

**Session 2a**

**ASSESSING REFORM**

**WEDNESDAY 28 AUGUST 1.30 - 3.00PM**

**MICROECONOMIC REFORM AND THE TRANSPORT  
SECTOR : AUSTRALIAN SCORECARD**

**Peter Abelson**

**BENCHMARKING AND REFORM IN THE AUSTRALIAN  
MARITIME SECTOR**

**Denis Lawrence**

**COMMUNITY EMPOWERMENT IS THE NEXT  
TRANSPORT REFORM IN NEW ZEALAND**

**Dave Watson & Tony Brennard**



**Session Chair: David Hensher**

**MICROECONOMIC REFORM AND THE  
TRANSPORT SECTOR: AUSTRALIAN  
SCORECARD**

**Dr Peter Abelson**

Associate Professor, Department of Economics  
Macquarie University

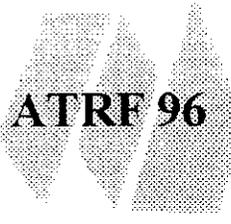
**ABSTRACT**

This paper evaluates the application of microeconomic reform to the transport sector in Australia. The overall objective of microeconomic reform is to improve the efficiency with which resources are used in the production of goods and services. This means meeting three criteria: improving investment decisions, reducing the costs of operations and producing the kinds of goods and services that consumers want. Microeconomic reform to-day in Australia, as elsewhere, means increasing competition, ensuring competitive neutrality, ensuring access to essential facilities, eliminating restrictions imposed by government regulations and ownership, labour market deregulation and structural reform of public monopolies. Where transport services are run by the public sector, microeconomic reform usually implies at least corporatisation if not privatisation.

The paper examines to what extent such microeconomic reforms can and have improved investments, reduced costs and improved services to urban and non-urban roads, in urban public transport (buses and taxis), in railways, in airports and aviation, and in ports and shipping in Australia when evaluated against the three criteria listed above. The paper finds that to-date there has only been limited microeconomic reform in most transport modes and operations. The general conclusion is that the gap between the potential (quantified) benefits of microeconomic reform and the achievements in the transport sector in Australia remains large. This is explained in part by a failure of decision makers to understand the benefits of microeconomic reform and in part by a concern that the transition costs of reform would outweigh the benefits.

**Contact Author**

Dr Peter Abelson  
Associate Professor  
Department of Economics  
Macquarie University  
Sydney  
NSW 2109  
Australia

The logo for ATRF 96 features a stylized map of Australia composed of several overlapping, shaded regions. The text "ATRF 96" is printed in a bold, sans-serif font across the center of the map.

**ATRF 96**

# MICROECONOMIC REFORM AND THE TRANSPORT SECTOR: AUSTRALIAN SCORECARD

**Peter Abelson**  
**Macquarie University, Sydney**

"If you go into a pet shop every parrot is screeching microeconomic reform, microeconomic reform."  
(Paul Keating, then Treasurer, 1989)

## 1 Introduction

The general presumption of proponents of microeconomic reform is that resources are used most efficiently when economic activities are carried out under competitive market conditions. Efficient resource use, a somewhat dry concept, means producing:

- the goods and services that people want (allocative efficiency) and
- producing a given amount of goods and services at least cost (productive efficiency).

As we will see, inefficient use of resources in the transport sector has a high social cost.

Many authorities define microeconomic reform even more broadly than implementation of competitive market conditions. For example, the Economic Planning and Advisory Commission (1994, p.vii) defines microeconomic reform as "All those actions taken by government to improve the efficiency with which resources are used in the production of goods and services". Such a broad definition is not very useful as virtually every government decision that improves efficiency could be attributed to microeconomic reform. In this paper we focus on the narrower (but still broad) view that microeconomic reform means *structural reform*, and in particular means introducing and implementing competitive market conditions, including efficient marginal cost pricing. For completeness, we also discuss some other issues, such as government investment decisions, that would be included in wider definitions of microeconomic reform.<sup>1</sup>

Traditionally it was the perceived failure of competitive markets that led to government's long and pervasive influence over the transport sector in Australia. Roads were regarded as public goods for which prices could not be charged and most other transport infrastructure, rail, airports and ports, were perceived to be natural monopolies in the vast, sparsely populated, Australian continent. Likewise rail, air and shipping operations were viewed as basic social and economic services that were often monopolistic in nature and should be publicly owned or, at the very least, tightly regulated.

Government's role in the economy came under the microscope in OECD countries in the late 1970s as governments became ever larger and economic performance more sluggish. Evidence accumulated that publicly owned operations were less efficient than private ones (Borcherding *et al.*, 1982). Also, macroeconomic instruments were discredited as a means of producing long or even short run economic growth. Budget deficits were seen, not as growth inducing, but as high interest rate, high inflation scenarios. Thus the onus was on microeconomic reform to produce economic growth.

This paper reviews the costs associated with uncompetitive markets in the Australian transport sector, the microeconomic reforms that have been achieved and those that could produce further substantial efficiency gains. The next section discusses in more detail the meaning of microeconomic reform and how the gains from reform are measured. The following sections describe applications in the road, rail, air and sea sectors. Because the states as well as the Commonwealth are important public owners and regulators of transport enterprises in Australia, the discussion is inevitably selective with most emphasis on Commonwealth and NSW experiences. To provide an overall context, the economic output of the transport sectors is outlined briefly in the annex.

## **2 More on Microeconomic Reform**

### **Microeconomic reform and competitive market conditions**

In essence microeconomic reform, as we have defined it, implies corporatising government activities and establishing a competitively neutral operating environment between public and private sector enterprises. It does not necessarily imply privatisation. But privatisation has two advantages. Firstly, there is a clearer separation of interest between the regulator (government) and the regulated activity, Secondly, competition in capital market (takeovers etc.) tends to make private companies more focussed and dynamic than their public counterparts.

Consistent with these observations, the Commonwealth and all states and territories have adopted the Hilmer Report on *National Competition Policy* (Hilmer, 1993) as the blueprint for microeconomic reform in Australia. The main features are:

- Elimination of restrictions on competition imposed by government regulation or through government ownership
- Structural reform of public monopolies by separating:
  - regulatory responsibilities from commercial activities;
  - natural monopoly elements of an organisation from activities that are contestable;
  - potentially contestable elements of a monopoly into several independent businesses operating in one market.
- Equal access to essential facilities
- Competitive neutrality
- Monitoring of monopoly pricing

Examples of each of these microeconomic reform measures can be found in this paper.

## Measuring gains from microeconomic reform

How do we measure the costs of inefficient resource use or, conversely, potential or actual gains from microeconomic reform?

Productivity benefits depend on the value of the resources saved. This is often assumed to be equivalent to the financial savings of an enterprise. This is reasonable if factor markets are competitive. But if resources are priced above their true opportunity cost, the financial savings would exceed the real productivity benefits.

Benefits from improved allocation of resources are more difficult to estimate, partly because they usually involve changes in prices, output and consumption, which are difficult to predict. In some cases totally new services will be provided. The key condition for allocative efficiency is the equality of price and marginal social cost (MSC), given by  $P^*$  in Figure 1. If prices exceed MSC, consumers are deprived of services for which they are willing to pay the full costs. The benefit from improved efficiency is the consumer surplus associated with the *increase* in consumption (area ABC in Figure 1). The area  $P_1ACP^*$  also represents an increase in consumer surplus as prices fall but this is offset by a fall in producer surplus; there is no change in net benefit.

If prices are less than MSC (at say  $P_2$  in Figure 1), resources are misallocated to providing services for which consumers are not willing to pay the full resource costs. The cost of this misallocation is given by area BDE.

This analysis assumes that the transport enterprise and user receive between them all the benefits of efficiency reform (technically, it is a partial equilibrium analysis). Because transport is often an intermediate good used by many sectors in the economy, there may be indirect benefits to other user industries. EPAC (1994) reports that its own work has shown the total benefits of reform in some sectors such as shipping could be twice the direct benefits, but notes that these benefits are the subject of considerable disagreement amongst economists. Possible indirect benefits are ignored in this paper.<sup>2</sup>

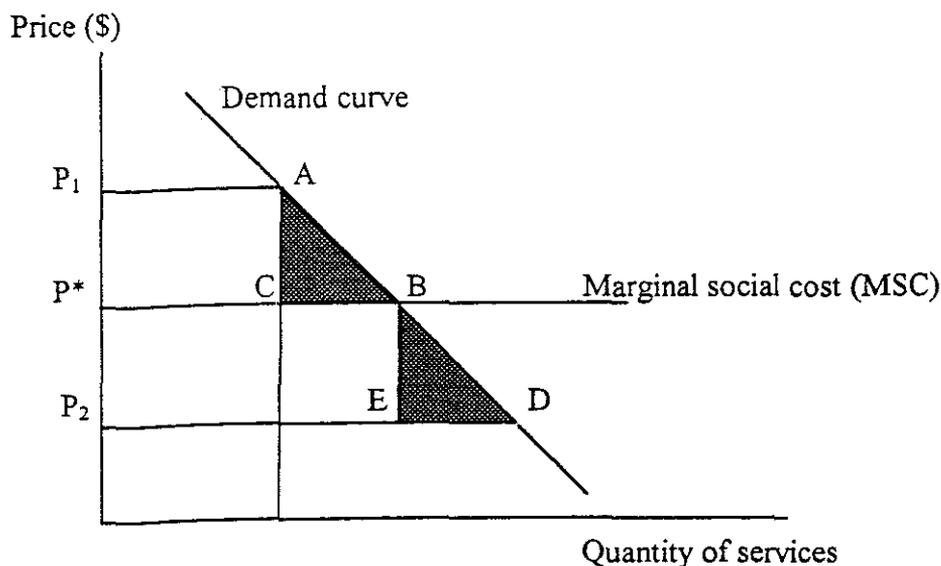


Figure 1 Costs of Inefficient Resource Allocation: Partial Equilibrium Analysis

### 3 Roads and Road Transport Services

#### *Road infrastructure*

Roads are the basis of the transport sector in Australia. The road network is valued at between \$50 billion and \$100 billion. Road transport contributes more to GDP (about 3.5%) than any other infrastructure industry.

There are four main efficiency concerns related to road investment and use

- (i) The allocation of funds to roads with low social rates of return. Forsyth (1992a) estimates that reallocation of capital from rural roads in unpopulated areas (where the BCRs are below 1.0) to the major cities (where BCRs on unfunded projects often exceed 2.0) would produce benefits of at least \$700 million per annum (equivalent to about 1.5% of GDP).
- (ii) Low productivity in road construction and maintenance. The IAC (1989) estimated that 10% productivity savings could be made on the annual road construction expenditure of \$5 billion, representing a saving of \$500 million.
- (iii) Excessive congestion costs. Other than a few toll roads in Sydney, Melbourne and Brisbane, there is no road pricing. The Industry Commission (IC, 1994) reports that road traffic congestion costs due to delays are around \$2 billion a year in each of Sydney and Melbourne. This exceeds the costs associated with underpricing. The efficiency costs due to underpricing are the externalities: the differences between the marginal social costs of trips and the private (average) trip costs that individuals are willing to bear. Newbury (1995) estimates that these social costs of road congestion in the UK amount to £19.2 billion. I am not aware of similar calculations for Australia.
- (iv) Road damage. EPAC (1994) reports that heavy road vehicles (over 4.5 tonnes) cause road damage of \$1,000 million per annum. This is not itself a measure of the efficiency costs. This is because many vehicle owners, who currently pay for half the damage costs in the form of a diesel tax, would probably be willing to pay the full damage costs rather than shift to another mode or to an alternative, less damaging, vehicle.

There have been some attempts to deal with the first two issues by reforming state road authorities. These reforms have focussed on setting clearer corporate goals, performance monitoring, benchmarking of road construction and maintenance standards against international best practice, and more contracting out of work. In NSW the Roads and Traffic Authority has been restructured so as to distinguish between the divisions that build and maintain highway assets and those that make the major resource allocation decisions and fund the construction divisions and those that are responsible for road safety and other traffic regulations. Contract road maintenance on a trial basis has reduced maintenance costs by 20% (NSW Treasury, 1996).

It may be noted that some transport authorities have privatised some major road developments in conjunction with road tolling. However this has been principally for

financial reasons. As EPAC (1995) points out, this form of privatisation does not produce special efficiency advantages. Publicly financed roads can be constructed efficiently by competitive tender and public finance is cheaper than private finance

Overall, there is little scope for radical structural reform (in the form of a competitive market model) for producing and maintaining roads. Also, gains from more efficient Commonwealth allocation of funds to roads will be limited by the Commonwealth's obligation to satisfy equity objectives in the distribution of funds. However there is scope for more internal restructuring of road authorities along the lines of the NSW model, more competitive contracting out of work, and more incremental reform of management practices (like benchmarking).

There is also scope for more road pricing and large potential benefits (Small, 1992; Button, 1993). Unfortunately official interest in road pricing, even by way of sponsored research or trial schemes, has lagged a long way behind official rhetoric about the need for traffic demand management.

#### *Road freight transport*

Road freight transport is a highly competitive, largely deregulated, essentially private sector industry. The Bureau of Industry Economics (BIE, 1996) reports that Australian freight rates are similar to those overseas. Likewise service quality (on-time pick-up and delivery and safe delivery of goods) in Australia is as high or higher than in the US, Canada and the UK)

There is of course room for improvement. For instance, state controls over vehicle licensing conditions are administratively costly and produce inconsistent outcomes. Hilmer (1993) recommended the introduction of a uniform national licensing system, national registration charges and vehicle regulations for heavy vehicles. Although the Ministerial Council on Road Transport agreed these changes in 1993, some states have still not passed legislation to implement the changes.

#### *Bus operations*

Long distance bus and coach services have been largely deregulated over the last decade. The same is not true of urban bus services which are in the main highly regulated, operate in protected monopoly markets, and are inefficient (Industry Commission, 1994).

Following an extensive survey, the IC (*ibid.*) found that the productivity of public bus services was typically 50% lower than that of private bus services and that prices failed to reflect marginal costs, for example there was a lack of price differentiation between peak and off-peak services. There were also significant productivity variations between private bus operators which reflected a lack of competition. The inefficiency costs of urban bus services (both productive and allocative) are evidently substantial but there does not appear to be any estimate of the total (in)efficiency costs.

In most cities, the government runs the inner city bus services and gives private companies exclusive franchise rights (based on competitive tender) over other areas. There is no competition between areas. In addition, in NSW an incumbent bus operator

is guaranteed automatic contract renewal after five years unless the company fails to operate the service

Urban buses offer good prospects for microeconomic reform. The IC (*ibid.*) recommends corporatisation of public bus services (where this has not been done) and a split between operational and regulatory functions, immediate competitive tendering of all bus services including renewal of services, and a gradual move to total open competitive access. Free entry and competition are quite possible in this market. The IC quotes NZ and UK moves towards competition with approval. It also notes, appropriately, that such a system is compatible with the provision of community service obligations (CSOs). Although the potential gains from structural reform are substantial (albeit unquantified), there have been few reforms in this sector in Australia.

### *Taxis*

All states and territories limit taxi licences. In most parts of NSW a taxi licence costs over \$200,000. The IC (*ibid.*) estimates that the total scarcity value for taxi licences is \$250 million. Of course this figure represents a transfer from taxi users to taxi owners (rectangle P<sub>0</sub>ACP\* in Figure 1), not the efficiency loss (triangle ABC). This loss is almost certainly substantial but, to the best of my knowledge, has not been estimated.

Two further points may be made about efficiency costs. Firstly, there are many other restrictions on taxis in addition to quantity restrictions. For example in NSW the regulations require that taxis be a minimum size capable of carrying at least four passengers as well as the driver, proscribe advertising destinations and picking up extra passengers, fix prices, and effectively prevent the development of niche taxi markets. Such restrictions raise costs and restrict services. Secondly, the licence restrictions adversely affect labour as well as consumers. They reduce employment opportunities for many unemployed or retired persons who could drive taxis.

There has been very little reform of the taxi industry. The IC (*ibid.*) recommended introducing open entry into the taxi industry, while retaining public safety regulations, and immediate deregulation of taxi fares. These recommendations would provide critical public transport services to many who are currently poorly served, many of whom are low income households, and provide gainful employment. Nevertheless, the IC recommendations appear to have fallen on completely deaf ears.

## **4 Railways**

### *Inefficiencies*

Rail services account for about one half of one per cent of GDP and employ around 55,000 persons. Concerns about efficiency revolve around three main issues.

(i) Poor investments. The Industry Commission (1994, p.B16) concluded that "many of the current problems in operating Australia's urban railways can be attributed to poorly directed investments". The IC found very low levels of cost recovery (12% in Perth, 27% in Adelaide, 38% in Brisbane) high levels of political direction, and inadequate evaluation procedures characterised by excessive reliance on vague social and

environmental benefits and few attempts to quantify benefits. The Commission cites a number of poor, large investment decisions and notes that few rail lines or services are closed. Evidently there are large efficiency costs of poor rail investments (associated with area BDE in Figure 1). However I am not aware of any attempt to estimate these costs partly because of the difficulty of disentangling these costs from CSOs.

(ii) Low operating productivity. Many reports (Forsyth, 1992a; IC, 1994; BIE, 1995a) have testified to the low productivity of Australian railways. In the US and Canada the railways carry over 2,500 tonne km per employee. In Australia they carry 430 tonne km per employee. The BIE (1996) reports that the reliability of Australia's rail networks (measured by intransit time, on-time arrival performance and goods availability) is generally inferior to road transport. Drawing on various studies, EPAC (1994) estimates that 30% productivity gains should be achievable in both freight and passenger markets, providing a total savings in costs of \$1.6 billion per annum.

(iii) Inefficient pricing and cross subsidies. Both the level and the structure of rail charges are inefficient. The railways have generally overcharged captive commodities and under-charged rural traffic and urban passenger traffic. Queensland coal rail freight rates are about 40% higher than comparable US rates and NSW rates some 20% higher (BIE, 1996). Forsyth (1992a) estimates that the gain from efficient pricing of coal freight would be \$150 million per annum. Within the cities, fares rarely reflect short or long run marginal costs. In Sydney, cost recovery declines with distance travelled, thus encouraging urban sprawl.

The main causes of these inefficiencies are well known. As in many other countries, most of the rail services are publicly owned monopolies with ill-defined objectives, deficits underwritten by government and little incentive to improve their efficiency. The Chairperson of the NSW Independent Commission Against Corruption recently told a parliamentary inquiry that the State Rail Authority is "almost a bottomless pit" of corruption problems.

#### *Microeconomic reforms*

Few independent commentators believe that these inefficiencies can be dealt with by incremental management reform and periodic efficiency drives. Rather, there needs to be structural reforms based on corporatisation, commercialisation, pricing reforms and increased competition, subject to the constraints imposed by the natural monopoly nature of rail infrastructure.

This means restructuring the railways into infrastructure and service providers, corporatising the separate organisations, adopting clear objectives including direct and transparent financial support for CSOs, removing regulations that tie transportation of some commodities to rail, and encouraging competition by contracting out work where this is cost saving and by allowing third parties access to railtrack.

There have been some moves toward reform. The BIE (1996) reports that rail cross subsidies have been reduced across Australia. Since 1989-90, real rail freight prices have fallen by 20% while urban passenger fares have increased by 20% and non-urban passenger fares by 50%. In NSW, from 1 July 1996, a new rail corporation, Rail Access

Corporation, will manage the rail infrastructure and other corporations (Freight Rail, City Rail and Countrylink) will provide rail services. The State Rail Authority will retain its separate administrative responsibilities.

However competition and autonomy will be limited. A new Public Transport Commission will be established "to coordinate timetables and ticketing". It is doubtful whether the new corporatised business will be allowed to act autonomously or commercially. Early this year the NSW government vetoed virtually all the rail fare increases recommended by the independent Government Pricing Tribunal.

## **5 Airports and Aviation Services**

Aviation is the second most important transport mode in Australia and its output exceeds the combined output of rail and water transport. For convenience we consider aviation infrastructure and services separately.

### *Aviation infrastructure*

Similar sets of concerns arise for airports as for rail although less seriously.

(i) Poor investments As reported in Applied Economics (1995), airport investments have not been subject to rigorous cost benefit analysis. Some airport expansion (for example at Brisbane and Townsville) appears to have taken place before it was warranted on economic grounds. Other decisions (notably in Sydney) are bogged down in the political arena.

(ii) Low airport productivity EPAC (1994) reported that over \$100 million could be saved in on-ground support services.

(iii) Inefficient pricing Traditionally aircraft were charged according to their weight not their time of landing. In 1991 a minimum peak charge was introduced which attempted to discourage small aircraft from landing at peak hours. However this does not reflect the congestion costs or the demand price for peak hour landing. There is also an aircraft noise levy at Sydney airport. But again it is not clear that this reflects the damage costs. More generally there is widespread cross-subsidising of airports (Prices Surveillance Authority, 1993)

(iv) The Commonwealth has given Qantas and Ansett privileged access to the key terminals in Australia, ignoring the criteria of competitive neutrality and open access.

In recent years aviation infrastructure services have been shifted out of government departments into corporatised agencies. The Federal Airports Corporation (FAC) now operates the major city and regional airports. Airservices Australia is responsible for the provision of air services and airport fire and rescue services. This has produced some improvements in productivity. A BIE (1994) study found that Australia's airport landing and navigation charges are low by world standards. Moreover, airports and airport services are now a net contributor to the Commonwealth rather than a net financial drain as they were before corporatisation. On the other hand, on-time performance of arrivals

and departures is below best world standard. Also the FAC's monopoly position enables it to continue to cross subsidise airports.

The Commonwealth now plans to privatise most airports. Given the lack of competition between airports, this appears to be driven by financial motives rather than by possible efficiency gains. Probably more important to efficiency would be the introduction of competitive supply arrangements for air traffic, fire and rescue services in individual airports (which have proved cost-effective overseas), the marginal cost pricing of airport services, and elimination of cross subsidies. An airport regulator may be required to oversee the privatised monopolies.

### *Aviation services*

Recent studies indicate that Australian aviation services are efficient by international standards. The BIE (1994) found that Australia's domestic air fares and freight rates are among the cheapest available and rivalled only by some fares on intra-Asian routes and in North America. The ACCC (1996) estimates that real average domestic airfares have fallen by nearly 20% since the ending of the *Two Airline Policy* in 1990. In addition, there has been a 72% increase in frequency of flights between the major destinations in Australia.

The BIE (1994) also found that air fares on international routes into and out of Australia are on average cheaper than on comparable routes overseas. Qantas and Ansett rate well on service quality (safety, on-board comfort and in-flight service). Freight rates for exports from Australia are cheaper than rates for imports to Australia.

These results are a far cry from the old days. For three decades until the *Two Airline Policy* was scrapped, two nearly identical domestic airlines shared the market between them. There was institutionalised collusion and controls over capacity, prices and profits. There was no incentive to cost-efficiency and many studies found that Australian airlines were less efficient than those overseas (Forsyth, 1992a). Also, Access Economics (1992) estimated that Qantas costs and fares were substantially higher than overseas costs and fares and that productivity savings of over \$1.0 billion could be achieved by improved efficiency on international routes.

Although deregulation of the aviation market and the privatisation of Qantas has produced significant gains, more reforms and gains are possible. For a start, the benchmarks for Australian airlines are largely protected and regulated overseas airlines rather than best practice competition models. There is scope for more competition in both international and domestic aviation services in Australia, especially from other international airlines. There are opportunities for a single trans-Tasman aviation market, the extension of interlining rights to other international airlines, and deregulation of intrastate aviation markets in NSW, Western Australia and Tasmania.

## **6 Ports and Shipping Services**

The waterfront industry contributes about 0.3% of Australia's GDP and the shipping industry about 0.7%. These industries also have an indirect impact on economic activity as three-quarters of Australia's export and imports pass over the waterfront.

### *Infrastructure: ports and harbour towage*

Traditionally state government departments ran Australian ports as monopolies, charged high prices unrelated to true costs, made high profits on financial capital employed, but did not account for land opportunity costs.

In the 1990s port authority reforms have been instituted for most publicly owned ports. Most reforms are based on the landlord model (IC, 1993) whereby a port authority provides core activities such as channels, navigation aids, wharves, promotion and strategic planning, and contracts out all other services such as cargo handling and storage. In NSW the move to the landlord function has been followed by corporatisation of the major ports, Sydney, Newcastle and Port Kembla (Wollongong).

These reforms have produced some efficiency gains. The SCNPMGTE (1995) found that since 1989-90 real revenue per employee has risen significantly with a fall in port employees and the average index of real prices for port authority services has fallen by 14%.

However many problems remain. The landlord model by itself does not resolve the issue of port monopolies and related productivity and allocational inefficiencies, for example in land use. In Sydney the port still unprofitably occupies prime commercial land. The BIE (1995b) reports that non-terminal charges, including port authority, towage, pilot and mooring charges, are high by international standards. Charges for containers are considerably higher than for most ports in NZ, Asia and Europe. Most port authority revenue still comes from a mixture of charges, based on the characteristics of ships and the volume and nature of cargo, that do not relate to the costs of particular services provided by the port authorities. This applies even after the introduction of coporat-isation legislation in NSW in 1995.

EPAC (1994) notes that there have been some reforms in harbour towage. A reduction in minimum crew sizes to four has contributed to an estimated savings of about \$50 million per year. However oligopolistic markets in harbour towage remain a problem with relatively high charges and allegedly excess tugs being employed in berthing and unberthing. As recommended by the ACCC (1995), competition could be facilitated and efficiency improved by competitive tendering and the use of non-exclusive licences.

### *Stevedoring*

The waterfront has long been a major battleground in Australian industrial relations. The BTCE (1989) estimated that the costs of water front unreliability were about \$1,000 million per annum.

Productivity has improved since then. The stevedoring work-force was cut by half over 5 years and annual savings were estimated to be worth \$300 million in 1992 (EPAC, 1994). The national average number of containers moved per crane hour rose from 12.8 per hour in 1989 to 20.1 per hour in 1992. The real price of stevedoring services fell by 42% in the seven years to 1993 (BIE, 1996).

The main reforms were labour-related. Work practices have been improved by enterprise agreements that have replaced industry based employment arrangements. Commonwealth redundancy payments greatly assisted the process.

However the productivity improvements have stalled. As reported by the BIE (1996), average container movement rates were lower in 1995 than in 1992. Shipping delays in Sydney and Melbourne were high by international standards, with many vessels being delayed by over two days. EPAC (1994) reports that savings of a further \$300 to \$400 million are possible.

Stalled productivity reflects stalled reform: the reforms to-date have been useful but *ad hoc* rather than structural. Stevedoring remains a largely uncompetitive industry. Two major companies (Conaust and Patricks) dominate the industry with largely tenured positions, and all their employees are members of the Maritime Union of Australia. Competition would be enhanced by introducing competitive tenders for fixed term stevedoring services and by introducing competing unions or non-union labour to provide all waterfront services (shipping, container, break bulk and bulk cargoes). More general labour reform, notably reintroducing sections 45D and 45E governing secondary boycotts into the *Trade Practices Act*, would also reduce disruptions.

#### *Coastal shipping*

Australian coastal shipping has long been another area of low productivity. The BIE (1995b) found that Australian vessel costs were higher than those for similar vessels registered in five of the seven overseas countries chosen for benchmarking. Vessel costs had declined between June 1992 and June 1994 in all seven countries. However, the decline was less in Australian than in all six other countries except Norway. EPAC (1994) estimated that about 3,500 people are employed for Australian vessels that actually require 1,600 people. At any given time there are about 1,900 people on paid leave. Efficient labour productivity could save an estimated \$90 million per annum.

Reforms to date have focussed on reducing manning levels. The Shipping Industry Reform Authority, set up by the Commonwealth in 1989, assisted in reducing average manning levels dramatically from 28 in 1989 to 21 in 1992. However it appears that little further progress on manning levels has been made and Australian wages, on-costs and leave allowances are higher than in most other countries.

The Commonwealth has declined to introduce competition into coastal shipping as recommended by the IAC (1988) and many of its own agencies since then. For example, EPAC (1994) argued that enabling foreign vessels to include coastal legs in their voyage plans, subject to safety standards, would lower freight rates and that complete liberalisation of coastal shipping would provide still larger advantages, for a start ensuring that the \$90 million excess costs noted above were saved. Apart from union objections to such policies, the Commonwealth's ownership of the loss-making Australian National Line (ANL) creates a constraint (and a conflict of interest) for the Commonwealth. Privatising the ANL would remove this constraint.

### *International shipping*

Most international shipping operates under strong cartel arrangements known as shipping conferences. The conferences set prices based on the costs of their least efficient member and forbid price competition among members. There are separate conferences for cargo out of, and into, Australia.

EPAC (1994) reports that two-thirds of liner cargo out of Australia is carried by conference lines and the rest by non-conference lines. Because conference charges are 7% higher than non-conference charges, more competition could reduce freight costs by an estimated \$30 million per annum. Competition would be encouraged by eliminating Part X of the *Trade Practices Act* which exempts the conferences from the Act. However this would be costly to ANL, and hence to the Commonwealth, because ANL would lose its right of access to the shipping conference.

EPAC (*ibid.*) estimates that the savings from competition on liner cargo into Australia would be \$165 million per annum. The savings are greater than on exports because the freight earnings are higher on imports and the price difference between importing conference and non-conference lines is about 15%. However, the conference for imports to Australia is located overseas and more difficult to influence.

Trans-Tasman shipping is yet another special case. Through the Australian and New Zealand Maritime and Stevedoring Accord, the relevant Australian and NZ unions have effectively ensured that ships crewed by foreign nationals cannot carry any of the \$7 billion annual trade between the two countries. The respective governments have not formally supported the accord and could disown and discourage it. Swan Consultants (1994) estimate that removal of the union accord and more competition could reduce liner freight rates across the Tasman by 10-15% and bulk freight rates by 25%.

## 7 Conclusions

There are high efficiency costs associated with each major transport sector in Australia. Table 1 summarises some quantified and unquantified estimates. However, as discussed above, the quantified costs should be treated cautiously as few are based on a rigorous definition and measurement of efficiency costs. Most work has been done on the costs of low productivity in constructing and operating transport infrastructure and in running airlines or ships. Relatively little work has been done on the costs of inefficient investment decisions and pricing (which also encourages poor investment decision) or on the costs of regulations, for example of urban transport services.

A high proportion of the identified costs appears due to the lack of competitive market disciplines. There are few market incentives to produce an efficient level of transport infrastructure, to manage the infrastructure efficiently, or to adopt efficient marginal cost pricing. Urban buses, taxis, airline and shipping services are all characterised by regulated and restricted competition.

**Table 1 Overview of Annual Inefficiency Costs of Transport Modes (\$m)**

<i>Area of inefficiency</i>	<i>Roads</i>	<i>Rail</i>	<i>Air</i>	<i>Sea</i>
Inefficient investment	700	Unknown	Medium	Medium
Low productivity	500	1600	100	400
Inefficient pricing	4000 <sup>a</sup>	High	High	Low
Road damage	1000			
Road freight	Low			
Urban buses	Medium			
Urban taxis	250			
Domestic services <sup>b</sup>			Low	90
International services <sup>b</sup>			1000	165

(a) Congestion costs (b) Essentially costs of low productivity of airlines or ships.

Sources: Forsyth, 1992a; EPAC (1994); and as described in the paper.

Microeconomic reforms in all sectors have been based to-date mainly on corporatisation of bureaucratic functions and some contracting out of services. Road freight and long distance bus and coach travel have been deregulated. Domestic airlines have been deregulated in a half-hearted way. There have also been some specific major attempts at reform, such as the waterfront initiatives.

The evidence so far suggests that these reforms may not be sufficient. Less than half the potential gains from microeconomic reform have been achieved. There is insufficient distinction between political and corporate authority. Ad hoc periodic reform does not substitute for structural reform that creates ongoing efficiency incentives. Many services remain regulated and uncompetitive.

Despite the monopolistic or oligopolistic nature of many parts of the transport industry, as discussed in this paper, most services can be made more competitive. However this usually requires upsetting some vested interests of capital or labour. By and large, Australian governments have been reluctant to do this. Economists in Australia have yet to persuade governments that the gains from the harder, structural, microeconomic reforms are worth the political pain.

### Footnotes

1. Two other leading Australian commentators also define microeconomic reform very broadly. Forsyth (1992b, p.5) describes it as all "those measures taken at microeconomic level to make the economy perform better in terms of creating real income from the available inputs". Clark (1995, p.143) describes it as a "panoply of measures to improve the efficiency of both our private and public sectors".

2. Forsyth (1992a) points out that there may also be gains from reducing the operating deficits of public enterprises that are funded from general revenue and ultimately from taxes. Allowing for the disincentive effect of taxation on labour, the real cost of taxation is about 20% higher than the nominal tax. This point is also not pursued in this paper.

## Annex: The Transport Sector in Australia

Table A.1 table summarises the direct contribution of transport services to the Australian economy. As shown, the transport and storage services contribute 5.7% of GDP. Construction of transport infrastructure is recorded separately under construction and manufacture of rolling stock and motor vehicles is shown under manufacturing

**Table A.1 Direct Contribution of Transport to the Australian Economy, 1994-95**

	<i>Gross product</i>		<i>Employment</i>		<i>Freight movements</i>	
	\$m <sup>a</sup>	% of GDP	'000	% of GDP	tonnes m.	% of freight
Transport/storage						
Road	13 230	3.2	275.1	3.4	221.0	33.7
Air	5 470	1.3	43.4	0.5	0.2	0.0
Water <sup>b</sup>	2 873	0.7	9.3	0.1	49.9	7.6
Rail	2 151	0.5	53.5	0.7	385.4	58.7
Total	23 724	7.7	381.3	4.7	656.5	100.0
Total GDP	413 973	100.0	8 093.1	100.0		

(a) Constant 1989-90 prices (b) Freight movements data refer to sea

Sources: ABS Cats 5206 0 and 9217 0 and unpublished ABS data.

### References

Access Economics, 1992, *Fast Tracking Transport Reforms*, Report prepared for the Business Council of Australia, Melbourne.

Applied Economics, 1995, "Evaluation and Decision-Making for Transport Infrastructure Investment", in *Building for the Job*, Vol 2, Economic Studies, National Transport Planning Taskforce, AGPS, Canberra.

Australian Competition and Consumer Commission, 1995, *Inquiry into the Harbour Towing Declaration*, Inquiry Report, AGPS, Canberra.

Australian Competition and Consumer Commission, 1996, *Movements in Average Airfares, Quarterly Update - December 1995 Quarter*, Melbourne.

Borcherding, T E., Burnaby, B.C., Pommerehne, W.W., and F.Schneider, 1982, "Comparing the Efficiency of Private and Public Production: The Evidence from the Five Countries", *Zeitschrift für Nationalökonomie, Supplementum 2*, 127-58.

Bureau of Industry Economics, 1994, *International Performance Indicators: Aviation*, Research Report 59, AGPS, Canberra.

Bureau of Industry Economics, 1995a, *International Benchmarking: Rail Freight*, Report 95/22, AGPS, Canberra.

Bureau of Industry Economics, 1995b, *International Benchmarking: Waterfront*, Report 95/16, AGPS, Canberra.

Bureau of Industry Economics, 1996, *Micro Reform - Impacts on Firms*, Report 96-1, AGPS, Canberra.

- Bureau of Transport Communications and Economics (BTCE), 1989, *The Costs of Waterfront Unreliability in 1988*, Occasional Paper 101, AGPS, Canberra
- Button, K.J., 1993, *Transport Economics*, 2nd edition, Edward Elgar, Aldershot, UK
- Clarke, D., 1995, "Microeconomic Reform", 142-69 in *The Australian Economy: The Essential Guide*, ed: P Kreisler, Allen and Unwin, Sydney.
- Economic Planning and Advisory Council, 1994, *Economic Effects of Microeconomic Reform*, Background Paper No.38 prepared by R.Filmer and D.Dao, AGPS, Canberra
- Economic Planning and Advisory Council, 1996, *Private Infrastructure Taskforce Report*, Canberra
- Forsyth, P., 1992a, "Achieving Reform in Transport: Land transport and the Transport Sector in General", 179-203 in *Microeconomic Reform in Australia*, ed: P Forsyth, Allen and Unwin, Sydney.
- Forsyth, P., 1992b, "A Perspective on Microeconomic Reform", 3-23 in *Microeconomic Reform in Australia*, ed: P Forsyth, Allen and Unwin, Sydney.
- Hilmer, F.G. (Chairman), 1993, *National Competition Policy*, Report by the Independent Committee of Inquiry, AGPS, Canberra
- Industries Assistance Commission (IAC), 1988, *Coastal Shipping*, Report No.415, AGPS, Canberra.
- Industries Assistance Commission (IAC), 1989a, *Industries Assistance Commission, Annual Report 1988-89*, AGPS, Canberra
- Industry Commission, 1993, *Port Authority Services and Activities*, Report No.31, AGPS, Canberra
- Industry Commission, 1994, *Urban Transport*, Report No.37, AGPS, Canberra.
- Newbury, D., 1995, "Royal Commission Report on Transport and the Environment - An Economic Critique", *Economic Record*, Vol 105, 1258-1273.
- NSW Treasury, 1996, *Performance of NSW Government Businesses, Microeconomic Reform 1994-95*, Sydney
- Prices Surveillance Authority, 1993, *Inquiry into the Aeronautical and Non-aeronautical Charges of the Federal Airport Corporation*, PSA Report 48, Melbourne.
- SCNPMGTE (Standing Committee of National Performance Monitoring of Government Trading Enterprises), 1995, *Government Trading Enterprises, Performance Indicators 1989-90 to 1993-94*, Industry Commission, Melbourne
- Small, K A , 1992, *Urban Transport Economics*, Chur, Harwood.
- Swan Consultants, 1994, *Estimating the Economic Gains from Reforming Trans-Tasman Shipping: An Update*, prepared for the Allen Consulting Group.