User Charges on Road Use in Australia

Presentation to Road Safety Committee

Parliament of Victoria

Harry Clarke

La Trobe University

March 2010

Background

- Report (with David Prentice) to *Australia's Future Tax System Review.* Online here.

- Examined taxes/charges on road transport & how such revenues are spent.

Main issues

- Current excises on fuels, vehicles, drivers.
- User charges - congestion, road damages, insurance for traffic accidents etc.

Main policy contentions

- Possibility of swapping user charges for current taxes & charges.
- Supply issues – case for hypothecating user charges to road supply/maintenance.

Australia

- Large country, sparse average population density but highly urbanized.
- Issues of getting raw materials & people around nation.
- Congestion in eastern seaboard cities.

Road transport sector is a big…….

- user of public resources ($12.2b in 05/06).
- generator of revenues ($10b in fuel excises in 2005).
- source of external costs ($9.4b on 05/06).

Status quo

- Now road costs *more than* met by current charges.
- Payments don’t reflect particular costs generated.

e.g. …..

- Registration charges – scaled to reflect road damages but not distances travelled or specific road durabilities.
- Fuel excises don’t reflect congestion or road damage costs.

Reform possibility

- Should current ***two-part tariff charges*** (rego, fuel excises) be replaced by targeted user charges?

Motivation

- Get cost-economising behaviour not just cost-recovery – **efficiency dividend**.

- (further) Basing road supply decisions on user costs can lead to demand-responsive supply decisions.

1. Fuel excises

- Australian fuel use demands are ***very*** price unresponsive (elasticity $\approx$ -0.23).
- Productive use of fuels is (correctly) not taxed.
- Given low price responsiveness, fuels might be taxed *irrespective* of arguments for using them as 'user charge' proxies.

Model

If we did want excises on fuel to yield revenue & as a proxy for environmental charges.

- Optimal tax $1-99 /litre, $1.51 reflecting tax-gathering & environmental proxy of 48c > current tax 38c.
- Case for excise *irrespective of* environment arguments.
- Also - low collection costs , low evasion possibilities

Thus….

- While we support user charging we don't suggest this *necessarily* be 'balanced' by cuts in fuel excise –not appropriate if a strong revenue role for this excise.

- Might seek cut in **other** revenue-raising taxes.

2. Other car/fuel taxes

- **Concessionary taxes** on alternative fuels need to be justified – they would **never** be zero.
- **Luxury car tax** yields small DWLs but no sensible efficiency arguments for retaining it.
- Abolish 10% **tariff** on imported cars.

3. User charges - congestion

- Endorse arguments for congestion pricing.
- Increased focus by analysts on bottleneck congestion & role of heterogeneous travel.
- Key issue: Comprehensive or partial reforms?

Congestion pricing

- **Comprehensive** – electronic pricing based on GPS or gantries. Feasible now.
- **Partial** reforms – cordon pricing of CBDs plus pricing of major ring-roads & arterials.
- **Evaluation** – costs of providing technology, public acceptability & ‘second-best’ issues.

A case for waiting, doing something big?

- **Not for doing nothing now -** 'pick low hanging fruit' – use cheap partial reforms (limited pricing, parking policies) & then jump to comprehensive electronic pricing.

- Costs of partial reforms (e.g. London pricing scheme) high & higher in Australia. Second-best costs also.

Can learn.....

- From London, Stockholm & Singapore schemes.
- From trials in Netherlands.
- Be hard-headed about technology choices.

Digression - Telematics

- Probably premature to endorse use of in-vehicle boxes with GPS capabilities.
- But useful - commercial & regulatory applications.

4. User charges - parking

- An underutilised **interim policy** with high acceptability.
- Get rid of subsidised on-street parking. Price parking spots so an average 15% vacancy rate.

5. User charges – GGEs

- Petrol excises accurately reflect GGEs.
- But no need for *particular* tax if have an ETS.
- \$20/tonne $CO_2 \approx$ 5 cent charge/litre on unleaded petrol. Negligible.

6. User charges : Vibration/noise costs

- Location-specific.
- Best dealt with by regulation.

7. User charges – traffic accidents

- 70% of traffic accidents involve another vehicle.
- If average damage per vehicle is D social damage is 1.7*D – an unpaid external cost.

Internalising accident externalities

- Charge insurance using driver characteristics & **distance travelled**. Charge 2-6 cents/km.

- Becoming a commercial reality.

Accident externalities

- Hypothesis - collisions increase with traffic density.
- Little work done in Australia.

8. Road damages

- Currently damages recouped inefficiently.
- COAG proposal to change this so mass-distance-location pricing occurs.

User charges – road damages

- Technology of pricing *loaded weight* – resolved but expensive transaction costs?
- Interim policy of ‘incremental pricing’ – can use low durability roads if pay extra fees.

9. Matching up with supply reforms

- User charges can be linked to supply decisions.
- Current road plans divorced from economics – driven by engineering & safety.

…role for **economists** (& engineers)

- e.g. Small & Winston (1988) show switching to optimal road durability on US interstates cuts maintenance costs 40%.

What is sought?

- Road design optimising present value of roads as capital assets.
- Need to account for CSO's & indivisibilities.

Commercialisation methodology

- Efficient charges forecast using projected demands by user type.
- These return costs with appropriate return on capital.

Critique

- Problems with cost-recovery if road use uneven (& indivisibilities, CSOs).
- Roads often local monopolies so difficult regulatory issues.

Conclusions

- A case for shifting to user charges on roads. Independent of case for excises on fuel.
- The big agenda is to link revenues from these charges with efficient road provision.

Conclusions – political economy

- Need courageous politicians of the type who implemented tariff reforms.
- Economists are now focusing on political economy issues – trials, alternatives, sweeteners, electoral cycles....this is useful.

Thank you.