Private sector participation in the provision of transport services

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Abstract:

Private sector participation in the provision of transport services is a topical issue because:

- improvements in transport are seen to be an essential element of "micro-economic reform";
- privatisation is held out to be a solution to problems in the provision of transport; and
- all levels of government need to identify new sources of capital to help finance transport infrastructure.

The paper discusses:

- what we can expect of private sector participation in transport;
- how we can make the most of private sector involvement;
- the role of the financier; and
- . how private sector participation might best be introduced in Australia.

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Introduction

This paper deals with private sector participation in transport services. This is clearly a topical issue for Australia because:

- improvements in transport are seen to be an essential element of the muchheralded "micro-economic reform";
- privatisation is held out to be a solution to current problems in the provision of transport; and
- from a practical point of view, all levels of government need to identify new sources of capital to help finance transport infrastructure in times of budgetary restraint

At the outset, it should be stressed that, as investment bankers, our role lies in the commercial and financial end of the privatisation process. Yet, as we have seen time and again overseas, it is often very difficult to extricate the financial aspects of privatisation from the political and economic aspects.

When we act for a private company in selling a business or in raising capital, we try to negotiate the best price and the best terms, and generally to act in a way which promotes the interests of shareholders. We get to know our clients' businesses so that we better understand their needs.

When we act for government, the shareholders are replaced by the public, and the business is replaced by various economic and political considerations. Inevitably, we find ourselves with a foot in each camp. On the one hand we recognise the legitimate needs of lenders and investors. On the other hand, we must be aware of the aims of government. At all times, we keep abreast of developments elsewhere in the Schroder Group so that we can quickly identify potential problems and be aware of innovative solutions.

The paper addresses the following issues:

- what can we expect of private sector participation in transport;
- how can we make the most of private sector involvement;
- what is the role of the financier; and
- how might private sector participation best be introduced in Australia

Why the Private Sector?

Why the public sector?

Before asking why the private sector should become involved in the provision of transport services, it may be enlightening to reflect on why the public sector has come to dominate this field. Notwithstanding the popular perception, this has often had less to do with ideological battles between the public and private sectors, and more to do with the practical difficulty of making a profit.

Identified below are five factors which have led to public domination:

- difficulties of revenue "capture";
- the historical evolution of our transportation systems;
- economic efficiency;
- · financial collapse of private operators; and
- public interest concerns...

Revenue Capture. It almost goes without saying that, before one can have private sector involvement, one must have a business capable of making a profit. In many cases, the cost of collecting fees for the use of transport facilities would be out of all proportion to the revenue raised. Only government, able to rely on tax revenues, could contemplate building many of our rural roads and railways.

Historical Evolution of Transport Systems. Closely related to the problem of revenue capture is the history of development of our transport infrastructure. For example, it is not inconceivable that the Hume Highway could today be completed and operated as a private toll road. However, the history of its development was such that each small section, as it was built, was not suitable for private development. As a result, the whole length is not well designed for tolling, and motorists have become accustomed to using it free of charge. Similar examples can be found everywhere of transport infrastructure which today could be run profitably but which historically has developed in public ownership.

Economic Efficiency The shorter time horizon of private investors (when compared with government) and their reluctance to accept certain risks which are beyond their control

(such as traffic risks) mean that they are often unable to take on projects of an economically efficient scale.

We might ask, for example, whether the private sector could have financed the first Sydney Harbour crossing. The answer is "yes", but it wouldn't be the structure we see today. It might have been a pontoon bridge of the type proposed by the Commissioner for Main Roads in 1878. Such a facility would have been relatively cheap to build, could have been made to operate profitably, and would have had a short payback period. But this ad hoc private sector solution would not have been an economically efficient use of resources.

In recent years we have seen the same problem arise with the Gateway Bridge in Brisbane. While the earlier ferry service might have been made to operate profitably, private investors could not be found to finance a permanent crossing of efficient scale without an effective government guarantee.

Financial Collapse. A fourth factor leading to public ownership of transport infrastructure - and one rarely mentioned by advocates of privatisation - is the financial collapse of projects which were undertaken in the private sector. Even before their nationalisation in 1948, many of the British railway companies were facing increasing financial difficulties in the face of competition from new modes of transport. More recently, in France, we have seen three of the four private toll road companies established in the early 1970s being forced to rely on their government loan guarantees within only a few years of their formation, and being converted into public enterprises.

Public Interest Concerns. Finally, there are numerous public interest concerns with private ownership of transport infrastructure. For example:

- how do we regulate the profits of private operators of monopoly services;
- how do we ensure that private facilities are made available to all at a reasonable charge

Benefits of Private Sector Involvement

Having identified many compelling reasons why the private sector should <u>not</u> be involved in transport, let us now consider what benefits private sector involvement might bring

Many of the claimed benefits will be political, and some may be hotly disputed Nevertheless, to set the debate in motion, let us propose the following benefits:

- improved assessment and management of risk;
- better cost recovery mechanisms;
- improved "productive" and "dynamic" efficiency;
- greater emphasis on service; and
- separation of regulators and service providers.

Risk Management One of the principal concerns of financiers, which we will address in greater detail shortly, is the assessment and management of risk

It is a widely claimed benefit of private sector involvement that the risk assessment process is carried out more thoroughly in the private sector than in the public sector because:

- success or failure can be measured objectively in terms of the revenue earned; and
- investors and lenders have risked their own capital in the project.

Better traffic studies are generally required to satisfy lenders whose only recourse is to the revenue generated by a facility. Construction contracts tend to be drafted to place more risk with the contractor.

In addition to bringing improved risk assessment, private sector involvement can bring improved risk management. The Channel Tunnel project, which is now facing cost overruns of at least 30%, is sometimes held up as an example of how the private sector sometimes fails to assess risk properly. It might be better used as an example of how the private sector effectively manages risk. Despite reports of the tough negotiations between Eurotunnel, the banks and the contractors, the project has not collapsed in a sea of litigation. Work continues and all parties are seeking to resolve problems in the knowledge that there is a finite amount of revenue available to cover cost overruns

Cost Recovery Mechanisms. Moving into more politically contentious areas, it might be claimed that private sector involvement helps to preserve arrangements for cost recovery.

Two recurring themes in Australia today are the level of indebtedness (both public debt and Australia's overseas debt) and the inadequate levels of cost recovery on much of our transportation infrastructure. Of course, these two are related. As bankers, we know

that it is not so much the absolute level of debt which is important, as the ability of the borrower to service that debt, and this ability depends in turn on the level of cost recovery from investments

The presence of financially interested shareholders and lenders in private transport projects makes it much harder for user charges to be removed or reduced for political reasons in a way which might prejudice cost recovery and debt service

Productivity and Dynamic Efficiency Private sector involvement may improve efficiency in two respects

Firstly there may be an improvement in "productive" efficiency - the efficiency with which a private operator provides a given service - due to the assumed profit-maximising behaviour of private firms. However, even this claim needs to be approached with caution:

- efficiency is more likely to arise if services are provided in a competitive environment;
- government can capture many of the benefits of private sector efficiency by putting construction or operation out to tender, even when facilities themselves remain publicly owned; and
- where competition is hard to create, and regulation is required, such regulation may reduce incentives to promote efficiency

Perhaps more important in the long term is the improved "dynamic" efficiency attributed to private sector operations. With a known business, and a reasonably certain income, private operators can plan their investment and funding program many years ahead. This is in contrast to government budgeting which is often subject to volatility and uncertainty - especially in Australia as a result of the Federal/State funding arrangements.

Greater Emphasis on Service. Where the "user-pays" principle is applied to transport services, and the profitability of the owner is closely related to the number of users, greater emphasis on quality of service might be expected. Lenders and investors, with capital at risk, might be expected to monitor the performance of management or third-party operators more closely than would government. Examples of this can be seen on the semi-private toll road network in France where there is considerable attention paid to user services in order to make the facilities attractive to motorists

Private Sector Participation in Transport Services

Separation of Regulator and Service Provider Finally, private sector involvement allows government to stand back and act as an independent regulator with no financial interest in the provider of the service.

Making the most of private sector Involvement

In considering how to make the most of private sector involvement in transport, two issues deserve attention:

- risk assessment, efficiency and service are most likely to be promoted where a competitive environment can be created; and
- subsidy or risk sharing is often required to make facilities commercially attractive, but excessive or inappropriate subsidy or risk sharing can undermine the benefit of private involvement

Promoting Competition

A competitive environment may be created in two ways:

- competition can be created within a market by having several suppliers of the one service (eg. several airlines or shipping companies); or
- competition can be created <u>for</u> a market which itself is not contestable (eg. road ownership)

To begin with, consider the various forms of transport divided into three categories: those where a competitive market can be created, those which are local natural monopolies, and those which fall somewhere in between

Table 1: Categories of Transport Services

Potentially Competitive	Possibly Competitive	Local Natural Monopolies
Bus Services	Ports	Roads
Ferries	Airports	Railways
Taxis		Trams and light rapid
Airlines		transit systems
Shipping		Inter-modal transfers

Dealing firstly with the potentially competitive services, much can be achieved through deregulation. In approaching deregulation, the following points may be considered:

- Will deregulation guarantee competition, or will incumbent firms exercise market power? This issue has been raised recently in relation to airport terminal access in Australia.
- Is there a danger of "destructive" or chaotic competition? Examples of such behaviour alleged to have occurred after deregulation of Britain's buses include (Vickers and Yarrow, 1988):
 - racing to bus stops;
 - refusing to set down passengers at intermediate bus stops for fear of being overtaken;
 - parallel timetabling (also seen in Australia's airlines);
 - early arrival at bus stops to pick up rivals' passengers;
 - painting over rivals' timetables; and
 - deviating from routes.
- If subsidies are required to maintain unprofitable services, how can these be paid without reducing the benefits of deregulation?

In addition, the effect of deregulation on "non-economic" regulations (eg. regulation of safety standards, etc) needs to be considered. Will airlines operating in a competitive environment have the same incentives to promote safety? How does one choose the optimum trade-off between cost and safety?

The natural monopolies pose greater challenges, but even here there are ways in which competition might be introduced. These include:

- vertical separation;
- separation on a regional or route basis; and
- franchising or "concessions".

Vertical separation involves breaking up a business so that different firms are responsible for different components of the service. For example, vertical separation of track and trains has been proposed as one possible method of preparing British Rail for privatisation:

- A "track authority" would be responsible for:
 - maintaining infrastructure, such as tracks and stations;
 - train control; and
 - overhead administration
- A number of competing train companies would bid to use the track and station infrastructure to run their trains

It is possible to envisage such a system working for intercity passenger trains or for freight on heavily trafficked routes However:

- There are obvious practical difficulties in applying such a system to a
 congested urban rail system. Unlike buses, trains (and trams) are much
 more restricted in their ability to overtake. Each operator is largely
 dependent on the other operators to maintain a reliable service.
- On many rural lines there may be inadequate traffic to support more than one train company

Separation on a regional or route basis has also been proposed for British Rail (Gritten, 1988). Several regional railway companies would be established to provide both track and trains. This would provide greater information on the viability of individual routes. Competing railway companies would pay a fee to have their trains hauled over a competitor's tracks. The profits of regional monopolies might need to be regulated. Difficulties might arise if one regional company went bankrupt or failed to maintain its track adequately.

Franchising, or the use of "concessions", may be applied where it is otherwise impossible to introduce competition. Competition within a market is replaced by competition for a monopoly. Franchising is a useful tool, but it has at least two shortcomings:

- Because there is no competition within the market, prices may need to be regulated For example, as we have seen in many toll road projects, tolls are set in advance by government and escalate according to agreed formulae.
- Franchising may not effectively privatise decisions relating to new investment in infrastructure. For example, franchises may be unwilling to undertake major capital expenditure towards the end of their concession period.

Franchising is most applicable to these industries where product specification is simple. In complex industries its advantages may be outweighed by:

- uncompetitive bidding (there may be collusion between a limited number of qualified bidders, or the incumbent operators may have superior knowledge);
- problems of asset handover; and
- contract monitoring.

In our experience, franchising has been used successfully for:

- several private toll roads;
- new tolled bridges and tunnels (The Channel Tunnel, the Dartford Crossing and the Severn Crossing); and
- new urban light rapid transit schemes (Manchester Light Rapid Transit)

Two points of interest should be noted:

- In the case of new facilities, it is often contractors who seek the franchise in order to win the construction contract
- For established facilities, where there is no construction contract to win, the success of franchising will depend on whether the facility can make an operating profit (ie: revenue exceeds operating costs)

Finally, in promoting competition, there is potential to combine more than one approach. For example, the rail industry might be vertically separated with all train and track maintenance being put out to tender, while operations remain in State hands. Track maintenance contracts could be awarded on a franchise basis, with contractors bidding for a two or three year maintenance franchise.

Some contractors and shire councils have expressed an interest in this type of arrangement Rail contractors could achieve efficiencies by deploying their workforce throughout the State to meet demand. Shire councils might be able to use their day labour crews to carry out track maintenance. The practicality of such an approach has yet to be tested.

Subsidies

Much of our transportation infrastructure is socially desirable and "economically viable" but it often does not make a profit, or it does not make enough profit to justify the cost and risk of developing it. In such cases, subsidy or "risk sharing" are required before private sector participants can be involved.

Risk sharing is discussed below in relation to the role of the financier Regarding subsidies, we have developed the following rules for determining how best to subsidise a transport project:

- the assistance should not detract from the benefits of private sector involvement;
- the assistance should be structured to give government the greatest value for its contribution; and
- from the point of view of equity, assistance should be sourced for the beneficiaries of the facility, if this is practical.

Subsidies can take the form of:

- dedication of land development profits;
- dedication of land taxes;
- "shadow" tolls or charges;
- dedication of surplus revenue from other projects;
- annual subsidy; and
- capital grants

Development Profits: Where an infrastructure facility increases the value of adjacent land, some of the increase in value may be "captured" to subsidise the facility. Examples of this are seen in many of the light rapid transit schemes being promoted in Europe

The following points should be considered when assessing subsidy through land development profits:

- It is often very difficult to capture profits from the development of freehold land. If private landowners believe that a project will proceed with or without their support, they will be reluctant to contribute to it, unless:
 - it can be shown that their contribution will bring the development forward significantly; or
 - the route is not set in advance but is determined on the basis of the contributions offered by landowners.
- If facilities are built on the basis of land development profits, provision should be made to ensure long term operation. If operating revenues do not cover operating costs, private owners may be reluctant to maintain the facility and it may revert to government ownership.
- If crown land is being used to subsidise a project, government might consider whether this would achieve the greatest value for such land

Dedication of Land Taxes An alternative to using land development profits is the dedication of rates or land taxes. Such taxes are usually based on the assessed value of land, and any increase in land value arising from a transport project could be expected to increase the tax receipts.

Practical difficulties with this approach include the following:

- the land must be rateable, or otherwise subject to tax;
- a way must be found to identify that portion of the increase in value which is attributable to the project;
- there is likely to be a significant cost in carrying out the extensive valuations needed to determine the increase in land value which has actually occurred; and
- there may be large administrative costs due to the need to keep records of the land which is subject to the system of tax dedication.

Shadow Tolls and Charges: Shadow tolls and charges may be used to subsidise a project in proportion to its success. For example, government might contribute, by way of subsidy, an agreed percentage of the cash income, or an agreed amount per passenger or per vehicle

Such a scheme would encourage the operator to make the project successful but there are a number of potential pitfalls to avoid:

- Because shadow payments do not give government an incentive to encourage traffic (and hence increase its liability to pay the shadow charge), investors and lenders may be particularly wary of this type of support
- If the payment is an agreed amount per passenger or per vehicle, the operator might be better off reducing cash charges in order to increase traffic, and hence its shadow income

Dedication of Revenue from Other Projects Dedication of revenue from other projects is usually only available where these are operated on a concession basis. The owner of an existing freehold facility will rarely have an incentive to subsidise a new one. The owner of an operating concession may, however, cross-subsidise a new project in return for an extension of the concession period.

A good example of this approach would be in the toll road industry where existing concessionaires would be granted extensions in return for undertaking new, less profitable works. This has a number of advantages:

- it provides an expansion of the concessionaire's existing business; and
- often the new works will improve access to and from the existing facility providing a further incentive to the existing concessionaire.

Capital Grants and Annual Subsidies Perhaps the easiest way to subsidise a project is through a direct capital grant or an annual subsidy

In some cases capital contributions can be made "in kind" through a transfer of existing infrastructure. Several light rapid transit schemes and railways are being proposed on this basis. Existing tracks or formations - sometimes under-used and sometimes even abandoned - may be transferred to private developers to form part of the new rail system.

The Role of the Financier

Project Finance

Having identified what the private sector can achieve and how to get the most out of private involvement, we now proceed to define the role of the financier

In the banking world, the financing of transport infrastructure falls within the general category of "project financing" as distinct from other broad areas such as trade financing, property financing or the financing of mergers and acquisitions

This distinction is not arbitrary. Project financing deals with a particular set of problems. Typically, the project will have the following characteristics:

- Capital Intensive: Projects generally involve a very large initial capital outlay and relative low operating costs thereafter.
- Little Diversification of Risk. When one lends to, say, BHP, the security for repayment is spread over many areas of business. The same is true even for much smaller firms. Project financing, on the other hand, typically deals with a single facility in a single location. The detailed risk assessment of that single business is therefore critical.
- Long Finite Life Whether they be coal mines, oil fields, or concessions to operate a road or railway, projects typically have a long, but finite, life during which they must repay lenders and provide a return to investors.
- Limited Alternative Uses Unlike, for example, a commercial office block, a
 road, railway, or airport terminal can rarely be sold and used for other
 purposes This increases risk considerably What private sector developer
 of passenger terminals for ocean liners in the 1950s would have foreseen
 that within 20 years his assets would be rendered obsolete by jet aircraft.
- Well Defined Market: For transport infrastructure projects, the risk of limited alternative uses is exacerbated by the well defined markets which they serve. A cement plant or a coal mine can sell its output nationally or internationally. The Sydney Harbour Bridge can only convey vehicles travelling from Milson's Point to York Street

Private Sector Participation in Transport Services

These characteristics have led to the development of particular techniques used by project financiers:

- cash flow analysis:
- detailed risk analysis; and
- transfer of risk to appropriate third parties.

Cash Flow Analysis

Whereas a property financier may lend up to a maximum percentage of the independent valuation of land, and an industrial lender may advance a percentage of the written-down value of a business's assets, the project financier will examine the individual cash outflows and cash inflows forecast for the project. The forecast net cash flow of a project may be used to calculate a cumulative project internal rate of return.

Without going into the details of internal rates of return, the key point to remember is that, unlike the cash flows which arise from an investment in government bonds, the project cash flows are only forecasts and are subject to <u>risk</u>. As a result:

- investors will seek a rate of return which is higher than the government bond rate; and
- lenders will apply factors of safety (or "cover ratios") when assessing how much they are prepared to lend against the security of such cash flows.

Risk Analysis

Because investors' return and the lenders' security depend very much on the risk associated with cash flow forecasts, it is common for project financiers to dedicate much time to the detailed assessment of risk.

The risks typically encountered in a transport project include:

- Traffic Risks relating to the uncertainty of traffic forecasts;
- Price Risks relating to the uncertainty surrounding the charges and tolls which may be levied on users of the facility;
- Construction Risks relating to the uncertainty of the project being completed on time, within budget, and to specification;

- Operating Risks relating to the uncertainty associated with the cost of
 operation and the ability to operate at a standard which will attract the
 forecast traffic;
- Financing Risks relating to the level of interest rates, the rate of inflation, the rate of return required by investors, and the proportion of project costs which lenders are prepared to advance as loans;
- Tax Risks relating to the rate of income tax, the eligibility of expenditure for deduction against taxable income, and the possible application of direct taxes such as Value Added Tax;
- Insurable Risks such as that relating to physical loss or damage to facilities, or liability to users and third parties;
- Force Majeure Risks including uninsurable risks (such as contamination by radioactive materials), civil commotion (such as picketing or obstruction of the facility), certain industrial disputes, and certain legal risks; and
- Expropriation Risk relating to the expropriation of project assets or the premature termination of an operating concession

Minimisation and Transfer of Risks

As noted above, project investors require a rate of return in excess of the government bond rate to compensate them for accepting project risks. Furthermore, the more risk investors take, the higher the rate of return they require, and the more expensive it is to finance the project.

By identifying appropriate third parties to accept individual project risks (such as construction risk) it may be possible to reduce the return required by investors. Moreover, if the party accepting the risk is better able to price it and to manage it than are the investors, then the benefit gained by reducing the return required by investors is likely to be greater than the cost of transferring the risk

A key element of project finance is, therefore, the transfer of risks to appropriate third parties in order to lower the overall cost of finance

In addition to transferring risk, it may be possible to minimise risk. Thorough traffic studies will help to minimise traffic risks. Thorough geotechnical studies will help to reduce latent condition risks in construction.

Risk Sharing. In some cases it may be appropriate to share risks with government. Applying the general rule that risks should be accepted by those best able to assess them and price them, risk sharing might be applied to those areas where:

- investors are not prepared to accept certain risks at a reasonable price; or
- government is in a unique position to manage risks.

Under both criteria there would appear to be a case for risk sharing in respect of:

- traffic risk;
- price risk; and
- force majeure risk

If employed, risk sharing could be achieved through:

- an extendible concession, where the concession period would be extended to cover unforeseen costs;
- traffic guarantees;
- development of facilities in the public sector with privatisation only after opening; and
- a "put option" enabling the facility to be sold back to government.

Private Involvement in the Australian Context

When applying the principles of project finance to transport facilities in Australia, a number of practical features of the Australian market must be borne in mind. These include:

- the impact of the federal political system; and
- the willingness of investors and lenders to accept project risks

Much of the responsibility for providing transport facilities in Australia resides with the States. While these facilities continue to be provided by the States, they are free from Commonwealth income tax. Private operators, on the other hand, are subject to income tax, and this is a significant disincentive to private sector involvement. In practical terms, this has tended to encourage those private sector schemes which involve a minimum of risk transfer to the private participants and a maximum use of debt finance (which creates tax deductible interest expenses).

In the future we might hope to see modification of the tax system to remove this disincentive. The Federal Liberal Party (Moore, 1989) has contemplated allowing the States to collect income tax (or a sum equivalent to income tax) from privatised government enterprises for a period of up to 10 years. However, this approach does not preserve the States' income beyond 10 years and does not assist the development of greenfield projects by the private sector.

Rather than differentiating business entities according to whether or not they were previously owned by government, an alternative might involve designating the particular types of business which are to pay income tax to the States rather than to the Commonwealth. There are already precedents for taxing different types of business in different ways. Until recently, the gold mining business was exempt from income tax regardless of the entity (individual, Australian company or foreign company) which undertook it.

Offsetting the tax disincentive to private sector participation is the operation of Loan Council which restricts State borrowings for public works, but not private borrowings.

Finally, it must be recognised that Australian investors appear to be prepared to accept the operating risks of projects which have already been established, but are more reluctant to take development risks. This suggests that government might improve the terms on which it raises private sector finance by developing projects within the public sector and privatising them only on completion.

Such an approach is not without precedent. On 15 December 1810, the following notice appeared in the Sydney Gazette (Department of Main Roads, 1951):

"The Public Road between Sydney and Parramatta being nearly completed, His Excellency the Governor has directed us to give notice that two Toll Bars will be erected thereon, viz. one at Sydney and the other at Parramatta, and that the Tolls arising therefrom will be let on Monday 24th instant at a Public Auction, by Mr Gaudry to the highest bidder for one year from the first day of January next, on his giving adequate Security for the Payment."

Alternatively, government may actively promote the development of private companies which specialise in taking development risks

Conclusion

In conclusion, there are grounds for believing that the private sector has much to contribute in the field of transport, particularly in relation to:

- risk assessment and management;
- efficiency; and
- quality of service

However, to get the most out of private sector involvement, the scope for promoting private sector incentives through competition should be considered. There are many tools available to government for promoting competition within markets and for markets

Finally, the practicalities of the Australian market need to be taken into account when seeking private involvement.

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