section 4) and that the real labour input is being understated. All productivity measures encounter these types of problems. As against this, it should be noted that the quality of output may also be increasing, and this would lead to an understatement of productivity growth.

## **2.5 Reform in perspective: comparative performance**

Australia is not the only country which has been undertaking microeconomic reform; others such as the UK and New Zealand have had extensive programs of reform, while others, including the European countries, Japan and the US have been implementing reforms on a perhaps more gradual basis. In some of these countries such as the UK, there has been a productivity boom following on from a period of reform, while in others, such as New Zealand, performance has been disappointingly modest. The US has been implementing reforms over a long period, and it has had very good growth performance over the recent period. Thus working out the exact contribution of reform to productivity growth is no simple matter.

The case for reform, in any specific industry, is usually made by making comparisons of performance with comparable industries in other jurisdictions. Thus comparisons are made between airlines, rail systems and electricity industries in different states or countries. Where the performance of one is not as good as those of others, the difference is attributed to the different institutional environment. Reforms which make the institutional environment of the poorly performing industry closer to those of the better performing industries are suggested as likely to improve performance. Ideally, by duplicating the institutional environment it should be possible to duplicate performance, allowing for other factors that may affect performance, such as scale factors. Typically, in comparisons, it is often found that industries, which are privately operated, or subject to more competition or which are less subject to inefficient cost-plus types of regulation, perform better. Both theoretical presumptions and empirical observations contribute to the design of reforms.

Australia, along with other countries such as the UK, has been actively trying to set in place ‘best practice’ microeconomic policies. It has opened up many markets to competition, has lowered most of its tariffs to modest levels, it has restructured its natural monopoly transport and utility industries, and it has privatised or at least corporatised most of its publicly owned industrial firms. Granted this, it could be expected to be achieving economic performance, in terms of GDP per capita, which is comparable to the best, if not now, at least in the foreseeable future.

Since Australia has been enjoying a higher productivity growth rate than most other industrial countries, it has been catching up somewhat on other countries with which it might be compared. To some extent it can be compared to European countries such as Belgium, Sweden and the Netherlands which have comparable populations. These countries have the advantage of being within the large European market. It can also be compared to the larger European countries such as the UK, France and Germany. Another natural comparator is Canada, which has a similar structure and is of similar size, though it has the advantage of proximity to the US market. Finally Australia can be compared to the US. Achieving a GDP per capita at a level typical of the more comparable countries, such as the medium-sized European countries or Canada, was a realistic expectation of the possible gain from microeconomic reform.

Estimates of real output per capita are presented in Table 3. International comparisons of real output per capita are, invariably, not very accurate, though the broad patterns are instructive. Comparisons with the European countries and Canada

**Table 3: Real Output per Capita**  
Selected countries, 1990 and 1998

	Real GDP per capita 1990 <sup>(a)</sup> US\$	Real GNP per capita 1998 <sup>(b)</sup> US\$
Australia	18 172	20 130
Belgium	18 572	23 480
Canada	21 793	24 050
France	19 737	22 320
Germany	20 689	20 810
Japan	20 069	23 180
Netherlands	17 846	21 620
New Zealand	15 405	15 840
Sweden	19 353	19 480
United Kingdom	18 041	20 640
United States	24 363	29 340

Note: These international comparisons have been made using different methodologies.

Sources: (a) OECD (1990), *Purchasing Power Parities and Real Expenditures*, Paris  
(b) World Bank, *World Development Report 1999/2000*, Washington DC

suggest that Australia is still a little behind, though too much should not be read into modest differences given the difficulties of obtaining comparable data. One thing which emerges is that there is still a large productivity gap between the US and Australia (and between the US and the other countries). This prompts the question of why this should be so. It could be partly a matter of scale economies and scope for specialisation. This may be so, but Europe is large also, and is now closely integrated economically, and Canada is very close to the US and should be able to take advantage of the latter's size. It is the size of the market, not the country, that matters.

Australia has the most isolated market of the countries considered, though it makes up for this partly through its proximity to the rapidly growing countries of Asia. The US–Australia performance gap is mirrored when productivity comparisons of individual industries are made. Very often, the US industry has significantly higher total factor productivity than its Australian counterpart. This is true, for example, of domestic airlines, rail and electricity (Forsyth 2000; Productivity Commission 1999a, 1999b; Bureau of Industry Economics 1996; Table 1). All these industries have been experiencing good or very good productivity growth, and they have narrowed the productivity gap during the 1990s. A substantial gap remains even when measures are adjusted to allow for scale effects.

This is an interesting observation given the nature of the institutional changes which have constituted microeconomic reform. In Australia as elsewhere, reform has, to a large extent, had the effect of making the institutional environment much closer to that of the US. In this respect it has been aligning itself with the 'Washington Consensus', concerning factors (such as free trade and capital movements, deregulated markets and private operation of industry) which are regarded as conducive to good economic performance. The US itself has been changing somewhat, by deregulating some industries and by reforming regulation in others. Whereas once before, institutions were quite different, they are now quite similar. The same industries have been opened up to competition in each country. Both have low tariff protection. Natural monopolies are mainly privatised or corporatised, and they are subject to the same types of regulation. There is now more private involvement in health and community services in Australia, as there is in the US. With very similar microeconomic institutions, creating similar pressures and incentives for performance, the results in terms of performance are still very different.

This poses the question of what it is that creates the difference in performance. Size and scale factors can explain some, though not all, of the difference. It is unlikely that much of the difference can be explained by the quality of the factors. It may well be that some key markets, such as the labour market, are not as well performing as the comparable US market. Another possibility is that there may be problems of measurement. For example, US labour may be more productive than Australian labour because it puts in greater effort (one possible consequence of reform in Australia has been a greater demand for effort on the part of the workforce). One possibility is that it takes a long time for industries to achieve comparable performance to the US performance, and that further substantial gains in productivity are in the pipeline.



### **3. Non-productivity Aspects of Performance**

#### **3.1 Allocative efficiency**

Many microeconomic reforms are directed to achieving improved allocative efficiency rather than productive efficiency. While it is generally agreed that the gains from increased productive efficiency are likely to be much greater than those from improved allocative efficiency, the gains from the latter could still be large. Gains in allocative efficiency mean that deadweight losses will be reduced. This may happen through bringing prices closer to marginal costs (important in the telecommunications and water industries, for example), allowing the products that consumers want to buy to be sold (relevant in banking and airlines), and improving the allocation of investment (important in rail, airports, roads and electricity).

Productive efficiency gains show up as improvements in total factor productivity, and in increased GDP per capita. Allocative efficiency gains may or may not show up as productivity gains. An improvement in water pricing, which results in farms paying prices which reflect the opportunity costs of the water, will result in measured productivity gains, as farms reduce their use of water to the extent that it is not producing outputs equal to its opportunity cost. When road funds are better allocated, this will have a greater impact on reducing the costs of the road freight industry; the measured productivity of this industry will increase.

When final consumers are the purchasers of the output, for example with water or airline services, some of the gains will be recorded as increases in consumer surplus. This will not necessarily show up as an increase in productivity or in GDP. In some cases, allocative efficiency gains may be measured as productivity increases. For example, if the airline industry makes more discount fares available, and the increase in measured output of the industry is equated to the increase in person trips or passenger kilometres, with no adjustment for the lower average quality of the service, there will be a recorded productivity increase, which could overstate the actual gain.

The allocative efficiency effects of reform have been substantial in a number of industries. Telecommunications pricing has been made much more reflective of costs, with consequent reductions in deadweight losses (Industry Commission 1997). Water pricing is potentially important in irrigation and for urban use. Airfare structures have been improved. Electricity investment patterns are much less wasteful. Airport and rail investments are less subject now to political imperatives, and fewer white elephants are being constructed. There is less cross-subsidisation of one service by another in the financial sector. Some of these are having an impact on measured productivity, though there are gains which do not show up as productivity increases.

#### **3.2 Macroeconomic impacts**

Microeconomic reform is primarily directed towards improving living standards through increasing productive and allocative efficiency, but might also have some

macroeconomic impacts. It has been suggested that it will affect both the external balance and inflation.

In the late 1980s and early 1990s, Australia's current account deficit, and growing debt, were attracting attention (see Pitchford (1990)). It was believed by many that microeconomic reform would be a means of reducing the deficit. Reform would make Australian tradeable industries more competitive, by reducing their costs, and they would be able to increase exports and be more effective in competing with imports. As a result, it was held, the current account deficit could be reduced. To a considerable extent, reform was sold on its supposed effects on competitiveness and the deficit.

This view was based on an excessively partial analysis of the external account (Forsyth 1990). Ultimately, the deficit on current account is determined by the balance of spending and production or between savings and investment. Competitiveness, as affected by goods and services prices and the exchange rate, is a mechanism by which the external balance is brought into line with the domestic balance. If domestic prices fall, as a result of microeconomic reform, the exchange rate will rise, to enable the current account balance to be restored. Microeconomic reform is unlikely to have any major impact on the balance between savings and investment, and thus it is not likely to have any major impact on the current account.

In retrospect, it does not seem that there is much evidence in support of the popular view that reform would affect the deficit. Reform has been extensive and real prices of the industries which have been subjected to reforms have declined. However, over the period, there does not seem to have been any significant movements in the deficit which cannot be explained by other factors. The deficit did decline in the recession, and it has increased since.

Reform may have had a more distinct effect on inflation. Microeconomic reforms will, on average, lead to once-off reductions in the prices of goods and services. These effects will be experienced gradually over the period during which the reforms are undertaken. During the 1990s, reforms were resulting in downward pressure on prices.

It is recognised that once-off changes in prices can have an impact on inflation; witness the recent discussion of the effects of the introduction of the GST on inflation. A once-off reduction in prices can be a useful break in the inflationary process, and it may result in lower price increases in future, as agents in the economy moderate price increases that they are seeking. The 1990s was a period of low inflation. Some of this can be explained by weak demand pressures, for example the weak state of the labour market as a result of the recession. Reform may also have had some impact on inflation through its impact on the labour market. Labour saving reforms can have impacted, at least temporarily, on the overall pressure in the labour market. Overall, the evidence seems consistent with reform making some contribution to the low inflation of the 1990s, though its exact contribution would be difficult to assess.

### 3.3 The adaptiveness of the economy

Microeconomic reform may not just lead to a more efficient economy, but it may also lead to an economy which is more adaptive and responsive to external shocks, as market mechanisms are allowed to work more effectively. There is some evidence that Australia now has a more responsive economy.

Not all reforms need have this effect. Consider lowering protection. This will lead to contractions in some industries and expansions in others. There is no particular reason to expect any of these to become more adaptive. However, if the approach to protection has changed, industries may behave in a more responsive manner. In earlier times, protection was responsive to external shocks; thus, if protected industries were finding it more difficult to compete because of external circumstances such as higher exchange rates, governments would increase protection. This happened when the motor vehicle and textile and clothing industries were experiencing difficulties in the 1970s, and the government brought in quotas to assist them. Nowadays, industries realise that if external circumstances adversely affect them, they are much less likely to obtain compensating assistance from the government. They are forced to adapt more than in the past.

There are several ways in which reform has meant that industries are more subject to market swings. For example, utility industries are no longer able to increase prices when demand slumps (thereby increasing excess capacity). Public (e.g. electricity) and regulated (e.g. airlines) industries were allowed or required to cover costs, on a year-by-year basis, and price increases were permitted if they were finding it difficult to do this. Such industries have now been forced to adapt to shocks, and this would have increased their adaptability to shocks in general.

Reform has also meant that industries have been subject to more competition. In the past, the few firms in regulated or publicly owned industries did not have to deal with much competition. Now they have to, and competition forces them to be more adaptable to change, such as that coming from new entry or price wars. As a result, they may have become more adaptable in general. For example, Qantas has become much more familiar with addressing competition in its markets. After the Asian financial crisis impacted heavily on several of its markets, it responded very quickly, shifting capacity from one market to another, and purchasing equipment from airlines in distress. It survived the shock and managed to increase its profitability.

Overall the response of Australian industry to the crisis was quick and effective. Faced with the decline of their markets, exporters shifted to other markets. Exports were responsive to falls in the real exchange rate, and new firms came into the export market. Generally, industries which have experienced increases in competition, such as banks and telecommunications, appear to be adept at dealing with shocks.

Australia weathered the Asian financial crisis very well, and reform in the past has been credited with its success. To an extent, this credit may be due to reform, though the claim should not be exaggerated. For example, unlike other countries, Australia did not have a financial crisis. When the crisis impacted, Australian financial institutions did not have a massive overhang of non-performing loans. This could

have been because they have become much more efficient in evaluating proposals for finance, and better at screening out the bad risks. It could also be that prudential regulation was more effective than in the past. It could also be, however, that Australia experienced a financial crisis in the late 1980s and early 1990s, and it was still recovering from this during the late 1990s. Over the post-crisis period, institutions have been particularly cautious, and this paid dividends when the Asian financial crisis occurred. It is possible that there has been a sustained improvement in the efficiency of banks as lenders, and in prudential regulation.

We should not be too optimistic, however. Consider the property development industry. This industry has been exposed to strong competition for many decades, if not centuries. Investors have a strong incentive to be careful in evaluating their investments; institutions and incentives are right. Nevertheless, booms and slumps continue to prevail, and during the booms, there is excessive and expensive overbuilding. Lessons are learnt, after slumps, but these lessons are only remembered for short periods. The financial sector may be more efficient in evaluating investment proposals, but this may not eliminate systematic mistakes in the future. The good position the sector found itself in at the time of the Asian financial crisis may have been partly fortuitous.

There were other changes which can be regarded as partly micro and partly macro, and which affected Australia's ability to weather the crisis. The most important of these concerned exchange markets, especially the floating of the exchange rate and the ending of exchange controls. The exchange rate was free to adjust quickly when the crisis hit, and this facilitated a quick response by the affected industries. The counterfactual is not obvious. If Australia still had had a fixed exchange rate, it would have devalued, as the crisis economies did. However, it may not have altered the exchange rate soon enough, or to the right extent. Australia probably would have avoided the worst of the crisis, though its adjustment may not have been as quick and effective.

## **4. The Costs of Reform**

### **4.1 Uncertainty and search costs**

One of the consequences of reform has been that agents in the economy are faced with more choice and uncertainty than before. To the extent that they are risk averse, this creates a cost, and to the extent that they need to search for the best deal, search costs are involved. The increase in uncertainty is to be expected, since increased risk is the price of improved incentives. However, this increased uncertainty imposes a cost, and only some of this will be incorporated in GDP measures.

We are seeing risk increase in a whole range of activities. When choosing airline tickets, travellers have the option of low-risk fares, such as full-economy fares, with which the airline absorbs all the risks associated with the travellers' scheduling plans, or discount fares, which involve non-refundable payments if the travellers plans change. Instead of a nation-wide Medicare health system, families have to choose what health insurance to take out, and this involves choices between low risk

and high cost, or high risk, with high excesses, and low cost. One thing which is changing as a result of utility reform is the margin for risk. In previous years, electricity generators invested in large amounts of capacity to minimise the risk of blackouts; now they are lowering their capacity margins, at a consequent cost in terms of greater likelihood of shortfalls from time to time. Employment contracts now give less tenure to the employee, resulting in greater flexibility for the employer.

The problem with the previous way of operating was that it destroyed incentives to seek efficient solutions. Patients had incentives to overutilise health facilities, since they were not faced with the costs of supplying the services. Travellers had no incentive to plan their transport requirements carefully, since the airline bore the cost of them changing their minds. Electricity generators would not be rewarded for economising on the use of capacity. Regulated firms are no longer able to simply pass on cost increases; now they are subject to price-caps, which give them an incentive to keep costs at a minimum. In many contexts of reform, there has been a conscious decision to move towards solutions which create stronger incentives for efficient decision-making, but with the effect of placing more risk on the decision-maker.

Buyers are now confronted with a greater array of options as a result of reform of industries such as banking, telecommunications, transport and utilities. Instead of one electricity supplier, they must choose from several. Travellers face a wide range of fare types for domestic, and especially international travel. To make good use of the options they face, they must spend time and money investigating the possibilities. While there are benefits from increased variety, these are offset partly by greater search costs.

Often, agents do not necessarily have to face increased risk, since they may have the option of paying to avoid it. Thus people who are risk averse in health matters can choose to take out extensive insurance, at a cost. Travellers who do not wish to face the risk of losing a non-refundable fare can either take out insurance or pay more for a low-risk ticket. Sometimes, the ending of cross-subsidisation has meant that the price of the low-risk option has increased; for example, full-economy air tickets are more expensive than before, partly because those travellers who prefer not to pay for flexibility are no longer forced to do so. It is not always easy to pay to avoid risk either. With electricity, if the system as a whole has less spare capacity, this increases the chance of blackouts for all users. To a limited extent risk averse users can lessen risks by purchasing generators, but this is an expensive and often impractical option.

The fact that most agents do not choose to pay top prices for the lowest risk services suggests that the savings from the extra risk are, overall, worthwhile. However there is a cost to the increased risk, which sometimes must be offset against the measured gains from reform. When firms are buying intermediate goods and services, they will weigh the costs of risk and choose the most efficient option. They may instruct staff to purchase non-refundable tickets when travelling. They will gain from the lower price, and this is recorded as a productivity increase in the economy. The costs the firm faces when staff cannot meet conditions and the tickets are forfeited are recorded as a cost of the firm, and this results in a reduction in measured productivity growth. To the extent that the costs of uncertainty or search are borne by firms, they show up as an offset to the productivity gain.

When final consumers face extra risks to themselves, this cost is not recorded in GDP measures. The lower price of the electricity they buy will be reflected in a measured productivity gain, but the risk and search costs to the consumer will not be recorded. To this extent, there is an additional cost of reform which should be offset against the gains.

## 4.2 The costs of structural adjustment

Microeconomic reform has hastened structural adjustment, and this adjustment has its costs. Reform has resulted in some industries contracting, workforces being reduced, and some regions losing economic activity. Reform has hastened the process of shifting production and inputs from one industry or place to another. There are several costs which are associated with achieving change, and these costs are typically borne by individuals or governments, as well as the industries themselves. These costs need to be recognised when evaluating the success of reform. From a measurement point of view, there is a difficult question to answer – to what extent have these costs already been taken into account when output and productivity growth are calculated, and to what extent do they represent additional costs, which should be taken into account as an offset against output increases, leading to a downward adjustment of productivity growth estimates?

Many, though not all, will not be faced by the affected firms, and will not show up as reduced output, increased inputs, and thus a reduction in measured productivity. If a firm pays redundancy benefits when it is reducing its workforce, these payments will be recorded as a productive input, and their presence will reduce measured productivity. If the government compensates workers who lose their jobs, these payments will not be recorded as a productive input. The same is true when the redundant workers bear the costs themselves. To this extent, measured productivity gains will overstate the real income gains from reform.

There are several types of adjustment costs (Productivity Commission 1998b). One of these is a temporary increase in unemployment; it is unlikely that structural change can be effected with no period of unemployment for workers who leave the firm or industry which is shedding labour. There is also a cost of retraining and labour market programs. When governments fund transfers or programs, there will be an additional deadweight loss from increased taxation. Structural change may mean that particular regions are given assistance by the central government, to promote the development of alternative industries. Finally, particular industries may be given assistance to adjust; for example, the dairy industry is being given assistance to facilitate the transition to a new deregulated environment.

Unemployment, albeit temporary, will lead to several adjustment costs (for a discussion, see Borland (1998)). Firstly, and most obviously, there is the lost output which the displaced workers could have produced. There could be some degradation of their skills and future productivity. The workers will face cash costs, such as transport and communications costs in searching for work. They will also face additional personal and social costs. Some of these costs will be recorded as an offset to productivity growth, while some will not.

In particular, lost output means lower aggregate productivity, as long as the latter is measured using the available workforce as the input, not the actually employed workforce. There will be no deduction from the measured productivity of the industry which has reduced its workforce however. To this extent it is inappropriate to look at the sum of productivity performances in individual industries to measure productivity performance overall (there can be productivity growth in every industry in the economy, but no productivity growth in the economy as a whole, if the released factors are not employed elsewhere).

Other costs of unemployment need not be recorded as a deduction from productivity growth. For example, search costs paid by workers looking for new jobs will be counted in the accounts as personal expenditure, not as inputs into a productive process. Thus they do not reduce measured output or productivity growth. The same will be true of the personal and social costs the displaced workers encounter.

Microeconomic reform will involve costs of structural adjustment, and these could well be significant. Hence there has been attention given to ways of minimising these. These costs need to be taken into account when evaluating reform. However it does not follow that all of these costs have been ignored in measures of overall productivity growth, and that they should be deducted from output to obtain corrected measures of net output. Rather, some of these costs have been taken into account granted the way overall productivity growth is measured – however, not all of them have. Ideally, we need to estimate those adjustment costs which have not been taken into account, and subtract them from output and correct productivity growth estimates accordingly.

### **4.3 Additional demands on the workforce**

Reform often leads to fewer people producing the same output. To an extent this might be being achieved by those people who are still employed working harder. If this is so, there is a cost which must be deducted from the gains from reform to estimate the net gains from reform.

Prior to reform, there was the scope in many industries for slack staffing arrangements. There were monopoly rents, and employers may have been prepared to share these with their workforces. It may have been easier to share these rents through offering easy working conditions than by higher pay – furthermore, it may have been the preference of workers to enjoy easy working conditions rather than higher pay (for some discussion, see Forsyth (1998)). Several public enterprises were characterised by low pay, low effort and low productivity.

Reform has resulted in this option ceasing to be feasible. It eliminates rents, and forces firms to eliminate slack, if need be, by getting their workforces to put greater effort into their jobs. Fewer people will be allocated to a specific task, requiring them to concentrate more, to be active on productive tasks longer and to complete specific tasks more quickly. This also may have some implications for the quality of the service – fewer people serving customers will lead to longer queues, thus passing some of the costs onto the customers. It has been argued that some of the savings being achieved through competitive tendering have been achieved by forcing the

employees to work faster and harder (Quiggin 1996, pp 173–183). This focus on effort and its cost is reflected in the theoretical literature on regulation and incentives. Good regulation will encourage the right level of effort to be provided, recognising that greater effort improves performance but has a cost to those who provide it. Typically in theoretical models of regulation, effort is a critical variable, though it is not measurable (see Laffont and Tirole (1993)).

To the extent that this is happening, it will still be the case that reform will lead to an outcome which is more efficient overall. However the gains from reform will tend to be overstated. Productivity will increase, but there will be an additional cost of greater effort on the part of the workforce. This cost should be deducted from the measured gains from reform to obtain an estimate of the net gains. In the absence of empirical work on effort and its costs, it is difficult to determine how significant an adjustment this would be in the Australian context. It is something worth exploring further.

#### **4.4 The costs of unemployment**

Microeconomic reform may have increased unemployment in the longer term. Whether it has done this depends on how reform initially impacts on the labour market, and on how the labour market works (see Freebairn (1993) for some discussion).

Reform may result in a shift in demand for labour overall. Many reforms at the industry level have been targeted at reducing excessively large workforces. Costs have been high partly because workforces have been too large; this was true in telecommunications, railways and electricity, and reform has meant considerable shedding of labour. The initial impact on industry employment will not be the same as the ultimate impact, since reform will normally result in lower prices, and an increase in demand. This in turn leads to increased employment. Reform in the telecommunications industry, for example, has been accompanied by an increase in overall employment in the industry. It is conceivable that reform may lead to an overall reduction in demand for labour, along with a shift towards other factors such as capital. There can also be a shift in demand from unskilled towards skilled labour.

Even if there is a reduction in the aggregate demand for labour, or in the aggregate demand for a particular class of labour, such as unskilled labour, this need not translate into an increase in unemployment. It depends on how flexible the labour market is. It is possible that wages will adjust so as to absorb any increases in available labour as a result of reform. This could come about if wages were sensitive to unemployment levels, for example when unemployment exists and is not eliminated by wage reductions, but when it is taken into account during wage bargaining. It is also possible that an alternative scenario may apply under which wages are inflexible. If so, additions to available labour will lead to increased unemployment.

In short, reform may result in some reductions in the demand for labour, especially for unskilled labour, and if it does, this puts pressure on the labour market. Whether there is any net increase in unemployment depends on how flexible the labour market



is. There is no consensus on how the Australian labour market works, and thus it is not possible to be definitive on whether reform may have contributed to longer-term unemployment.

The experience of the 1990s is consistent with the view that reform may have contributed to increasing unemployment. This has been a period of rapid productivity growth, but rather less rapid growth in employment. In spite of high overall growth, unemployment has been slow to fall. This could have several explanations, not just reform. Furthermore, it is possible that reform has a short-term impact on unemployment, during the structural adjustment process, though not a long-term one. Thus, during the 1990s, as a series of reforms were implemented in different industries, there could have been a series of shifts in the patterns of demand for labour, which are taking some time to work out. When the reforms tail off, this temporary source of unemployment will be removed, and overall unemployment will fall to more traditional levels.

If increased unemployment is a consequence of reform, then it has a cost. The costs are similar to those of temporary unemployment; lost output, cash costs to the unemployed, deadweight losses from funding assistance, and personal and social costs. When productivity is measured in terms of aggregate output using available labour supply as an input, the cost of reduced output will be taken account of in the measurement of productivity and thus the gains from reform. Other costs of unemployment will, however, not be taken into account, and any measure of the net gains from reform must subtract these costs from the measured productivity gains.

## 4.5 Quality

A possible cost of reform is a decline in the average quality of goods and services produced. It is worth exploring this possibility for two reasons; firstly, because there is a public perception that the quality of many services such as telecommunications has declined in recent years, and secondly, because reforms do alter the incentives faced by firms when choosing the quality levels to supply.

Certainly, it is possible to identify some systematic changes in quality. Consider the domestic airline industry; reform has meant a proliferation of discount airfares. These fares are offered subject to conditions, such as early booking or non-refundability. Even though the actual service quality once the passenger is in the aircraft is the same as that for the full-fare passenger, the additional conditions imply a lower-quality product. There have been some quality improvements, as well. Since average load factors have changed little over the last two decades, the quality level of the full-fare product would have increased, since with more passengers being on conditional fares, the probability of obtaining a flight at the time of one's choice would have increased. While there has been this increase in the quality of business-oriented fare types, this probably does not completely counter the effect of more discount fares. Thus, other things equal, airline deregulation in Australia has led to a reduction in the average quality level. Any measure of productivity should take this into account; for example, a measure based on revenue passenger kilometres, tonne kilometres or trips would result in an overestimate of output and productivity.

It is important to stress that lowering of quality is not necessarily undesirable. The problem with the regulated airline system was that it provided too high a quality at too high a cost. Deregulation resulted in more discount fares being available, which is what the consumer wanted. Overall there has been a gain, though not one as great as might be inferred from simple productivity measures which do not correct for quality.

Changes in the way utility and transport industries are owned and regulated are likely to have implications for quality of output. Prior to reform, these industries were typically owned by governments, or if they were owned by the private sector they were subjected to ad hoc forms of rate of return or cost-plus regulation. Reform has meant that industries which are still regulated are now subject to price regulation which at least has the form of price-cap regulation. These different systems have quite different implications for the incentives to provide quality.

Cost-plus regulation gives the enterprise an incentive to provide excessive quality – the ‘gold plating’ by regulated firms is well known (Armstrong, Cowan and Vickers 1994). In some respects, public enterprises also supply excessive quality, at least in some dimensions. For example, electricity authorities may invest in excessive capacity, thus lessening the risks of supply interruptions, though at a cost to the user. However, regulated and government enterprises in Australia did not always supply high quality in the forms desired by the users; rather they supplied quality in the forms the managers were interested in. Thus railways invested in expensive trains, but there were hardly noted for being responsive to consumer interests.

Those industries which still possess market power, such as electricity, gas, water and telecommunications (local loop) are now subject to price-cap regulation. This regulation gives an incentive to the firm to reduce costs, since it will be permitted to keep the cost savings it achieves. However, costs can be reduced if quality is reduced, and so these firms have an incentive to reduce quality. This is only true to the extent that the regulation they face is indeed price-cap regulation; with regular reviews of price-caps, the Australian approach to regulation is moving closer to cost-plus than price-cap regulation, even though it takes the form of the latter. Hence the incentives to degrade quality are less pronounced.

The reform of utility regulation has recognised this point, and it has been accompanied by extensive quality monitoring. Regulated firms are required to maintain quality of service. The evidence is that while different indicators of quality have gone up and down, there has been no systematic decline in quality overall. There is some cost to monitoring quality, though it is probably preferable to pay this cost and keep pressure on enterprises to perform.

Reform has led to a lessening of cross-subsidisation in a number of industries. This has particularly affected rural areas. Services which were provided below cost, subsidised by profitable city services, have been eliminated or cut back. Thus rail services to the rural areas have been reduced and bank branches have been closed. This has led to a reduction in the quality of these services as perceived by the rural users. However the quality level that was previously maintained was not one which the users were willing to pay for, and losses on the part of rural users have been made up for by less obvious gains for urban users, who now pay prices closer to costs.

While there have been quality changes in some industries as a consequence of reform, it is difficult to detect any systematic degradation of product quality. It should be remembered that there were some major quality problems in some industries before reform – some public enterprises such as the railways were a byword for poor service.

## **4.6 The costs in perspective**

It is clear that microeconomic reform does involve some costs as well as benefits. Some of these are well-known and understood; for example, it is recognised that structural changes do create adjustment costs. Several of the costs of reform are taken into account when overall productivity measures are used to estimate the gains from reform. However, not all costs are, and this is especially true when costs are borne directly by individuals or when individuals are compensated for losses by tax-funded transfers. Thus reform may mean that individuals bear the costs of greater risks and greater work effort.

Some costs are likely to be greater than others. There has been a change in the levels of risk faced by residents over the past two decades, and to the extent that residents are risk averse, this implies a cost. Increased risk has been the price of sharpening incentives; poor performance was encouraged by insulating individuals and firms from risks and from the rewards for good performance. Some productivity improvements in hitherto labour-intensive industries have been achieved at the cost of greater work effort. The issue of whether reform has impacted on overall unemployment remains open, but if it has, there would be a significant cost. Structural change is recognised as imposing costs. There does not seem to be much evidence of systematic degradation of quality of service as a result of reform.

## **5. The Winners and Losers**

### **5.1 The overall patterns of gain and loss**

Microeconomic reform has resulted in increases in productivity growth in a range of industries. There are overall gains to be distributed, though not all parties do gain. The typical pattern is as follows (Productivity Commission 1999a, 1999b; BTCE 1995; Forsyth 2000). Much of the productivity gain is passed on to customers through lower output prices. Some of the gain has been applied to increasing the rate of return of the owners, who often have been governments. Labour forces have usually not been major beneficiaries of reform. Employment in affected firms has fallen, and overall employment in some industries has fallen. Wages for those workers who retain their jobs have not shown any particular pattern; in some cases they have lagged behind national wages, though in others they have risen more rapidly. Obtaining information on the sharing of productivity gains is not an easy task granted that there have been few detailed productivity studies published recently. Table 4 presents a summary for some industries.

**Table 4: Sharing the Productivity Growth**  
Selected industries

Industry	Period	TFP	Real price	Real wage		Capital return	
				Industry	Australia-wide	Begin	End
				Growth, per cent per annum			
Airlines <sup>(a)</sup>	87/88–98/99	7.1	–6.5	4.1	0.0	100.0	97.8
Rail <sup>(b)</sup>	89–97	8.3	–2.9	3.5	0.0	–0.7	5.7
Electricity, gas, water <sup>(c)</sup>	90/91–98/99	3.4	–2.1	–1.8	0.7		
Telecommunications <sup>(d)</sup>	85–94	8.0	–4.2	2.4	–1.0	–4.7	17.5

Note: Capital return – Airlines, index of sales margin; Rail, return on assets; Telecommunications, sales margin

Sources: (a) Forsyth (2000)

(b) Productivity Commission (1999a)

(c) Productivity Commission (1998b); ABS Cat No 5204.0

(d) BIE (1995)

This broad pattern is to be expected. Many of the reforms, such as deregulation or opening up parts of vertically integrated enterprises to competition, are such as to put pressure on firms to keep their output prices low. Reforms such as corporatisation of government-owned enterprises put emphasis on lowering costs and achieving more commercial rates of return in enterprises which have operated at low or negative rates of return in the past. Privatisation enhances the incentives to keep costs down and profits up, but most cases of privatisation have been of firms in competitive industries or have been accompanied by price regulation. Increased competition and emphasis on cost reduction is likely to mean that enterprises will seek to reduce their labour forces, to expect more effort from the remaining workforce and to take a tougher stance in wage negotiations.

While customers as a whole have gained, not all have shared equally. In some industries there has been significant rebalancing of prices. In the electricity industry, the primary beneficiary of lower prices has been industrial users; residential users, previously the recipients of cross-subsidies, have gained rather less. By contrast, leisure travellers have gained more than business travellers from aviation reform. Cross-subsidies have been reduced also in telecommunications, though this would have less obvious distributional consequences.

Taxpayers have also gained from their role as owners of government business enterprises. The profitability of these enterprises has increased, and they have ceased to be the drain on budgets which they were in the 1980s and before (Productivity Commission 1998a). Some of these enterprises have been privatised – when they

were sold off at prices which were high relative to their previous profitability, as happened with Qantas, taxpayers gained. On the other hand, where governments have been so keen to privatise that they have accepted what were (at least in retrospect) poor prices for their assets, taxpayers have not been so fortunate.

## 5.2 The labour force

Microeconomic reform usually involves more competitive pressure at the product market level. This in turn translates into more pressure at the factor market level, and in particular at the labour market level. Non competition-based reforms, such as corporatisation and privatisation also add to pressure on labour markets. Prior to reform, rents may be earned in enterprises, and the labour force of the enterprise may share in these rents, especially when owners are not forced to minimise costs. These rents may be enjoyed as higher-than-market pay, or through a larger workforce and lower work intensity. These rents tend to be lessened or eliminated by reform.

Reform seems to have had a clear impact on employment in enterprises directly affected, though no clear effect on wages. Greater pressure on costs will often lead a firm to reduce its workforce. Lower output prices will lead to greater demand, which will tend to counteract the initial impact. Even if the firm reduces its employment, overall employment in the industry could increase. Thus in rapidly growing industries such as telecommunications and aviation, there has been an increase in industry employment, even though at particular times individual enterprises such as Telstra have been reducing their workforces. In other industries such as electricity and rail, there has been an overall reduction in employment during the reform period. The primary losers from reform are those who lose their jobs with their original employer; their loss will be moderated if they are able to pick up a job in the same industry, as many former Telstra employees have been able to do. Employees in regionally based industries, such as electricity, which have reduced their overall workforces have been the biggest losers from reform.

We would expect that reform would put pressure on wage growth, and that growth in the industries affected by reform would be less than elsewhere. There does not seem to be much evidence of this happening (see Table 4). Average rates of pay in industries such as telecommunications and rail seem to have risen as fast as, or faster than, elsewhere (BIE 1995; Productivity Commission 1999a). Pay in the aviation industry has risen quite rapidly (as has employment overall). It is possible that averages may be masking shifts in pay structure; for example, aviation and telecommunications industries may be employing, on average, more highly-skilled personnel, as information technology specialists replace clerks.

## 5.3 The regions

It is unlikely that regional and rural Australia as a whole has lost out because of reform, though it is possible to identify particular reforms which have been to the detriment of the regions. It is also the case that some regions have lost out because of specific reforms; for example, Victoria's Latrobe valley, with its concentration on electricity generation, has lost out because of electricity reform. Individual towns or

cities could have lost out as a result of declining protection of goods they produced. Microeconomic reform has resulted in many changes which are to the advantage of regional Australia, such as lower electricity, freight and telecommunications charges (Productivity Commission 1999c).

There have been reductions in several types of services in rural areas, but it is difficult to determine to what extent reform has been responsible for this. Towns have lost bank branches and direct rail services, services have been moved from smaller towns and concentrated in regional cities, some charges (for example, for water) have been increased. Many of the changes taking place would have occurred regardless of reform, with the low population densities making it uneconomic to supply some services as before, and with technology changing the nature of the services provided.

Some systematic effects have been taking place. With privatisation, corporatisation and deregulation, cross-subsidisation has been reduced in many industries. Regional and rural residents were often the beneficiaries of such cross-subsidisation, which affected rail fares and charges, electricity, roads and other services. To an extent, this subsidisation may have been in compensation for the tariffs which rural residents paid on their manufactured goods. The winding-back of cross-subsidisation would have impacted negatively on rural residents, but against this must be set the gains they have made from reforms in general (for example, through reductions in protection).

## **6. Problem Areas of Reform**

### **6.1 Unfulfilled expectations?**

In any process of reform, it is likely that there will be some reforms which deliver less than was promised, along with other reforms which deliver more. In Australia, it is difficult to find examples of major failures in reform, though there are some cases where the gains from reform are difficult to measure, and others where the gains have been less than hoped for. In a number of cases, the intensity of competition in the market after deregulation has not been as great as anticipated, though the industries in question have nonetheless performed well.

In industries such as banking and finance, and telecommunications, it is difficult to make any precise measures of the benefits from reform. Both these industries have been extensively deregulated, and have changed markedly over the last two decades. It is difficult to measure banking output, and hence banking productivity, though such measures as exist suggest good productivity growth. It is easier to measure telecommunications output, and there is evidence of strong productivity growth. However, technological progress in both these industries has been very rapid, so strong productivity growth would have been expected, regardless of whether they had been subjected to reform. International comparisons are not much help, because most comparable countries have been reforming their banking and telecommunications industries.

There have been problems in each of these industries which may have come about because of the more liberal operating environment. In the banking and finance industry, the freer environment in the 1980s may have contributed to the overexpansion in lending, and the consequent problems of the early 1990s. Deregulation gave banks and their customers more scope to make mistakes, and banks showed that they were not efficient at evaluating lending opportunities, and customers showed that they were not good at evaluating the risks when they borrowed. These problems were not new, and have occurred in previous booms, but the more liberal environment could have exacerbated them. The new prudential arrangements which came into operation in the late 1990s may have corrected for these problems, though it is too early to tell. In the telecommunications industry, the most obvious downside of liberalisation was the duplication of cable networks – something which would not have occurred if a monopoly provider had remained. This duplication has been halted before it has been completed, and thus the losses have been limited.

In other respects both these industries have performed well. In both there has been a proliferation of new products, and the implementation of a wide range of innovations. There has also been the winding-back of extensive patterns of cross-subsidies. One may question whether this level of innovation would have been possible in the absence of reform, in an environment in which telecommunications were solely the preserve of one enterprise which was subject to no competition in any of its markets, and banking was dominated by an oligopoly which was protected from competition from any other suppliers of financial products.

Another way in which reform may seem to have disappointed is in terms of the strength of competition in several industries. Deregulation opens up markets to more competitors, and in most industries it was expected that it would lead to an increase in the actual number of firms competing actively. This has sometimes happened, for example in telecommunications. In other industries, there was a period of new entry, after which there was a period of consolidation. This was true in banking, airlines and interurban buses. It is too early to tell whether opening up of other industries, such as rail and electricity, will lead to substantially more competition. In the 1980s there were many new entrants into banking, but most of these failed or were absorbed, leaving the same four banks dominating the scene (there is however more competition from the regional banks and other providers of financial services). While competition may not have been as intense as had been hoped for, the real test is in terms of performance, which has been good.

The domestic aviation industry provides a good example of how deregulation has worked in the economy, and in it, the results have been controversial. Prior to deregulation in 1990, it was dominated by two tightly regulated airlines. After deregulation there was a period of intense competition, accompanied by a price war. The two entrants did not last long, and once they had exited, fares rose again. Until 2000, there were no new entrants. It seemed as if the industry might be a natural duopoly, and that deregulation had not made much impact.

Examination of the productivity performance of the industry reveals that deregulation has led to substantial gains (Forsyth 2000). Total factor productivity, measured using physical measures of output such as revenue passenger kilometres,

has grown rapidly since deregulation, though growth may be tailing off now. This measure slightly overstates productivity growth, since the average quality of product has declined a little (tickets are on average more restricted, though other factors which affect measured productivity such as load factors and stage lengths have changed little). Average fares have fallen sharply, through the proliferation of discount fares, and the number of passengers has grown very rapidly in the post-deregulation period. The claim that airfares have changed little (Quiggin 1996) is incorrect, since it is based on flawed use of index number methods – such methods can only be used if all fare types are freely available, which they were not in the pre-deregulation period (even now they are somewhat restricted).

Even though the outcomes in terms of actual competition in the market were not as good as expected, there have been substantial gains as a result of deregulation. The intensity of competition is likely to change with the entry of two new airlines, though it is not possible to predict whether they will make a large difference to costs and prices, and whether they will succeed in the market. There still exists something of a productivity gap between the Australian domestic airlines and that achieved by airlines overseas, even after adjusting for factors which influence measured productivity such as stage lengths and scale (Forsyth 2000). A new, more competitive environment, may reduce this gap.

In a number of industries, there still remains a productivity gap between the Australian industry and best-practice industries overseas (see Table 1). This is in spite of good or very good productivity growth in the post-reform period. Thus in the rail, electricity and airline industries, there is still some scope for further productivity improvement. It could be that it takes time for the local industry to catch up with its overseas counterparts. It is also possible that the pressure to perform in Australia is less than that overseas, and the enterprises which constitute the industry have not been forced to achieve maximum feasible productivity; this could be the case if the number of competitors is less than what overseas counterparts face. Finally, there remains the possibility that factors in Australia are not as productive as those overseas; labour may not be as efficient or may not work as hard.

## **6.2 Designing the new regulatory environment**

The regulatory environment under which the natural monopoly utility and transport industries operate has been radically changed over the past decade. There has been an extensive move to regulation which pays direct attention to incentives for good performance. Most firms have been corporatised or privatised. Accompanying this has been, in some cases, an extensive alteration in industry structure, with vertical separation of hitherto vertically integrated industries, as exemplified by the privatisation and vertical separation of the electricity industry in Victoria. It is yet to be determined how well this new environment will work.

Whether or not the new environment is ideal, it is likely to be a major improvement on what went before. Most of the firms in these industries were public enterprises, with little guidance as to objectives and no pressure to perform. Sometimes private firms were subjected to cost-plus regulation, which gives little incentive to perform



efficiently. The reforms have resulted in those parts of these industries which can sustain competition being opened up, as far as is possible, to actual competition, partly through access regulation or vertical separation from natural monopoly parts. Those parts which remain natural monopolies are subject to incentive regulation, such as price-caps, at least in form if not in substance. These changes have had a major impact on the nature of the industries in some cases. Telecommunications has been transformed from a monopoly provider into an industry with a large number of providers, rapid entry and innovation, and greatly increased variety in those areas where competition is feasible. Its improved performance has reflected this transformation.

The industries which have been subjected to the greatest change in regulatory environment, such as the utilities, have improved their performance significantly over the past decade or so. This has been in response to less radical reforms, such as efficiency drives and managerial changes, along with the absorption of excess capacity (important in the case of electricity). The thoroughgoing regulatory reforms have come fairly recently, and it is yet to be determined how large a contribution to improved performance they will make. If nothing else, they should lock-in the efficiency gains, and prevent reversions in performance which could take place when reform activity turns elsewhere.

There remain some areas of doubt (see King and Maddock (1996)). Vertical separation could have been pursued too far, at a loss of economies of integrated firms. These latter effects are very difficult to measure. The new system of regulating monopoly may fail to maintain effective pressure on firms to perform, especially if it reverts to a covert form of cost-plus regulation (there is some evidence that this could be happening, with some regulatory authorities giving enormous attention to asset values and rates of return when reviewing price-caps). Some state-level access arrangements appear to be giving incumbent infrastructure owners the advantage over potential entrants. We may have seen a temporary shakeout, with regulatory changes leading to better performance, followed by a relapse to lacklustre performance.

It is very difficult to design ideal regulation, since getting the balance right involves making judgements about non-measurable parameters such as firms' risk aversion or their willingness to pursue cost reductions, the benefits of which they must share with others. In the longer term, regulators have a difficult task getting the incentives for investment in additional capacity right. It is easy to be tough, and keep prices low in the short term, while at the same time creating problems for the future through inadequate investment. This is especially true for industries which are characterised by high-risk, innovative investments, as telecommunications is.

The Australian approach in regulatory design is close to world best practice, at least in form if not in substance. US regulated firms have been, in earlier decades, the best performing ones in the world, in spite of poor regulation. The US is reforming its regulation, in the direction of incentive regulation similar to that in place in Australia, and though these are early days, this move seems to be resulting in some improvements in performance (Sappington and Weisman 1996). This suggests that the current Australian approach is a good one, and that it is likely to be consistent with efficient performance from the regulated industries.

## **7. Ongoing and Future Challenges for Microeconomic Reform**

While many of the high-profile reforms have been set in place, other reforms are still ongoing. In particular, competition policy is being extended to new areas, including agricultural marketing bodies, the professions, environmental and safety regulation and government purchasing. The complex system of access regulation of natural monopolies is taking time to implement. The agricultural sector is currently being subjected to some changes which are relatively radical, such as deregulation of the dairy industry, and the implementation of new structures of irrigation water prices. Several of the areas which have not been subjected to extensive change are those which pose particular difficulties for the design of reform.

### **7.1 Small business and the professions**

As part of the microeconomic reform process, competition policy is gradually being applied to the professions and small business. Professions are often associated with restrictive practices, such as limits on who can practise and on advertising. In a number of industries characterised by small business, there are government-sanctioned entry limitations. For example, there are limits on taxi licences in most Australian cities, and limits on where pharmacies can be established. Many of the restrictive practices in the professions are being submitted to scrutiny, and several are being abandoned. For example, property conveyancing has been liberalised in recent years, leading to substantial price falls. However there has been little progress in removing government-regulated entry barriers.

Reform in small business and the professions has been slower to come about, partly because each of these industries is relatively small, and thus they do not attract the attention which larger industries, such as energy or telecommunications, attract. It is worth asking how large the gains from reform are likely to be, both in aggregate, and relative to the size of these industries.

With most of the reforms in Australia, the major gains come about because of improvements in productive efficiency. While there are improvements in allocative efficiency, these will only be large if prices are extremely out of line, or investment patterns are highly inefficient. Large gains are achieved by reform when firms are forced to reduce their production costs by large margins, such as 20 or 30 per cent. Large gains are likely to result from the reform of small business only if these are productively inefficient. This is often not the case.

Consider the taxi industry, for example. Entry restrictions result in the prices being paid for taxi licences being very high – in many cities, a taxi licence costs more than the price of an average home (Industry Commission 1994). This level of restriction gives rise to profits which are high relative to costs, and to deadweight losses which are not trivial – they could be 5 or 10 per cent of costs. However, the industry is likely to be quite productively efficient; the licence holders have a very strong incentive to keep costs at the minimum. Taxi deregulation will result in reductions in prices and the elimination of economic profits, and a removal of the

deadweight loss. However, there are unlikely to be any increases in productive efficiency. Overall, deregulation will produce gains though they will not be large (their size also depends on the tax system – to an extent, the taxi regulation system has operated as a roundabout means of state taxation).

Where restrictions are in place, it is possible that there may be additional losses from rent seeking. Where scarce licences can be obtained by expending real resources, for example through making appearances before licensing commissions (as has been the case in media industries), the excess profits created by the entry restrictions can be dissipated in rent seeking. Deregulation in this situation will produce efficiency gains as rent seeking is eliminated.

Over the years, there has been a move away from discretionary allocation of licences by commissions towards auctions and open trading. In the taxi industry licences are freely traded, and there is little scope for rent seeking. Media licences tend now to be auctioned. Entry to some industries is limited by control of qualifications (for example, pharmacies); such controls do have a rationale in terms of safety and quality control, though they can be abused. There are also other controls which limit where firms can establish; for example pharmacies cannot establish in particular locations. Such regulations result in welfare losses from location patterns being different from those which consumers desire. The restrictions need not give rise to much rent seeking however.

Opportunities for rent seeking still do exist in the Australian economy; they come about when there are restrictions on supply, but when access to supply is not through open trading. The restrictions may be quite justified, as are slots to use a congested airport such as Sydney's, or limits on use of broadcast spectrum. The allocation of this limited supply can be quite inefficient. Recent government decisions to protect the free-to-air television networks, in the new digital environment, are creating opportunities for rent seeking. How large the gains from eliminating inefficient allocation methods might be is difficult to determine, and the prevalence of rent seeking in Australia is an issue which has not been explored very much.

## **7.2 Health education and welfare**

A challenging area for microeconomic reform involves those industries which are not straightforward producers of private goods and services. These are those industries which produce outputs which are, at least in part, public rather than private goods, or which entail significant externalities. There may be elements of merit goods, and consumers may be imperfectly informed about the options. Distributional considerations, and questions of access to services by disadvantaged groups loom large. The enterprises which produce these outputs will typically not be profit maximisers, whose response to market signals can be easily predicted. Rather they may be government or not-for-profit firms, which have broad, and poorly specified objectives. 'Industries' which have these characteristics will include education (schools and universities), health (health insurance, hospitals and medical practitioners) and the provision of social security. The media industries also have some of these characteristics.

Measuring performance in these industries is not easy, and thus it is not easy to tell how well they are performing. However there are several indicators which will give a clue if there is inadequate performance. Low productivity in administrative functions, lack of choice on the part of buyers, inefficient location decisions, and buyers not being aware of the cost of the services they are consuming will all be associated with poor performance.

The presence of these will suggest that there will be substantial gains from reform. However, the task of designing reforms which both promote efficient performance while at the same time taking into account the particular characteristics noted above is a distinctly complex one. Reform is not just a matter of adopting a simple policy such as 'deregulation' or 'privatisation'. Obtaining good performance can only be achieved if a good balance between the conflicting considerations is achieved. Though there have been some changes, described as 'reforms', which have been made to these industries in Australia, there has yet to have been a well thought out, and comprehensive package of reforms implemented.

The reform of higher education is a good example of this. There are good reasons for being dissatisfied with the performance of the industry in Australia (West 1998, Ch 3). The wide variation in administrative costs across institutions suggests that not all are productively efficient. Location of university places has been centrally and historically determined, and does not conform to where students wish to study. Students do not face much by way of signals about the costs of the courses they are undertaking, and the available places in different courses has little to do with the demand for those courses. Universities gain little from offering higher quality of teaching. Student funding is mixed in with the funding of research, an output which has strong public good characteristics. Universities are confused about their objectives and managements are often not accountable to the community in any sense.

Designing reforms for universities is a complicated task. Students need to be given more choice, but merit good aspects remain (for example, they may not be able to tell between good and bad courses until they do them). There are interactions between teaching and research, but students should not, and will not, subsidise research to any great extent. Issues of access by disadvantaged students need to be addressed. Universities need to be given incentives to minimise administrative costs. In particular, universities as institutions need to be reformed, with clearer objectives and better governance.

Given the complexities and the subjective nature of the balances between different aspects, there is no single model for reform. There have been suggested approaches towards reform, particularly for such aspects as funding (e.g. see Miller and Pincus (1997)). These may form part of an overall package of reforms. Governments in Australia have, from time to time, made changes to the environments in which the education, health and social security industries operate, usually in response to some crisis. However these industries hold out the promise of delivering much better performance if coherent microeconomic reforms can be designed for them.

### 7.3 Urban and transport infrastructure

Along with other countries, Australia has not been able to develop an institutional structure which promotes efficient provision of urban transport infrastructure, including roads, rail track, ports and airports. With several of these, externalities are important, and private enterprises will not take account of these. Roads are very difficult to price, and so government provision is the norm. Allocation of road funding is not particularly efficient. Major rail investments attract political attention, and high-profile projects such as new rail links or types of trains are given priority over better though less newsworthy investments, such as track upgrading. It remains difficult to get an efficient balance between road and rail. Airport investments, such as those in Sydney, create well-known externalities, and the location of additional capacity is an emotive issue.

There have been changes to the ways infrastructure is provided. For example, there has been a move towards greater private involvement in provision, in such areas such as major urban roads suitable for tolls, and rail track. Some of these changes have created new problems. It is difficult to reconcile road use efficiency with the revenue requirements of private toll roads. New roads tend to be much less congested than the existing city roads, and it would be desirable to encourage traffic on to them. However, the tolls they must charge induce traffic to use the old, congested road. In order to provide a low-risk environment for the private investors and to enhance their revenues, governments have restricted development of potentially useful projects which would compete with the private roads. It is difficult to achieve efficiency when some though not all roads in an integrated urban network are priced.

There have also been reforms in the ways rail track is provided (Productivity Commission 1999a). Rail track authorities have been corporatised or privatised, rail track has been separated from operations, and an access regulation of the track is being put into place. Some new track is being privately developed. This does not remove the political dimension entirely, as the Darwin–Alice Springs Railway shows. Application of access regulation will facilitate the development of competition at the rail operations level. However, designing efficient access regulation is difficult, because the rail track owner needs to be given the incentive to invest to provide more capacity and to improve quality; otherwise it may cut costs by underinvesting. Vertical separation into track and operations creates a problem by weakening the incentive to the track owner to invest efficiently in capacity and quality. Access arrangements need to put the incumbent and entrants on, as far as possible, an equal footing; something which has yet to be achieved in some states.

Pricing of road infrastructure, except for major roads which can be subjected to tolls, remains a problem around the world. Road pricing is still in its infancy. This makes it difficult to obtain an efficient balance between road and rail, since road taxes are poor substitutes for prices which reflect the cost of road use. Urban road congestion is difficult to optimise without road pricing.

Efficient investment in transport infrastructure, especially roads, is feasible, but it is difficult to develop an institutional environment under which it comes about. With cost-benefit analysis and the specification of externalities, it is possible to

evaluate the options, and determine efficient patterns of investment. The difficulty lies in creating institutions which make the investment decisions which promote efficiency. Road authorities like building roads, and their managers are not rewarded if they choose efficient patterns of investments. Some countries, like New Zealand and the United Kingdom are grappling with these issues (see Newbery and Santos (1999)), and Australia may be able to learn from their experiences. The gains from better provision of urban and transport infrastructure are well worth having.

## 8. Conclusions

The 1990s represented an intensification of microeconomic reform, with reform being extended across more sectors of the economy and affecting the more complex industries, such as the natural monopoly utilities. There had been significant reform during the 1980s, affecting tradeable manufactures, the financial sector and government business enterprises. The 1990s were a decade when the results from reform could be expected to become evident.

Reform does seem to have delivered in productivity terms. Measurements of productivity in individual industries usually indicate a pick-up in growth soon after the reforms have impacted. In some cases, such as telecommunications and banking, it is difficult to unscramble the contributions of reform and other factors, though it is difficult to imagine that these industries would have been as dynamic in the absence of reform. There has been an increase in overall productivity growth in the Australian economy, which is consistent with microeconomic reform making an impact.

How much more of an impact reform at the microeconomic level is likely to have on aggregate productivity is an open question. There still remain significant productivity gaps between many Australian industries and their best practice counterparts overseas, and there is still a large gap in aggregate productivity between Australia and the US. Australia's institutions at the micro level are now similar to those of the US, and it is yet to be seen if its industries can match the performances of their US counterparts. It is possible that there are lags in improving performance, and that there are further productivity gains to come from earlier reforms. Future reforms will be another source of enhanced performance. It is also possible that the catch-up will peter out, leaving a remaining productivity gap. This in turn poses the question of whether there are other considerations, such as superior or better-trained factor inputs, which explain the better performances of industries overseas.

The effects of reform are not confined to productivity. Some gains, such as those which come about through improved price structures, will not show up as productivity improvements. Reform has resulted in a more adaptable economy which can accommodate external shocks more effectively. It has also possibly contributed to growth through the reduction in transaction costs. By lowering output prices, it may have contributed towards lowering inflation during the 1990s.

There are costs from reform as well as benefits. In addition to structural adjustment costs (some but not all of which are taken into account when productivity is measured), it is possible that there has been a longer-term cost from higher

unemployment. Whether this is or is not the case, it is consistent with the overall pattern of higher productivity growth coupled with a slower than normal reduction in unemployment during the long boom of the 1990s. Reforms have also contributed to the risk patterns which agents – firms and individuals – face in their dealings. These risks are the price of stronger incentives to perform and to choose between options carefully. Reforms have removed the various forms of insurance and left firms and individuals to choose between risky options.

There have been winners and losers from reform. Typically, most of the gains from reform have been passed on to consumers. Taxpayers have benefited as part of the productivity increase in public enterprises has been applied to improving their financial performance. The workforces, particularly those in affected firms or industries, have often lost out, through loss of jobs and more demanding working conditions. Pay, however, in these industries does not seem to have been affected much. Some regions have lost out as a result of specific reforms which have impacted on them directly, though regional and rural Australia has enjoyed benefits as well as costs.

There have been no major failures of reform. In several industries, less competition than had been hoped for eventuated. These industries were still able to record good productivity growth, though this has not been sufficient yet to eliminate the gap between their productivity and that of the best performers overseas. This raises the questions of whether best practice is feasible in Australia, and whether further regulatory changes are needed. Regulatory structures for the more complex industries, such as the natural monopoly utilities, are evolving. And there may still be scope for improvement.

While reform has been extensive, there are still some significant industries which are yet to be much affected. Typically these industries pose particular difficulties in the design of reforms because of public good, informational and distributional aspects. Examples of these industries include education, health and infrastructure, both urban and transport. It is not possible to suggest simple but effective reforms for these industries, and getting the right balance between conflicting aspects requires careful attention to design of reform. However, since their performance is inadequate, there are gains to be made from extending reform to them. There is scope for the process of microeconomic reform to continue, albeit at a slower pace than in the 1990s, and some further gains, though of a smaller order of magnitude than before, can be expected.

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