Australian Transport Policy and the Role of the Productivity Commission

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Abstract

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The Australian Productivity Commission is the government's main adviser on micro economic issues. As such, it has an important role in advising on transport issues, and over the past twenty or so years, it has produced ten to fifteen major reports on transport, along with smaller reports and general reports with implications for transport. This paper provides a general overview of transport policy in Australia over the past two decades, paying particular attention to the contribution of the Commission, but also identifying problems and analysing the contributions of other agencies. There are several aspects which are highlighted: these include the ways in which the Commission has innovated; the use of Computable General Equilibrium (CGE) Models; and the problems with evaluating and funding infrastructure. The conclusion is that the Commission has made a difference, and there are several tasks which could be given to the Commission for further work.

1 Introduction: Transport Reform and the Role of the Productivity Commission[1]

This paper is about transport reform in Australia, but it has a particular focus. It looks at reform through the prism of the Productivity Commission (PC), the government's main micro economic adviser. The PC is not the only policy adviser on transport in Australia (and its role is not just for transport) - there are several, including the competition authority (the Australian Competition and Consumer Commission, the ACCC), and the Department of Infrastructure and Transport. The PC is particularly important in that it tends to investigate major areas considered for reform, and analytically difficult areas (such as the problems with access pricing and regulation). Thus, while it has examined only about 10 to 15 areas in depth, it has had a strong influence on policy.

Thus this paper pays special attention to the role of the PC. However the intention is to provide a general review of transport policy over the past two decades or so. There will be an evaluation of a range of policy problems, including those addressed by the PC and others which the PC has not addressed. These are issues to do with pricing, regulation and institutional structures- however there will be specific attention given to infrastructure investment. This is because the infrastructure problem has been a difficult one for Australia during this period.

The paper commences with an institutional review, looking at what the PC does, and also discusses the role of other important players. After this, the PC's contribution to transport policy analysis is evaluated. Then the broader picture of transport policy is discussed, paying especial attention to infrastructure questions, and some perennial issues. Finally, the paper concludes with some possible areas the PC could examine.

2 The Productivity Commission- its History and Nature

As a micro economist adviser, the Productivity Commission has had a varied history. It started off as the Tariff Board in the 1920s. Its function was unchanged for many years, but in the 1980s it became more of an industry policy adviser. With several name changes, it became the government's main microeconomic adviser in the 1990s. Over time it absorbed some smaller agencies- the most important of these, in respect of its transport role, was the Interstate Commission, which was modelled on the US Interstate Commerce Commission, and was established under the constitution (though most of the time it has been dormant). The PC has a broad ambit- in addition to covering infrastructure and competition issues, it covers social and environment issues, such as aged care, gambling and indigenous affairs. While the majority of its staff are economists, it covers environment and social issues.

The roles of the Commission are varied. Perhaps the key role is to advise the Government through holding inquiries and producing reports, which the government publishes and, in the main, acts upon, at least to some extent. Thus it might be commissioned to do an inquiry into

[1] I am grateful to Patrick Jomini of the Productivity Commission and Ted Kolsen for useful suggestions and to Joan Forsyth for editorial assistance. All errors are mine.

International Aviation Policy or on Access Regulation of Infrastructure. It has a monitoring role, and examines regulation and public enterprise performance. In addition, it has a role doing research generally, which it can initiate itself, though it tends to use this to ready itself for possible inquiries- for example it might do research on the productivity of infrastructure investment.

The PC is mainly an economic adviser, and prides itself on the quality of its economic advice. It is independent and operates in a transparent manner Banks, (2011). With its inquiries, it produces draft reports, takes submissions and has hearings, all leading up to a final report which it delivers to the government. It is funded by the government only- this is important in that other research agencies can be required to fund their research partly by other means, such as industry bodies. This has an impact on how independent they are, or are perceived to be.

The Productivity Commission model is perceived to be successful, and it has given rise to similar bodies in other jurisdictions. Thus New Zealand has recently created a body modelled on it, also called the Productivity Commission. The state of Victoria has also created a similar body, called the Victorian Competition and Efficiency Commission.

The Commission has been an innovator in both methodology and policy approaches.

Probably the most distinctive methodological innovation has been its use of computable general equilibrium (CGE) modelling. This has been developed since the 1970s, when CGE models were developed to analyse the impacts of moves to reduce protection. Since then CGE models have been used to analyse a wide range of problems. Thus the gains from microeconomic reform, and specific transport reforms, have been assessed using a CGE framework. While not all inquiries lend themselves to this type of assessment, a typical PC inquiry will have a chapter which provides a quantitative assessment of the gains from the different reform options. The Commission maintains a group of modellers, and it also relies on university research centres. This has a profound effect on the quality of the economic debate. Thus, if the PC itself is putting considerable weight on CGE modelling, it will be necessary for other actor in the debate to also access similar models. The result can be a high standard of analysis.

Reviewing Transport Policy- the Contribution of the PC

The PC is not, primarily, a transport adviser- it is a general microeconomic adviser. Not all transport policy issues get referred to it- in particular, issues to do with the states do not necessarily get referred to it, though state issues are sometimes considered by the PC- for example, the Urban Transport Review of 1994 (PC, 1994a; 1994b) (sometimes federalism issues are referred to the PC). In addition, Victoria also has its own PC, the VCEC. While the PC is normally the federal government's first port of call when it comes to microeconomic advice, the government sometimes chooses to take advice from other bodies or ad hoc inquires.

This said, the PC has participated in a number of major inquires related to transport over the past two decades or so. These include:

- The Urban Transport Inquiry;
- Smaller inquiries on Taxis;
- An inquiry into Progress on Rail Reform;
- A major inquiry into International Air Services;
- Two inquiries into International Liner Shipping;
- An inquiry into Tugboats;
- Periodic inquiries into Airport Regulation;
- A review of Road and Rail Freight.

Other than these PC inquiries, there have been some major inquiries conducted by other bodies. In 2008-9 there was a review of Aviation Policy conducted by the Department of Infrastructure and Transport, and there was a Review of Export Infrastructure done by an ad hoc committee (Export and Infrastructure Taskforce, 2005). The Victorian VCEC did a report on Road Congestion (though it was not permitted to examine road pricing). Overall the PC has been asked to report on a wide variety of transport policy issues.

Is the PC Effective?

One tests of the value of the PC is whether it makes a difference in the ways policies are evaluated and in the approaches to resolving policy problems. In this respect, the PC has been innovator in several aspects. These include:

- The regulation of airports. Prior to the PC review, airports were regulated by traditional price caps. The PC recommended light handed regulation, relying on the threat of regulation if airports do not perform well, rather than detailed ex ante regulation. The government accepted this recommendation. There is a live debate in how best to achieve light handed regulation, though most parties, including the former regulator, the ACCC, now prefer variants of lighted handed regulation to price caps (ACCC, 2011).
- Use of CGE models in policy evaluation. The PC was a world leader in the development of CGE models for policy evaluation, and it continues to rely heavily on this technique. This has had a flow on effect, in that most serious policy evaluations, produced by other agencies, consultants and academics in Australia now use CGE models where appropriate. Thus many of the reports on transport which the PC has done have used CGE modelling or similar approaches.
- This work on CGE modelling has also led indirectly to the use of CGE models being used along some Cost Benefit Analysis, as a tool for project evaluation. While the PC does not itself become involved in much project evaluation, the work that it has done has been applied to assessment of major road and rail projects (see section 4 below).

Each of these reports contains recommendations: these may be varied, as in the case if the Urban Transport Report; or fairly specific, as in the case of the handling of Liner Shipping. Typically, the PC is in favour of privatisation, deregulation and less regulation. However, it is aware of the practicalities, and thus conditions its recommendations. Thus it did not

recommend unilateral open skies in its report on International Air Services, and has been aware of the difficulties in removing taxi regulation.

As the government's main micro economic adviser, the PC has been closely involved with the process of reform. It has been instrumental in mapping out the strategy of reform, and assessing the likely gains from it. It has set out the ways in which industries can be reformed- thus it has provided the blueprints for reform or rail, airport regulation, urban transport and international aviation, to name a few. It has been influential in developing policies for specific problem areas, such as access regulation and regulation.

Some of the more important inquiries and the response by government to them are summarised in Table 1.

Table 1

Responses to Productivity Commission's Reports

Issue	Year	Use of CGE or Other Modelling	Response to Recommendations
Urban Transport	1994	Other model	Mixed
International Aviation	1998	Other Model	Limited
Taxis	1999		Limited
Liner Shipping	1999	Other Model	Positive
Rail Reform	1999		Positive
Tugs	2002		Mixed
Airport Regulation	2002		Positive
Tasmanian Freight	2006		
Airport Regulation (Review)	2006		Positive
Road and Rail Freight	2006	CGE	Mixed
National Reform Agenda	2006	CGE	Mixed
Airport Regulation (Review)	2011		Ongoing

Source: Own research and assessments See Industry Commission, (1994a, 1994b), Productivity Commission (1998; 1999a; 1999b; 2002a; 2002b; 2005; 2006a; 2006b; 2006c; 2006d; 2010; 2011)

However, this period seems to have drawn to a close- little progress seems to have been made since then, and in some respects (for example, evaluation of investment) , performance has deteriorated (Banks,2010).

On looking back over the last two decades, the PC has recommended the opening up of markets, some privatisation, a lighter form of monopoly regulation, and pricing which is more consistent with costs. It has been relatively successful with its recommendations. In some cases, it has resulted in big changes to the way things are done- as with report on airport regulation. Some recommendations have not been followed through- for example those on

taxi deregulation and road pricing (which are perennial reform problems). Thus, all in all, the PC has made a considerable contribution to the reform of the transport sector.

Other Agencies

Many agencies have an impact on transport policy. The Department of Infrastructure and Transport and its Bureau of Infrastructure and Transport Economics have a key role, though the influence of the latter has diminished recently. Competition policy issues are important in transport, and thus the ACCC, and the competition adviser, the National Competition Council reflects this. The government has set up an adviser for infrastructure matters, Infrastructure Australia. At the state level, there are regulators which have a particular importance in rail and urban transport issues, and Victoria has its VCEC. There are federal bodies which have a role in transport policy- the most important of these is the Council of Australian Governments. There are agencies for specific industries, such as the International Air Services Commission and the National Freight Commission. Thus the market for ideas in transport policy is an active one, as witnessed by the current debates over airport regulation between the PC and the ACCC.

3 Policy Issues: Privatisation, Regulation and Pricing

Privatision

Unlike in other countries, such as the US, privatisation is no longer an issue- it is already done. Most transport in Australia is privatised- airlines, airports, trains and track (mostly), trucks, urban transport (partly) and ports (partly). Policy issues to do with privatisation are rare. From time to time, issues do arise. In 2010, the largest rail system, Queensland Rail, was privatised. This system derived much of its business from carrying coal to port. The price at which it does so have long been controversial- coal mines claim, correctly, that the State Government owners have used the system to implement a resource rent tax. Initially the government refused to allow the mines to bid for the system- ultimately they were given permission to do so, though they were unable to agree amongst themselves to mount a bid, and the government sold the railway in a public float. Some other privatisations have been controversial, such as that of Melbourne trains and trams. While there is no strong support for privatisation to be reversed, there is debate about the coordination of public transport and which institutional form is best.

Regulation of Competitive Industries

Like many countries, Australia started the post war period with a heavily regulated transport sector. Interstate road transport was deregulated, following a constitutional challenge, in the 1950s (Kolsen, 1968). After then there was little change till the 1980s and early 1990s, when aviation (domestic fully, international partly) was deregulated, and ports and port facilities, buses, trains and ferries (but of course, not taxis) were deregulated. Apart from taxies, most transport was deregulated and the regulation which remains in place is primarily regulation to address the use of monopoly power.

There have been several debates about taxi regulation, and the PC has contributed to some of these (in 1994, and 1999). Taxis are licensed, and the value of a licence is high (about $500,000 in most cities). To open up the market, it would be necessary to buy owners out (costly) or expropriate them (politically difficult). The PC contributions provide good analyses of the options. Only the small jurisdiction, the Northern Territory has liberalised.

Monopoly Regulation

Anti-monopoly regulation has taken several forms. One is price cap regulation- several enterprises are subjected to price caps, which is the preferred form of regulation in Australia. These include urban transport, some ports, and toll roads. As noted earlier, airports were subject to price caps, but since 2002, are subject to light handed regulation. While much regulation has been uncontroversial, there have been problems with regulation of coal loader facilities. Australia has been experiencing a resource boom, and investment in capacity has lagged demand, resulting it long queues at ports. Regulators were sceptical of the motives of owners, whom they suspected of undersupplying capacity to push prices up. After a report into the problem (Exports and Infrastructure Taskforce, 2005), regulators are now under pressure to allow high prices lest capacity falls short (which has not been too much of a problem with transport, though it has possibly been a problem with electricity). As ever, it is difficult for regulators to get prices right.

Access Regulation

While Australia has a comprehensive system of final good regulation, it also has a general system of access regulation, which was set up at the same time (mid 1990s). This has a particular relevance for rail regulation. While the final product is not regulated, access by trains to the tracks is regulated. This form of access regulation is rather different from normal price regulation- a rail operator which is not satisfied with the conditions offered by a track owner can seek to have the facility "declared for access", and if the two parties are not able to reach a solution, it will fall to the arbitrator, in this case the ACCC, to set a price. Thus the regulation takes the form of negotiate / arbitrate, which is used in some cases, such as Canadian railroads. Variants of this have been suggested for Australian airports by the ACCC.

Pricing

Australia faces many of the pricing issues which are familiar around the world. Road pricing is an example. As yet governments have not been keen to implement road pricing- in Victoria the government refused to allow the VCEC to consider it in its report on road congestion. While Australia has several toll roads, the opportunity to optimise tolls, e.g. by using peak pricing, has not been taken- the result is some expensive but lightly used roads. Similar inefficiencies apply with airport rail links, which were expensive to build which are priced very high so that they are little used (in spite of, in Sydney's case, the abolition of a convenient but lower priced bus).

Pricing approaches are not the only way in which efficiency can be achieved in the context of demand being in excess of capacity. Slots are an alternative (Czerny, 2008). In most counties other than the US, landing slots are used to ration scarce capacity at airports. In Australia, there is not much access demand at airports though this will probably develop in the near future at Sydney Perth and Brisbane. The PC, in its first report on airport regulation, discussed the merits of peak pricing and slots with a view to the future. Major Australian airports do have slot systems in place, though are only being to be used, in Sydney and to a limited extent, in Brisbane and Perth. However the slot idea has been used in other applications and the ACCC has taken a strong interest in it. The most important use discussed so far has been the idea of slots for ships waiting for berths at ports, particularly coal loaders (where at times there have been long queues). Another proposed application has been to trucks waiting to access to container ports in Sydney (Cox et al, 2009). At the moment only airports are slot allocated; there is the growing possibility that slots will be used to ration a range of facilities subject to fixed capacity, improving efficiency by greatly reducing queues.

4 Policy Issues: The Transport Infrastructure Crisis

It is often claimed that Australia faces an infrastructure crisis. By this is meant that Australia has been investing too little in infrastructure- this applies to transport as well as other forms of infrastructure. It is certainly true that there are areas in which there has been too little investment in infrastructure- some examples include some urban transport and mining related infrastructure. However it is far from clear that there is a general problem of too little infrastructure. However there is an infrastructure crisis in that Australia has not been building the infrastructure it needs- there has been developing a crisis in infrastructure evaluation.

Until about two decades ago, much of Australia's infrastructure was provided by the public sector, either directly as in roads, or indirectly through public enterprises. The techniques of evaluating investments were well established, for example using cost benefit analysis, although this was not always done. Since then, investment evaluation has become more complicated. New institutions, such as Public Private Partnerships PPPs have emerged, public enterprises have become privatised and regulators have taken a major role in investment decision making. Of themselves, these new arrangements do not pose a challenge to efficient evaluation- there are good ways of assessing projects whatever the institutional form they are embedded in. In spite of this, there seems to be a developing crisis in infrastructure decision making.

There are distinct mixed messages emanating from decision makers. On the one hand, there is a concern that micro economic performance has been poor for the last decade or so (Banks, 2010). Overall productivity growth has fallen sharply- this is something that the PC has been concerned with. At the same time, decision makers have been actively discouraging the very actions which are conductive to enhanced productivity growth. Rather than subjecting projects to rigorous assessment, they are choosing projects which are hoped to be popular rather than productive. Rigorous evaluation is discouraged- often major transport and other

infrastructure projects are not subjected to any serious evaluation at all. It is not surprising that with poor or no economic evaluation unproductive projects are funded.

Trends in Investment Evaluation

In Australia, as in other countries such as the US, UK and Canada, the post war period was one of improvements in investment evaluation. In particular there was the development of Cost Benefit Analysis (CBA) which became the chosen technique of evaluation. This was applied widely to transport projects from the late 1960s on. Government agencies were keen to promote the use of CBA- thus various handbooks were published by general agencies such as the Department of Finance, and specific guides were produced by the Federal Department of Transport and State departments. These guides were used by the agencies themselves in assessing projects, and they were required for use by consultants when assessing projects on behalf of agencies.

While the core of cost benefit theory has remained much the same, there have been advances in investment evaluation. One which is of particular relevance to transport has been the recognition that transport investments may create wider economic benefits. This stems partly from the geography and trade literature, which highlights the possible gains from agglomeration of economic activities in locations. Another aspect of wider economic benefits comes about from market failures in relevant markets such as the urban labour markets. Following on from the European discussion (Graham, 2007; Venables, 2007), there have been some attempts to take account if these effects.

Another advance has been the use of computable general equilibrium (CGE) models in project evaluation. CGE models are heavily used in policy analysis, and one of the main developers and users of CGE models has been the PC. While the PC has not yet used CGE models in evaluating transport investments, other groups have used them to evaluate the impacts of major transport investments. So far, there have been a handful of studies which use both CBA and CGE models to evaluate urban road and rail projects. This is a promising development, since the two techniques have complementary characteristics and as a result, it should be possible to gain a better overall evaluation of the projects. However there have been some serious limitations with the way these studies have been carried out. In particular, the two approaches have used different and inconsistent welfare measures- something which is quite easily remedied (Forsyth, 2011). Along with the measurement of wider economic benefits, the use of CGE models may be a substantial advance in the practical evaluation of projects.

A Lowering of Evaluation Standards?

In spite of the fact that the science of evaluating projects has become more rigorous, there is a strong case that evaluation has become worse over the past two decades. It may be the case that his impression is misleading, and that there has been no deterioration in evaluation- after all, there were problems in years gone by. Nonetheless, there are significant issues with evaluation which can easily be avoided. These include forecasting problems, the use of

dubious techniques, non-transparent evaluations and cross subsidies from monopoly businesses.

Forecasting Errors. The widespread nature of excessively optimistic forecasts has noted by Flyjberg et al (2003) – some of this problem might be explained by public enterprises not having a strong incentive to keep costs low. However, what is interesting about the Australian experience is that the serious offenders have been in the *private* sector, particularly with PPPs. There have been a large number of cases of demand falling way short of what had been forecast. Theory would suggest that it would be strongly in the firm's interest to ensure that forecasts will not be too optimistic since the firm, or its owners, will have to cover the losses. In fact, it may not work this way- governments may be prepared to cover losses of projects which they have a strong stake in. Indeed, firms may be systemically prepared to make unrealistic forecasts to get the contract, knowing that the government will be prepared to bail them out if, as is likely, they cannot cover their costs. There have been several cases of this happening in Australia.

Dubious Evaluations. Another problem is the use of dubious evaluations being used to make projects look more viable than they are. One if the more popular approaches is to do an "impact" study using Input Output models. These models invariably result in impacts, which are described as "benefits", being around twice the total cost. Given that CBA has been well established in transport in Australia, the use of these models is not been as extensive as it has in other industries- however examples exist. The assumptions of Input Output models are such that that they should not be used in investment evaluation (one if the main justifications for CGE models are that they address the deficiencies of Input Output models).

Non-Transparencies. The problem of non transparent evaluations has grown up over the last few years. This is a particular problem with PPPs, though it is more widespread. It is easy for a firm and a government to claim that there results of an evaluation are "commercial-in-confidence". While is some cases there may be some truth in this claim, no doubt it has been used as to cover up poor or non-existent evaluations. Even the Federal Governments infrastructure adviser, Infrastructure Australia, which requires CBA to be done before funding is received, does not require that full CBAs be released to the public. It is very difficult to determine how well major projects have been evaluated.

Using Monopoly Rents. Finally there is a problem which can come about when there is an element of monopoly in the provision of the infrastructure, either when the firm is either a public enterprise or a regulated private enterprise. It is easy for such a firm to cover the cost of a poor investment (which a government is keen to promote) by simply putting up its prices. Regulators typically seek to regulate a firm in such a way that its prices a not much above the minimum feasible cost- however it is difficult for the regulator to know what the minimum feasible cost is. Incentive regulation tries to determine this, by giving firms the incentive to tell the truth about their costs, but few firms are genuinely incentive regulated. This is also true when there is a system of light handed regulation, as is the case with airports in Australia- the main criterion of satisfactory performance is that prices are not much above cost, but this is consistent with prices being inefficiently high. In the case of regulated private

firms, it is difficult to determine whether investments are good or bad, since there is no separate reporting on individual investments. Monopoly rents can be converted into higher costs, created by excessive investment to please governments, but prices do not appear excessive.

The New Institutions of Investment- PPPs and Regulated Private Firms

As noted, two types on newer institution have been tried in Australia- the PPP and the regulated private enterprise. Some of the problems associated with regulation have been discussed above (for a review, see Guthrie, 2006). While the original hope was that these would lead to an improvement in the provision of infrastructure, both have been associated with problems, especially PPPs.

There are several ways in which PPPs can lead to better investment provision. In particular, PPPs have an advantage that it *might* be easier and cheaper for funding to be obtained (especially if governments are constrained to limit their borrowings, for some real or cosmetic reasons). Private firms may be able to manage, as opposed to bear, risks more efficiently. Finally, private firms may be able to produce more efficiently than the government. PPPs typically allocate tasks between the two sectors- for example; a private firm might build a road for the government, which then operates it. In principle, tasks can be allocated according to comparative advantage- but often they are not.

The PPP approach has been used extensively in Australia over the past 15 years or so. Most major roads have been built using some variant of PPP, and tolls are charged for use. There have been airport railways built in Sydney and Brisbane. There was a major rail terminal redevelopment in Melbourne handled by a PPP. Some of the earlier PPPs, such are the Melbourne City Link toll road were quite successful. However, the track record of PPPs in Transport has been very poor- so much so that PPPs now have a bad reputation in Australia. Many of these projected ended up receiving large subsidies from the government.

While the full diagnosis has yet to be done, it is clear that several of these projects were poor projects-poorly planned, too ambitious and early (see Hodge, 2004). While there was a pretence that the private sector was responsible for the risks, PPPs were used as a mechanism through which that governments could fund projects that they wanted, without major calls on the budget. In some cases, government would simply provide enough funds to ensure that the private partners were recompensed- this was cheaper than paying the whole cost of the project. In other cases, private partners did bear a good deal of the risk, and when the project failed, they were left facing large losses. In some cases, the private partners may have hoped, in vain, that the government was going to cover their losses.

In retrospect, it is curious that there has been little analysis of the role of PPPs in Australian transport. PPPs accounted for a major part of investment, particularly of large projects. There is much less enthusiasm for PPPs currently. It is possible that lessons have been leant, and that governments have more articulate about what risks they are, and are not prepared to pick up. This said, if the fundamental problem is that governments are keen to see uneconomic

projects go ahead, especially in boom times such as the present, and then PPPs are a convenient way for this to come about.

Performance

There is range of reasons why poor performance of transport in Australia has been experienced. Some of the more important of these have been:

- Structural problems, such as limits on entry to markets, and monopoly;
- Regulatory problems, such as difficulties in designing regulation for industries and markets;
- Incentive problems, such as industries which do not face strong incentives to perform productively;
- Subsidies, where firms have access to subsidies, reducing their need to perform efficiently, and
- Poor or non-existent investment evaluation.

Much of this discussion has been on problem areas, and this may result in a distorted picture of the performance of the industry. In fact performance in the industry has been considerably enhanced by the reforms, particularly those of the period from 1985 to 2000. There was much privatisation during this period and this has improved the performance of several industries, such as aviation and rail. At the same time, deregulation opened up markets and also contributed to the improvement in productivity- this was important for aviation, rail and ports. Where monopoly remains, there has been a move to incentive regulation, which has affected airports, rail and port facilities. Where there have been oligopolies, there has been a stronger determination to use competition policy- this has affected aviation and rail. The period from 1985 to 2000 is regarded as a golden era of micro economic reform in Australia, and the performance of the transport sector has reflected this (by contrast, the period since has been regarded as one of lost opportunities).

Thus one can identify many areas where performance has been good. Some if these are:

- Airports: privatisation and light handed regulation has been accompanied quite good productivity growth and efficient provision of investment;
- Resource railways: iron ore railways have been productive and investment has been adequate. These railways have been vertically integrated with the mines;
- Airlines, domestic and international: after full deregulation of domestic and substantial deregulation of international aviation, productivity has grown and consumers have been offered the quality of service they demand;
- Port: port productivity has increased considerably;
- Road freight: Australia relies heavily on road freight, especially on interstate routes, and productivity is high.
- Evaluation of investments: While there have been some problems recently, many projects have been carefully evaluated and implemented.

5 Perennial Problems

As with other countries, there are several transport policy problems which remain – often these are the same problems which defy resolution in other countries. There are considered here: Taxation of transport, vertical fiscal imbalance (VFI) and pricing externalities.

Taxation. There are a number of issues with the taxation of transport. Clearly, some prices are set too low and others are set too high (see Industry Commission, 1994a). Thus, public transport tends to be subsidised, while roads are generally not priced. There are reasons for this situation. Several bodies including the PC have commented on the lack of pricing of congested roads- over the last few years it has become a talked about issue, though it will take some time before the issue is addressed. As in other countries, motor fuel is taxed heavily- it is usually regarded that the demand elasticity is low and thus there is no great a cost in terms of efficiency, though there can be impact on modal choice (especially between air and car). One long standing issue is the modal choice between rail and road in long distance haulage. The recent PC report considered that the choice between road and rail was not very distorted, though there could be improvements in the taxing of long haul road freight. One recurring issue is that it is difficult to get reliable estimates of marginal costs, especially for road.

Vertical Fiscal Inbalance. Problems with vertical fiscal imbalance are common amongst federal systems. In Australia, the federal government has most of the taxing powers, and states are reliant on the Commonwealth for their revenue. States have a mixture of inefficient taxes (transaction taxes) though some states which have mineral resources (Western Australia, Queensland) have access to royalties. For many years, Queensland has used railway rates as a means to tax mining- when the state owned all the railways; this may have been a relatively efficient way of gathering resource rents. However, with the breaking of the rail systems into vertically separate systems, there can be real resource costs in taxing resources in this way- vertical separation can result in efficiency costs.

Another aspect of VFI, which affects all states, is that the states do not have sufficient funds to cover their intended infrastructure spending (this was one of the main reasons for the establishment of Infrastructure Australia). Lack of funds was perhaps the key reason why the Australian states were so keen to embrace PPPs. With the decline in use of PPPs as a result of injudicious use, there has been a problem in infrastructure funding.

Externalities. As in other countries, externalities are difficult to value and to price. Thus, as mentioned, progress on road pricing has been slow. The same is not so for other forms of congestion, however. Airport congestion, currently low but expected to increase, is handled through the slot system, which is as (or more than) efficient as pricing. As noted above, there have been proposals to implement slots for port facilities and for ship queues. Noise is not an externality which is handed systematically, though it is handled in an ad hoc way. Thus there are various constraints on aircraft using airports.

Australia has decided to implement (from 2012) a carbon tax/ETS, which will mean that most modes of transport will be effectively taxed for their contribution to greenhouse gas

emissions. The main exceptions to this will be cars (already heavily taxed) and international aviation. The starting point will be a tax of $23, with a transition to an ETS after three years. At these levels, most modes will be little affected- for example, air fares will rise by less than 2%. However, the price of permits will increase, as the carbon allowed to be emitted falls.

5 Conclusion: Tasks for the Future?

The past two decades or so have been a period of significant reform in Australian transport, though the pace of reform has slowed recently. While several agencies have contributed towards the case for, and analysis of, this reform, the Productivity Commission has been one of the key actors. In a number of reports across the spectrum of transport, the PC has articulated and analysed in detail the case for, and suggested the ways of implementing these reforms. As noted in this paper, not all areas of transport handled well- there are some which have been handled poorly. Thus there are some priorities which could do with some rigorous assessment- some of these could form the basis of further investigation by the Commission. These could include:

High Speed Rail. There is a proposal for a High Speed Rail link between Melbourne-Sydney-Brisbane. If commenced, this will be the largest transport infrastructure project in Australia, at a cost of $100bn. While the PC does not normally get involved with project evaluations, the size and dimensions of this project could warrant its choice as the evaluating authority. It would integrate both CBA and CGE approaches, to maximise the reliability of the evaluation.

PPPs. While PPPs have considerable potential as an arrangement to develop projects, the Australian experience with them has been mixed, or worse. A review of PPPs is long overdue- such a review could examine what has gone wrong over the last decade, and assess better ways of structuring them, and determining when they should be employed.

Road Pricing in the Cities. In the past, the PC has commented on the idea of road pricing. Recently, there has been considerable interest in pricing, and it is of relevance to most Australian large cities. A PC inquiry could investigate how pricing might be achieved, and what gains might be achieved from it.

Transport Regulation. Australia now has several transport industries which are privately owned, but government regulated. These include airports, rail, port facilities, toll roads and urban transport- much of this regulation is traditional ex ante regulation. There have been problems in this type of regulation; particularly in the coal export chain. The PC pioneered the use of light handed regulation in the case of airports. There could be a case for more widespread adoption of light handed regulation.

CBA and CGE. As noted, there has been some use of CGE models in transport project evaluation, though there have been some problems and the technique us in its infancy. Given the PC's long experience and use of CGE models, it would be easily able to explore this issue.

Measuring Wider Economic Benefits of Transport. There is a growing interest in the idea of wider economic benefits of transport. This has been particularly relevant in the case of urban transport, but it has potential in other areas, such as the benefits from airline liberalisation. While the PC could examine all aspects of these benefits, its experience in CGE models would be of particular value in analysing tax implications.

Reviewing International Aviation Regulation. Over the decade since the PC's Report into international aviation there has been little controversy. This may be changing. Airlines such as Emirates may soon be pressing the government for more capacity, and Singapore Airlines may renew its push for rights to fly from Australia to the US. At the same time, Qantas is experiencing a difficult time in its international operations with the high A$.

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