Cost Recovery in Road and Rail Transport
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Glossary

Charges
Levies on users of transport services to recover the cost of resources used. An access charge, for example, is a fee an operator of transport services pays for the use of infrastructure. Economic theory suggests that users should pay the full cost—private and social—of the resources used. Taxes are levied over and above charges.

Competitive neutrality
Competitive neutrality exists when different transport modes operate under similar or consistent investment, taxation, charging and regulatory frameworks.

Economically efficient tax
A tax that is ‘neutral’ in its effect on decisions to work, save and invest. But since all taxes affect such decisions to some extent, a goal of taxation policy is to minimise distortions in behaviour. Other goals are to raise revenue, reallocate resources, and improve equity.

Economically efficient prices
Prices that reflect the full cost, private and social, of resources used.

Externalities
Externalities arise when one party imposes on others costs or benefits which are not reflected in market transactions. For example, ‘negative’ externalities such as noise and air pollution from trucks impose costs on residents near highways, but there is no market transaction between residents and the users of the truck services.

Full cost
The total cost, private plus social, of providing a service. Private costs, for example, include fuel, labour and depreciation. Private costs are borne by the service provider and are reflected in user prices.

Social cost
The cost to society, over and above private costs, of undertaking an activity. Examples of social costs are damage to roads and externalities. Third parties usually incur social costs. Economic theory suggests that transport users should compensate those who bear social costs.
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Major Issues

Taxes and charges affect relative costs of using different transport modes. If not applied consistently across modes, charges and taxes can distort use in favour of one mode over another. The main charges applying to rail and road transport are access/registration and safety fees, while the main taxes are the diesel fuel excise, payroll tax, import duty and company tax. The competitive neutrality of charges and taxes on rail and road transport—has long been debated with each industry claiming it is disadvantaged by particular charges or taxes.

The general principle on which transport charges and taxes are based is that the service user should pay the full cost to society of providing the service. Cost includes private cost such as petrol and wages, and social costs such as damage to roads and externalities such as noise, air pollution, congestion and accidents. But in practice, charges and taxes diverge from economically efficient prices, which would reflect the full cost of transport services. For example, in principle, transport users should compensate those who bear the cost of externalities but this rarely happens. Governments could impose taxes to reduce externalities but there are no taxes on road or rail externalities in Australia.

Heavy trucks account for most damage to roads, and require roads to be constructed to higher—and more costly—standards (for example, relating to bridge strength and pavement characteristics) than otherwise. Economic theory suggests that charges on heavy trucks should vary with actual road usage. State governments impose charges to recover the cost of the damage heavy vehicles cause. The charges have two components: a fixed annual registration charge and a 'notional' part of the diesel fuel excise. But the registration charge does not vary with distance travelled and gives rise to cross subsidies; for example, lighter trucks cross-subsidise heavier trucks. The appropriateness of the attribution of part of the diesel fuel excise towards road use charges depends on whether the diesel fuel excise is viewed as a general revenue-raising tax or whether is a specific revenue-raising tax. If the excise is the former, road freight is undercharged. Still, the diesel excise is a proxy for the cost of road use in that the total amount of excise a user pay through fuel consumption is related to distance travelled and vehicle weight, and hence damage to roads.

Controlling for mass and distance, rail access charges greatly exceed road user charges. This has led to claims that differentials in access charges confer a competitive advantage to road transport. But there is no reason that access charges should be the same for all
modes. It is not possible to determine whether State rail access charges reflect social costs since the basis on which State rail authorities calculate their charges is opaque.

The total social cost of transport externalities is considerable. Moreover, the cost of road externalities is in the order of seven times the cost of rail externalities for interstate non-bulk freight transport. It is unlikely that the diesel fuel excise is intended to take account of externalities. Even if it were, the excise would be too low in metropolitan areas.

The imminent changes to the taxation system will affect the relative competitiveness of rail and road transport. Studies of the changes as originally proposed suggest that, overall, the restructuring will deliver greater benefits to road than to rail transport mainly because trucks use more fuel and thus benefit more from the proposed reduction in the effective rate of excise on diesel from around 43 to 18 cents per litre. But even after the tax changes are implemented, charges and taxes will not be competitively neutral between road and rail. The main changes needed to attain competitive neutrality are to impose charges on heavy vehicles that more fully reflect the cost of their use of roads, and to ensure that both rail and road face the full cost of externalities, with road in particular having to pay more. Proposed changes to heavy vehicles charges will help remedy the former. And had the full diesel fuel excise rebate not been extended to rail, its competitive position relative to road transport would have been worse. Even so, charges and taxes will still not be competitively neutral.

Taxes and charges are only one aspect of government policies affecting competitive neutrality between rail and road transport. Other relevant policies include infrastructure investment appraisal and funding arrangements, access regimes, safety regulation, and operating procedures and standards. Competitive neutrality of charges and taxes alone would, therefore, still not resolve the issue of whether government policies advantage or disadvantage one mode relative to the other.
Introduction

All transport modes—road, rail, air and sea—compete to varying degrees. User choice of mode depends on a range of factors including the characteristics of the goods and passengers to be transported, service characteristics such as journey time and reliability, and service prices. Governments levy charges on all modes to recover the cost of providing infrastructure and other resources used in transport services, and impose taxes to raise revenue, change the allocation of resources and for equity reasons. Charges and taxes affect prices of each mode and hence their relative competitiveness. If not levied efficiently, charges and taxes can distort use towards a particular mode, and so reduce the economic efficiency of the transport system as a whole. Ultimately, national productivity can be impaired.

The consequences of government charges and taxes on the relative competitiveness of rail and road freight transport have long been contentious. The rail freight industry, for example, claims that charges and taxes are not competitively neutral but advantage road over rail. The road freight industry, on the other hand, claims that its inputs are more heavily taxed than other industries. To assess these claims, this paper reviews the economic principles on which charges and taxes are based, and how charges and taxes are levied in practice. In particular, it examines whether taxes and charges are being applied consistently across both modes. The paper does not deal with other policy areas—such as levels of infrastructure investment, access regimes, safety regulation, and operating procedures and standards—which also affect competition between the two modes. Indeed, some of these areas, particularly infrastructure investment, may be more important than charges and taxes in trying to attain competitive neutrality.

Principles of Efficient Charging and Taxing

Economic theory suggests that users should pay the full cost of providing transport services through charges and taxes. Thus prices of road transport services should reflect not only private costs—such as fuel, wages and depreciation—but also social costs such as damage to roads, environmental costs, and the social costs of road accidents. Failure to reflect the cost of road damage in prices would constitute a subsidy to road users from taxpayers, who pay for the construction and maintenance of roads. The divergence of private from social costs would be a misallocation of resources.
Economic theory suggests that transport users should pay for the cost of negative externalities—such as noise, air pollution, congestion and accidents—users impose on those adversely affected. This could be achieved if transport users were to compensate those affected. The cost of compensation would be reflected in user prices, and private and social costs would be the same. Alternatively, governments may, in principle, tax externalities to reduce their output to optimal levels.\textsuperscript{11}

In practice, it is difficult to apply efficient pricing principles to charges and taxes so that user prices incorporate social as well as private costs. As a result, actual charges and taxes diverge from economically efficient prices and give rise to inconsistencies. For example, as discussed below, charges for heavy road vehicles only approximate the actual cost of the damage such vehicles cause to roads. The absence of mechanisms to compensate for the cost of externalities means that those who bear the costs are generally not compensated.\textsuperscript{12} And it is difficult to calculate optimal levels of externalities and appropriate taxation levels.\textsuperscript{13}

\textbf{Charges and Taxes on Rail and Road Freight Transport}

The former Bureau of Transport and Communications Economics has classified the charges and taxes governments levy on transport into five categories: charges for the use of infrastructure; fuel taxes; vehicle charges and taxes; operations charges and taxes; and taxes on externalities.\textsuperscript{14} The main charges applying to rail and road transport are access/registration and safety fees, while the main taxes are the diesel fuel excise, payroll tax, import duty and company tax.\textsuperscript{15} No taxes are levied on transport externalities.

\textbf{Road}

As noted, efficient charging requires that users bear the full cost to society of resource use including damage to roads and externalities. Heavy trucks account for most damage to roads and the amount of damage is related to vehicle weight, distance travelled, number of axles and the strength and thickness of the pavement. Charges for road damage should, therefore, be based on these factors.\textsuperscript{16} State governments impose heavy vehicle\textsuperscript{17} road use charges to recover the cost of road damage these vehicles cause. The National Road Transport Commission (NRTC) is responsible for developing the charges. They have two components: a fixed annual registration charge and a 'notional' part of the diesel fuel excise.

\textbf{Registration Charge}

The amount of the registration charge depends on vehicle class, the purpose for which the vehicle is used and the number of axles. Charges for a particular class of vehicle are based on the average distance travelled by that class and the average gross mass of that vehicle
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class. Because the charge does not vary with distance travelled but is based on averages, it
gives rise to cross subsidies. Thus a truck that travels long distances pays the same amount
as an identical truck that travels short distances, so that the latter cross-subsidises the
former.

Another feature of the current registration charges is that lighter trucks cross-subsidise
heavier trucks because the charges under-recover the cost of the damage large trucks
cause. This has implications for competitive neutrality between rail and road. The rail
freight industry argues that it competes mainly with large trucks that travel the longest
distances and carry the heaviest loads, so that the cost under-recovery for heavy trucks
advantages road over rail freight. The Productivity Commission concurs noting:

The existing road user charging system for heavy vehicles underrecovers road costs
attributable to classes of vehicles that compete directly with railways. This confers a
competitive advantage on long distance road transport operators.

The Bills referred to below seek to reduce the cross-subsidisation of heavy trucks by
lighter trucks by increasing the charges the former pay.

A number of overseas jurisdictions employ weight-distance charging including some
States in the United States. The European Union is moving towards scaling road charges
so that they are commensurate to kilometres travelled, energy consumed, use made of
roads, and costs generated. In New Zealand, such charging has applied since 1978 (see
Box 1).

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**Box 1: Road User Charging in New Zealand**

The Road User Charges Act was introduced in New Zealand in 1977. Since April 1978, most heavy vehicles
have been required to pay licence fees directly proportional to distance travelled. The fee scale varies
according to the type of vehicle, the number and spacing of axles on the vehicle, and the number of tyres on
the vehicle. Vehicle classes are based on combinations of these characteristics. For each class, the scale of
the distance-related fee rises steeply with increasing gross vehicle weight up to a threshold of 30 tonnes.
Above 30 tonnes, there are linear scales per tonne for all vehicles.

The distance licences are available in multiples of 1000 kilometres. Road transport operators are required to
identify the vehicle class, nominate the maximum gross weight for which the vehicle is to be licensed, and
nominate the start and finishing kilometres. Licences can be purchased at New Zealand Post Offices and are
displayed on vehicle windscreens. Hubodometers (which measure distance travelled) are fitted to vehicles in
the scheme. The kilometres recorded on the hubodometer must not exceed the kilometres shown on the
licence purchased.

Exemptions and exclusions to the scheme include off-road vehicles (which are required to have time-
licences), trailers under 3.5 tonnes gross laden weight (because of their relatively small contribution to road
costs) and petrol-powered vehicles with a gross weight of 3.5 tonnes or less. The last category are exempt
because the excise tax on petrol is assumed to produce a broadly equivalent charge. Owners of petrol-
powered vehicles exceeding 3.5 tonnes buy distance licences but receive a rebate for the petrol tax paid.

Diesel Fuel Excise

As noted, the second component of heavy vehicle road charges is a notional part of the diesel fuel excise. The charge has a legislative basis. Schedule 1 of the National Road Transport Commission Act 1991 defines road use charge as:

… a charge equal to the part of the diesel fuel tax levied by the Commonwealth for the use of a Vehicle on a road being the part fixed by the National Commission from time to time, in accordance with this Agreement.

The notional amount is now 18 cents per litre. The NRTC has proposed that the notional charge rise to 20 cents, and the Bills introduced into Parliament on 8 March 2000 by the Minister for Transport and Regional Services, the Hon. J Anderson, seek to give effect to the NRTC's proposal. The 20 cents that the NRTC proposes as the revised notional charge is the same as the effective rate of diesel fuel excise under the A New Tax System (ANTS) reforms.

The appropriateness of the NRTC's attribution of part of the diesel fuel excise towards road use charges depends on whether the diesel fuel excise is seen as a general revenue-raising tax or as a specific revenue-raising tax. For if the excise is the former, it could be argued that a cost recovery charge additional to the diesel fuel excise should apply to road freight transport. In short, road freight is undercharged. Moreover, if the excise is a specific tax, the rail industry should not have to pay it since the industry is a not a road user. As the Productivity Commission noted:

If the excise is considered to be a general-purpose tax, heavy vehicle charges will require adjustment. Alternatively, if it were considered to be a road usage charge (that is, a specific-purpose tax), the excise would apply only to road users and heavy vehicles would attract a rate of 18 cents a litre.

The lack of clarity over the purpose of the diesel fuel excise lies in its origins and subsequent decisions. When the excise was introduced in 1957, the proceeds were earmarked (hypothesized) to spending on roads. Because the excise was aimed at road users, off-road use was exempt. Under the Diesel Fuel Rebate Scheme, eligible applicants can claim a rebate of the excise on diesel used off-road.

But links between the amount of revenue raised by the excise and road spending have become increasingly attenuated. The effective discontinuation of hypothecation and the extension of the excise to include non-road use in rail and sea transport suggest that the original purpose of the excise has changed. Indeed, it can be argued that successive governments have increasingly viewed diesel fuel excise as simply another form of revenue. The Minister for Transport and Regional Services, the Hon. John Anderson, considers fuel excise to be a source of general revenue:

While on the question of changes to fuel taxes, it is important to point out that the Federal Government does not consider diesel fuel excise to be a road user charge.
Fuel taxes and the revenue they generate have no correlation to the amount of funds provided either to states or nationally for roads. Fuel excise today is a source of general revenue, just like income and other taxes.\textsuperscript{25}

Whatever its purpose, in the absence of alternative mechanisms—such as tolls—to charge for road use, the diesel excise is, nevertheless, a proxy for the cost of road use in that the total amount of excise a user pays is related to distance travelled and vehicle weight through fuel consumption, and hence to wear and tear on roads.

**Rail**

**Access Charges**

As with road, the main issue is whether charges for access to infrastructure reflect the cost to society of its use. (A brief outline of how rail operators can gain access to rail facilities is in Box 2.) Damage to rail infrastructure depends mainly on the type of track, train weight and distance travelled.\textsuperscript{26} The Australian Rail Track Corporation—which was created after the Commonwealth and State governments agreed in 1997 to form a 'one stop' shop for operators seeking access to the national interstate rail network—imposes access charges. Operators pay a two-part charge. The first element is a fixed component known as the flagfall and is, in effect, a charge for occupying capacity on the network regardless of the size of the train. The second charge is a mass distance charge based on the gross tonnage of the train multiplied by the distance travelled.

The access charges that State rail authorities levy differ across jurisdictions and are complicated. The NSW access regime, for example, has separate pricing principles for 'general usage' and coal freight. General usage access prices are negotiated between 'floor' and 'ceiling' prices. In the case of coal freight, on some routes the access price is negotiated as for general usage while on others, the access price is an adjusted ceiling price. By contrast, in Victoria, negotiation does not seem to be limited by defined floor and ceiling prices.\textsuperscript{27}

Controlling for mass and distance, rail access charges greatly exceed road user charges. This has led to claims that differentials in access charges confer a competitive advantage to road transport.\textsuperscript{28} But just as there is no reason the total amount of revenue raised by taxes and charges should be the same for all modes, there is no reason that access charges should be the same for all modes.\textsuperscript{29} Still, the disparity between access charges for rail and road led the Productivity Commission to comment that the differences warrant a closer look at the current methods of charging for access in both rail and road networks, an issue yet to be taken up.\textsuperscript{30} It is not possible to determine whether State rail access charges reflect the cost to society for the use of infrastructure since the basis on which State rail authorities calculate their charges is opaque. Indeed, private railway operators have
complained of unfair competitive practices by government-owned railways including predatory pricing.31

Box 2: Rail Access Regimes32

Rail operators can seek access to rail facilities through private arrangements, and through formal mechanisms such as provisions under the National Access Regime contained in Part IIIA of the Trade Practices Act 1974 and provisions under State regimes.

**National Access Regime.** The NAR was established under the National Competition Policy agreed between the Commonwealth and States in 1995. Under the Regime, a party can gain access to infrastructure in one of three ways:

- by requesting that the National Competition Council recommend that the Minister 'declare' an infrastructure service. If declared, the infrastructure owner and the party seeking access must negotiate to try to reach agreement on the terms of access
- by means of a legal undertaking made by the infrastructure owner, and approved by the Australian Competition and Consumer Commission
- by seeking access through an 'effective' State access regime.

**Australian Rail Track Corporation.** The ARTC is a Federally-owned rail infrastructure agency, which began operations on 1 July 1998. Its creation was the outcome of negotiations between the Commonwealth and the States that sought to establish a 'one stop shop' service to rail users on the interstate network between Perth, Alice Springs, Adelaide, Melbourne, Sydney and Brisbane. The agreement envisaged that each State track authority yield sale of access rights to the ARTC and that common access terms and conditions would apply across the entire network.

**State Access Regimes.** Each jurisdiction is developing or has developed a rail access regime. Some regimes apply to infrastructure generally while others apply only to rail. The National Competition Council has to certify the regimes but so far has certified only the NSW regime. For State access regimes to work effectively, all actual and potential operators should face the same access terms and conditions. This can only be achieved if ownership of the rail network is separate from operations since, otherwise, conflicts of interest may arise. NSW has gone farthest in 'vertically separating' its rail functions, that is, separating track infrastructure from train operations. By contrast, Queensland Rail is still vertically integrated.

**Diesel Fuel Excise**

The agreement—reached in May 1999 between the Government and the Australian Democrats—extended a full diesel fuel excise credit to rail transport. Without this, rail's competitive position relative to road transport would be worse. The credit is consistent with the Diesel Fuel Rebate Scheme in that the excise will not apply to off-road use. But if the diesel fuel excise is a general revenue tax, the principle that taxes should apply consistently across all modes requires that all diesel users—including the rail freight industry—pay the full amount of the excise.
Externalities

A feature of transport is that no explicit levies are imposed on operators to offset the non-financial costs that they impose on the community, that is, negative externalities. While estimation of the cost of externalities is inherently difficult, the cost is considerable. The Bureau of Transport Economics estimated that traffic congestion in major Australian cities costs in the order of $12.8 billion yearly, of which only part is attributable to heavy trucks. The trucking industry claims that the cost of rail externalities such as noise and accidents is underestimated. Still, it seems likely that the cost of heavy road freight externalities exceeds that of rail. The Bureau of Transport Economics estimated that (on a net tonne kilometre basis), the cost of road externalities is in the order of seven times the cost of rail externalities for interstate non-bulk freight transport. Road accident costs are the main reason for the disparity in the cost of externalities.

Tax Reform

The changes to the taxation system in the A New Tax System (ANTS) package and the agreement between the Government and the Australian Democrats will affect the relative competitiveness of rail and road transport. The changes are:

- a reduction in the rate of diesel excise
- grants for the on-road use of diesel under the Diesel and Alternative Fuels Grants Scheme (DAFGS) for transport in regional areas, and
- the extension of a full diesel fuel excise credit to rail transport under the Diesel Fuel Rebate Scheme discussed above.

In addition to the above, businesses will be able to claim the GST on purchases of diesel and other inputs as an input tax credit.

Road and rail transport costs will fall because of the reduction in the rate of diesel excise. Some road transport businesses will also benefit from the DAFGS, which will come into effect on 1 July 2000. Under this scheme, grants will be paid for the business-related on-road use of diesel and like fuels (and alternative fuels) to all vehicles over 20 tonnes gross vehicle mass (GVM), and to vehicles weighting between 4.5 and 20 tonnes GVM that undertake operations in regional areas. While rail transport costs will fall because of the extension of the full diesel excise credit, the DAFGS scheme will partly offset this gain for rail transport in regional areas.

Studies of the effects of the ANTS package on transport have concluded that the reforms will deliver greater benefits to road than to rail transport. A Bureau of Transport Economics study found:
If the Commonwealth's new tax system (ANTS), and associated legislation such as the Diesel and Alternative Fuels Grants Scheme Bill 1999, had been in place in 1998–99, average input costs for interstate non-bulk rail and interstate non-bulk road [transport] would have been 8 per cent and 15 per cent lower, respectively, than actual average input costs in 1998–99. If such changes in costs were reflected in freight rates, then growth in road's share of interstate non-bulk freight would increase marginally at the expense of rail's share.36

Competitive Neutrality

The Bureau of Transport Economics also concluded that even after the tax reforms are implemented, charges and taxes would not be competitively neutral between road and rail:37

If both road and rail paid more competitively neutral charges, including charges for externalities, in a system designed to fully recover costs from users, road freight rates would rise by 12 per cent and rail rates would increase by about 4 per cent relative to the post-ANTS situation. The net effect of introduction of ANTS and associated legislation, in conjunction with a hypothetical shift to more competitively neutral charges, would see both road and rail input costs fall by 5 per cent relative to actual costs in 1998-99. With no change in relative input costs, and in the absence of a solution to some of rail's logistical difficulties relative to road, the long-term decline in rail's share of the freight market is unlikely to change.38

The main changes needed to achieve competitive neutrality are to impose charges on heavy vehicles that more fully reflect the cost of their use of roads, and to ensure that both rail and road face the full cost of externalities.39

The consequences of the tax reforms and the hypothetical move to competitive neutrality are summarised in Table 1 (where the reference point is the pre-tax reform situation where road and rail charges are set equal to 100).

Table 1: Impact of ANTS and Competitive Neutrality on Road and Rail Costs

<table>
<thead>
<tr>
<th></th>
<th>Rail</th>
<th>Road</th>
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</thead>
<tbody>
<tr>
<td>Current pre-ANTS</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Post-ANTS</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td>Competitive neutrality</td>
<td>95</td>
<td>95</td>
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The Australian Trucking Association (ATA) has challenged the Bureau of Transport Economics' (BTE) conclusions. A study prepared for the ATA claims that the BTE overestimated the possible decline in freight rates:
The analysis … suggests that the net effect of the simultaneous removal of the [wholesale sales tax] and its replacement with the GST would see the GST inclusive price of trucking services fall by only one per cent. 40

Moreover, when other factors—such as the rise in diesel prices resulting from the rise in world oil prices and other input costs—are taken into account, even the one per cent fall could be swamped by these factors, even possibly justifying a rise in freight rates.

The Australian Competition and Consumer Commission (ACCC) has, in turn, contested the findings of the ATA study. The ACCC concluded:

On initial review of the report, the ACCC is concerned that the ATA report heavily down-plays the effect of the substantial reduction in fuel prices due to the New Tax System and over-states the effect of the cost increases that have been occurring for some time …[and]… [t]he ATA's report's consideration of cost increases in based on a limited sample and has made assumptions, about margins in particular, that may or may not be accurate.41

Response to Rail and Road Reports

On 13 April 2000, the Government responded to three reports containing recommendations on road and rail transport.42 The reports are:

- Tracking Australia. An inquiry into the role of rail in the national transport network, prepared by the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform and released in August 1998 (the Neville report)
- Revitalising Rail. The private sector solution, prepared by the Rail Projects Taskforce and released in May 1999 (the Smorgon report) and
- Progress in Rail Reform, prepared by the Productivity Commission and published in August 1999.

With respect to competitive neutrality between rail and road, the Neville report recommended that:

The Commonwealth develops a more consistent, equitable approach to transport infrastructure to ensure competitive neutrality between modes.43

The Smorgon report recommended:

Governments develop an appropriate framework for private and public sector investment that includes efficient taxing and charging regimes and competitive neutrality between government agencies and the private sector.44
The Productivity Commission recommended that:

The National Road Transport Commission should prepare—and recommend to the Ministerial Council for Road Transport for adoption—a revised schedule of heavy vehicle charges which ensures that each class of vehicle pays the full cost of its road use.\textsuperscript{45}

As noted, the NRTC’s proposed changes to heavy vehicle charges aim to overcome under-recovery of costs of the heaviest vehicles. But the Government’s response does not contain specific proposals to implement the recommendations of the Neville and Smorgon reports.

The Smorgon report also recommended:

Rail operators to be treated like other ‘off road’ diesel users for the purposes of fuel taxation.\textsuperscript{46}

As noted, in the agreement with the Australian Democrats, the Government agreed to the full exemption of rail from the diesel fuel excise.

The Productivity Commission also recommended that:

The Commonwealth Government should establish a public inquiry into road provision in Australia. This inquiry should examine:

- road transport planning processes;
- methods of investment appraisal (including the evaluation and allocation of costs and benefits);
- funding arrangements (including taxation, charges and grants);
- the scope to improve road pricing; and
- current institutional arrangements and alternatives.\textsuperscript{47}

The Government did not accept this recommendation. Among the reasons given were that the Government does not see the need for another public inquiry into road provision; institutional arrangements for road provision are adequate; and current methods of investment appraisal allow the Commonwealth to ensure the national highway system keeps pace with demand and is appropriately maintained.

**Conclusions**

It is clear that, in practice, charges and taxes on rail and road freight depart from the principles of economic efficiency. In part, this is attributable to practical difficulties in
designing taxes and charges that conform to those principles as well as to conceptual difficulties, such as estimating optimal levels of externalities and in devising levies to reduce externalities to those levels. Moreover, the Bureau of Transport Economics analysis indicates that even after the introduction of the tax reforms, charges and taxes will not be competitively neutral between rail and road. The Bills to amend heavy vehicle charges will go some way to remedying this situation. This leaves road transport externalities as the main factor behind the lack of neutrality.

It is unlikely that the diesel fuel excise is intended to take account of externalities. Even if it were, the excise would be too low in metropolitan areas. A study by Austroads concluded:

The effective diesel charge of about 18.48 cents per litre under the proposed tax reform is seen to be a reasonable estimate of the economic road user charge in rural areas. However, it could lead to undercharging in large metropolitan areas, where externalities from road transport are likely to be high. One option to overcome this problem could be by establishing an effective form of road pricing in the most congested areas of our metropolitan areas.49

This assumes that a notional part of the diesel excise is a road use charge but, as noted, the economic basis of the charge is questionable.

The issue of road pricing is beyond the scope of this paper. But it is clear that road prices which reflect full economic costs, would improve resource allocation.

Finally it should be remembered that taxes and charges are only one aspect of government policies affecting competitive neutrality between rail and road transport. Other areas are infrastructure investment arrangements, access regimes, safety regulation and operating procedures and standards.50 Indeed, some of these areas, particularly infrastructure funding and investment arrangements, may be more important than charges and taxes in trying to attain competitive neutrality. Competitive neutrality of charges and taxes alone would, therefore, still not resolve the issue of whether government policies advantage or disadvantage one mode relative to the other.

Endnotes


4. This paper does not deal with the legal distinction between charges and taxes.


8. For a discussion of these issues, see Productivity Commission, Progress in Rail Reform, Inquiry Report No. 6, 5 August 1999, pp. 231–243.

9. See, for example, Riding the Waves of Change. A Report of the Senate Select Committee on the Socio-economic Consequences of the National Competition Policy, February 2000, pp. 129–130.


11. An optimal level of, say, air pollution does not mean no air pollution. Rather, the optimal level is where the social marginal cost of reducing pollution equals the marginal social benefit of undertaking the economic activity. See Bureau of Transport and Communications Economics, Externalities in the Transport Sector, Information sheet 10.1, January 1998.

12. An example of attempted compensation is where aircraft movements are subject to a noise levy, the proceeds of which are used to insulate buildings affected by the noise. Such arrangements apply at a number of Australian capital city airports.


14. ibid.


17. Heavy vehicles are those of more than 4.5 tonnes gross vehicle mass.


21. The Bills are the *Road Transport Charges (Australian Capital Territory) Amendment Bill 2000*, the *Interstate Road Transport Charge Amendment Bill 2000* and the *Interstate Road Transport Amendment Bill 2000*.

22. The ANTS package proposed that the effective rate of diesel excise would fall to 18 cents but this was raised to 20 cents in the agreement between the Government and the Australian Democrats.


29. ibid., p. 213.

30. ibid., p. 246.

31. Rail Projects Taskforce, op. cit., p. 35.

32. For a fuller description of access regimes, see ibid., appendix F.


37. The Bureau restricted its analysis to interstate non-bulk road and rail freight transport, the main area of competition between road and rail. The Bureau's analysis is based on a 'representative' route with an 'average' road freight haul of 1125 kilometres, and an 'average' rail freight route of 1200 kilometres.

39. Ibid., p. 31.
44. Recommendation 4, p. ix.
45. Productivity Commission, Progress in Rail Reform, Report No. 6, op. cit., p. 249.
47. Productivity Commission, Progress in Rail Reform, Report No. 6, op. cit., p. 260.
48. See footnote 22.