# THE PURPOSE OF ECONOMIC ACTIVITY

- To satisfy wants at least cost – consumption is the sole end and purpose of production (J B Say)
- Profit maximization is only virtuous as a means to this end
- In competitive markets, super-normal profits are competed away
- Only a normal risk-adjusted return to capital is left
- In monopoly markets this does not work
- You can charge what the market will bear
- The capitalized value of the monopoly may far exceed the value of capital sunk into it.

# THE GOLDEN RULE

- Price =Short Run Marginal Cost (SRMC)
- The intuition: if it costs me little or nothing to let you use something and you are willing to pay that, we are both better off and society is better off
- Past costs are irrelevant – bygones are bygones
- Dupuit, Hotelling, Vickrey

# OBJECTIONS TO SHORT RUN MARGINAL COST PRICING

- Frank Knight – the access deficit problem
- Infrastructure may be built which society is not willing to pay for
- P=SRMC may be right once something exists, but at that price no one will ever build any lumpy infrastructure

# REPLY TO THE OBJECTIONS

- Hotelling: better to let the railroad go bankrupt and be re-organized
- Vickrey: the envelope theorem; if capacity is optimal there won’t be an access deficit
- Hotelling: scarcity rents are part of SRMC
- Vickrey: so let them go into an escrow fund to finance new infrastructure rather thn let the monopolist earn super-normal profits
- The Knight approach means that rather than building white elephants, the “every tub must sit on its own bottom” user pays philosophy may mean useful and desired infrastructure never gets built (the Sydney Harbour Bridge would never have been built on a “user pays” requirement)

# THE AUSTRALIAN REPLY

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- Infrastructure priced at SRMC adds value to lands serviced, so rate the land values to recover the access deficit which will be reflected in external benefits conferred on land
- If the project is socially worthwhile the added land values will reflect that, if not land value increases won't exceed the cost
- Rating by bodies elected by landholders and consumers can solve the monopoly problem by ensuring P=SRMC while landholders will resist unwarranted projects since they will have to meet the capital costs.
- Capital costs can be met by loans paid off over the life of the infrastructure through annual land rates
- Users can enjoy SRMC for use while landholders spread the capital cost over successive landholder beneficiaries

# THE PRIVATIZED OR CORPORATIZED INFRASTRUCTURE PROVIDER

- The US and UK first had franchised corporations provide infrastructure such as railways
- These cannot levy a rate on land values  to recover value added
- Without a first best solution such as rates, they must recover all costs from user charges and ignore beneficiaries such as landholders
- But they won't invest without a guarantee of return on capital invested
- Yet trying to recover all costs from users alone may mean projects are not financially viable even if cost-benefit analysis shows they are socially worthwhile
- Curiously, the US gave land grants to railways to give them an incentive to lay the tracks (but land was later sold and the tracks neglected)

# SECOND BEST SOLUTIONS

1. A uniform mark-up on SRMC to recover the access deficit
2. Ramsey pricing (charge the least elastic users more to recover)
3. Two-part tariffs
4. A combination of the above with CSO subsidies

- Note that CSOs funded through user charges amount to a disguised off-Budget tax-transfer scheme
- Ordinary users of water, electricity or phones paying for pensioners. Another example - motorists paying for roads and financing bicycle lanes.
- "User pays" in a world of monopoly infrastructure is not like "user pays" in competitive markets. As Vickrey realized it is a political game of dumping the fixed costs on some users.

# WHAT IS A TAX?

- When is a price a tax?
- An ordinary person may say: When you are charged more than what something is worth and you have no choice about whether you want use what is sold, as in a statutory licence requirement or monopoly infrastructure
- An economist may say: a price above SRMC charged by a government or a monopoly is effectively a tax
- The deadweight loss analysis is just the same
- It does not matter whether it is the government or a licensed monopoly holder levying the charge, if price is kept above SRMC, we are looking at all the efficiency costs of a tax

# THE COURTS ARE MORE GENEROUS

- When it comes to regulation of private infrastructure the Courts are more generous than economic theorists
- The Courts cannot compute SRMC
- The Legislatures recognize that no one will invest unless they can recover their capital and operating costs and few Legislatures have often not seen fit to allow those costs to be recovered from persons other than immediate users
- In the US, rate regulation evolved against a Constitutional prohibition against unjust acquisition of property
- In the US, UK and Australia the Courts would all allow a price which recovered costs plus a reasonable return on capital.
- A price is not a tax if it represents reasonable cost recovery including a fair return on capital invested.

# WHAT IS CAPITAL? WHAT IS INVESTMENT?

- BUT “Capital” is a word of many meanings.
- When we talk about a return on capital, does “capital” mean or include -
    - the money actually invested in the physical assets by the infrastructure owner or his predecessors in title?
    - the value of the monopoly business as a going concern?
    - the physical infrastructure assets valued somehow?
    - the value of statutory monopoly rights such as easements?
- When we talk about investing, do we mean –
    - creating physical capital?
    - buying physical capital someone else has created?
    - buying all the assets of a business, including goodwill

# THE COURTS AND CAPITAL – USA

- The US Courts at first allowed depreciated replacement cost (DRC) of the physical capital (Smyth v Ames)
- But after WW I, this lead to windfall profits for the infrastructure owners.
- DRC created hypothetical accounting conundrums. Should a railway get a return on the value of its rights of way valued today as city lots when it had been given those lands free by the State to help build the city? (*Minnesota Rates cases*)
- In *Southwestern Bell* Justice Brandeis argued for a return on capital invested as a fund of money. This was taken up in *Hope Natural Gas*
- Thus the US Courts now held that capital means depreciated actual cost (DAC) in cash of the plant and equipment, land etc.

# THE COURTS AND CAPITAL – USA

- DAC means infrastructure owners cannot claim a return on –
  - costs already recovered from consumers or written off
  - hypothetical replacement costs
  - the value of the statutory franchise or monopoly right
- Price may still be above SRMC but the gradual write off of the invested capital base means you eventually get to SRMC
- Infrastructure owners can never write up the actual amount actually invested, for example, on a change of ownership

# EFFICIENCY OBJECTIONS TO DAC

- DAC raises efficiency questions.
- As Harry Gunnison Brown recognized, an old train line may only be allowed to charge on a low historic DAC while a new competitor must charge on its new and higher DAC.  The traffic will congest on the old line, even though the new line may be more efficient.
- The argument for DRC was based on this idea that efficiency meant one must look at what investment a hypothetical new entrant would have to make now (not when he entered).
- But charging on this basis gives a windfall rent to the old train line owner and his price forever diverges upwards from SRMC.  His capital never becomes "sunk"
- We lose the fundamental intuition that in economics, "bygones should become bygones" and none of the windfall rent goes to call forth new supply.

# THE COURTS AND CAPITAL – UK

- In late nineteenth century through to the 1930s, the House of Lords and Privy Council had to consider the valuation of the capital of public utilities from time to time.
- In those days, public authorities were acquiring infrastructure from private owners, not selling it to the private sector.
- In the 1894 Edinburgh Tramways case, the House of Lords held that the private company should get back the depreciated replacement cost of its physical assets taken over but nothing for the value of its tramway rights. Scrap value was not fair. But the rights of way were declared not to be private rights or capital assets but rights granted by the public for the public benefit and not to be treated as part of the owner's capital investment or assets.
- This case was applied in the Melbourne Tramways case after WW I when Melbourne's tramways were taken over by the city.

# THE COURTS AND CAPITAL – UK

- Thus the UK Courts differed with the US by persisting with depreciated replacement cost.  This may make some sense in that they were looking at value for compensation purposes not for regulatory rate setting purposes.
- But both the US and UK Court rejected any idea that the capital invested in the business should include any concept of the "franchise value" of the monopoly right.  They both recognized that amounted to reasoning in a circle to give a return on an investment that had never been made.
- However, these old cases were swept aside by the British privatizations which allowed rates of return based on hypothetical replacement cost and, even worse, allowed the price paid for a privatized franchise such as Thames Water to become evidence of its capital base.

# THE COURTS AND CAPITAL – AUSTRALIA

- Influenced by recent British ideas on privatization, and paying no heed to the earlier and cautionary US experience, Australia embraced the idea of depreciated optimized replacement cost (DORC) as the measure of capital on which an infrastructure owner should be allowed a return. In some cases the price paid for or placed upon a monopoly's assets could be treated as its capital base.
- Thus in the *Airservices Australia* case, the High Court was led, in my opinion, into serious economic error by some expert evidence.
- The Court accepted that the Government could commercialize *Airservices* by simply placing a value on its capital assets and that *Airservices* was entitled to charge prices which gave it a rate of return on that dictated value.

# THE COURTS AND CAPITAL – AUSTRALIA

- When one considers that taxpayers from the 1920s had paid for all of *Airservices*' assets, one might have thought the opening capital cost base of should have been nil and that *Airservices* would only be allowed to charge on any new capital investment it made.
- Further, the Court went on to bless discriminatory Ramsey pricing to allow *Airservices* to recover a return on this fictitious capital base.
- The challenge in *Airservices* had been mounted on the basis that the authority was, in effect, imposing taxes on users. An economist who thinks that price should equal short run marginal cost would have supported that view.
- The example of *Airservices* has been repeated across the country in water, electricity, gas and other areas.

# THE COURTS AND CAPITAL – AUSTRALIA

- In the *East Australia Pipeline* case, the High Court also allowed an asset value write-up so that the gas pipeline owner could charge more on a notional DORC figure for capital. Yet the owner had purchased the pipeline on the basis that it would be subject to a regulatory regime in favour of the consumers.
- The upshot is that gas consumers are being charged a rate of return on an asset valued at much more than it cost to build. This pushes gas pricing up and away from SRMC.
- In the *ElectraNet* application, the Australian Competition Tribunal declined to examine historic authorities and assumed the legislation and economic efficiency required a DORC valuation of the business' assets and that those assets should include easements, whether purchased or granted by the State.

# THE COURTS AND CAPITAL – AUSTRALIA

- To be fair to the Courts, Governments have privatized assets and drafted enabling legislation which often appears to equate economic efficiency with full cost recovery of notional replacement costs.
- But, given the importance of Constitutional requirements regarding taxation and duties of excise, one might have thought the Courts would be more rigorous in insisting that prices reflect actual capital invested rather than notional and made-up valuations.
- How would the Courts deal with a Government corporation which owned all the roads and footpaths and decided on charging arbitrary fees to pedestrians and motorists on the basis that charging what you like for what you own is not a tax?

# THE UPSHOT

- The net effect of regulatory and judicial practice and precedent in Australia may be summarized thus-
- We no longer have ratepayer funded infrastructure where a public authority would recover capital costs from ratepayers and only charge marginal operating costs to users.
- Utilities are permitted to charge users on the basis that their prices should recover –
- the replacement cost of their assets and statutory rights (even if nothing had ever been paid for those assets and even if those costs had previously been recovered by charges long ago); and
- the replacement cost can be revalued forever upwards with inflation.
- Professor Bob Walker observed there are not many businesses where assets are given to you by taxpayers and consumers and you can then demand a return on money you never outlaid.

# THE UPSHOT

- Pricing in such a manner represents a huge divergence for optimal marginal cost pricing and a major imposition on Australian industry and consumers.
- It adds to incentives for manufacturing to relocate offshore.

# TAX FARMING

- Why was it done? Surely the Treasury economists understood that a price above SRMC creates a deadweight loss as a tax? Surely they realized ratepayer funding from rating land values involved no excess burden and would recapture external benefits from public investment?
- But Governments wanted to create new sources of revenue which they could pretend were not taxes. Cost recovery and privatization offered money. Merchant bankers and law firms made lots of money doing the privatization sales. Investors wanted secure monopoly income streams.
- It made sense then for governments to allow lax pricing principles for corporatized or privatized monopolies. Pricing at marginal cost may mean losses whereas pricing on the basis of fictional costs which you can pass on as a monopoly means handsome cashflows.

# TAX FARMING

- Even better, you can choose not to invest (knowing no one else can) and thereby increase the scarcity value your existing monopoly can charge.  ACT water supply has been an excellent case example of pricing abuses against consumers. The ACT Government has recently pleaded in the Federal Court that it owns all the water in the Territory and charge whatever in likes and that is not a tax.
- There is nothing that dissimilar in all this to what was practised by the French Government prior to 1789 when the French Crown obtained large sums of money by selling to merchants the right to collect revenues from the statutory salt monopolies in the provinces.
- Let us hope that the adage *Apres nous la deluge* does not apply to an Australian economy entering a world depression and burdened by huge hidden and privatized infrastructure taxes.