On profits and funding the access deficit

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The Commission, profits taxes and the access deficit

The Australian Competition and Consumer Commission (the "Commission"), in a response to the Productivity Commission's draft report entitled *Telecommunications Competition Regulation* and dated March 2001 (the "Commission's response"),[1] appears to suggest that regulated access charges for Telstra Corporation Limited ("Telstra") may be set below cost *so long as the firm remains profitable*[2] overall. This amounts to funding the access deficit through a firm-specific profits tax.

The Commission's response notes that, in judging the level of access prices, "it is important to consider the overall financial position of Telstra and, in particular, the profitability of the PSTN".[3] The Commission goes on to argue that, over 1999-2000, Telstra made positive profits in the supply of PSTN services.[4] While not drawn out, the implication seems to be that, even if the Commission has set PSTN access prices at levels that do not allow Telstra to recover the costs it incurs in providing access, this is legitimate so long as Telstra continues to earn profits on PSTN services overall.

When PSTN access prices are set below cost, a loss on the supply of these PSTN inputs is necessarily incurred. Telstra bears these costs. If such losses are considered of no concern when they can be recouped through the supply of other PSTN services *by Telstra*, then the

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1 **Australian Competition and Consumer Commission, Response to the Productivity Commission Draft Report, Telecommunications Competition Regulation, June 2001.**

2 **Throughout, profit and its derivatives refer to economic profit; excess profit refers to positive economic profit; and monopoly profit refers to positive economic profit earned by the exercise of market power (a firm may earn monopoly profit without being a monopolist).**

3 **Commission's response, section 3.6 (page 23).**

4 **See Box 3.1 at page 29 of the Commission's response. As an aside, it is worth noting that the Commission's cost estimates in that box seem to rely on assumptions that are systematically low.**

recovery of these losses amounts to a profits tax solely levied on Telstra. Telstra can only attempt to recover the losses through a corresponding setting of prices of PSTN services which are not regulated. In other words, Telstra must make profits on the unregulated services to recover these costs, in effect applying a tax to these profits for the purpose of subsidising its access deficit. Moreover, Telstra is the only firm that must do this to maintain overall profitability. That is, Telstra's profits on unregulated services are expected to be used to pay for the access deficit in what is essentially a profits tax levied on Telstra alone.

Taxing profits: a summary

This note considers whether a profits tax can sensibly be applied to telecommunications markets as a means of funding the access deficit. It finds that any profits tax:

- ought to be uniformly applied over all firms, but ideally should account for impact on product and firm demand, rather than being focussed on excess profits;
- raises a number of implementation difficulties that make it unlikely that such a tax will be efficient compared with other tax alternatives;
- has no justification in an effectively competitive market;
- carries high risks of distorting economically efficient entry to the market and investment decisions (particularly where the market's underlying structure is not stable and/or in disequilibrium); and
- carries some risk of distorting competitive outcomes - even in a market that is structurally stable.

It is helpful to first consider the idea of a profits tax in the broad, and then examine the consequences of such a tax in the three circumstances that reasonably characterise all the possible market configurations of the supply of PSTN services.

Taxing profits: general theory

Competitive neutrality implies that any tax (whether on any combination of profits, revenues, call minutes, calls subscribers and so forth) should be applied equally to all carriers. A tax that treats different carriers differently, such as that implied by the Commission's response outlined above, can only distort competitive outcomes, reducing economic efficiency. The most extreme version of this would be a tax that was founded only on the excess profits of a single provider. This is a violation of a basic tax maxim: that taxes should be as broadly-based as possible and should not favour one firm or product over another.[5] Yet this is what is implied by the Commission's response.

The reason it is inefficient to tax only one firm is clear and holds even when competitors make small profits. If a profits tax is imposed on one firm, the regulator can earn revenue more efficiently by substituting one dollar of revenue from the taxed firm with a dollar from an untaxed firm. Or more specifically, the distortion caused by raising an additional dollar through a firm-specific profits tax is likely to be very high compared with the efficiency costs of raising a dollar through a profits tax on an untaxed firm. Ideally, substitution of tax revenue should continue until the distortion of a dollar earned from each firm is identical. In practice, given the margin of error associated with estimating the efficiency loss of a unit of tax, this is likely well-approximated at the point where all firms are taxed at the same rate.[6]

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5 A basic implication of the Ramsey rule and the fundamental underpinning of the optimal tax literature. The only exception is the theoretical case where there are commodities for which demand is completely inelastic. Then, all taxes should be applied to those goods and none to any others. Of course, neither Telstra's profits nor demand for any of its services are completely inelastic to any tax.

6 Elsewhere, the Commission appears to support the view that taxes to recover the access deficit should be levied more broadly than on the access-supplier alone. For example, it has stated that the access deficit should be recovered equally from all traffic using the customer access network ("CAN"):

> "The Commission recognises that, to the extent there is an access deficit, it is more likely to be efficient to recover such a deficit through increasing line rental charges and connection charges (if possible under the price control arrangements). However, to the extent that is not possible, all calls using the Customer Access Network should contribute to any deficit on an equitable basis (i.e., the same contribution per call or per minute of the

A similar argument applies to a profits tax levied on a particular set of services or industry. Such a tax will necessarily distort consumption and investment choices in that narrow part of the economy as compared with the untaxed portion of the economy.

A tax on monopoly profits, however, can treat equals unequally (distort efficiency) even when applied to firms on the same basis. Put another way, "equally" must not be understood as equal treatment of profits, but rather as equal treatment of any good or service so that the distortion introduced by the tax does not lead to substitution between products.[7] A tax on profits does not do this. It taxes services and firms with high profit margins more than products and firms with low profit margins. Further, a profits tax will distort optimal investment incentives. For example, it may be that Telstra has developed a new low cost way of delivering a particular service (or of improving the service quality without increasing costs). As a result, it earns higher margins on that service than its rivals. However, a profits tax would reduce that margin discouraging investment in development of such improvements.

Adjusting a profits tax to account for such variations is not only difficult, which increases the prospect of regulatory error as outlined in the next paragraph, but begs the question of

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> use of the CAN)."

ACCC, 1999, Assessment of Telstra's Undertaking for Domestic PSTN Originating and Terminating Access, Draft Report, section 14.4.2.

And later in the same report (at section 14.4.4), principle 4:

> "The contribution of access seekers to the residential access deficit should be based on the number of successful calls of the access seeker. This contribution should be the same as the average per call contribution of all calls using the CAN. The total contribution of all calls should be just sufficient to fund the residential access deficit."

7 Strictly, this is not true. Optimal taxes vary according to elasticities and cross-elasticities of demand. In practice, optimal taxes are almost impossible to implement, hence the maxim that taxes should be broadly-based and uniform (consumption and value-added taxes are cases in point).

why would one not implement a more standard tax in the first place.[8]

The measurement of monopoly profits is also rather difficult. As a result, a profits tax will unnecessarily increase uncertainty and hence reduce economic efficiency, as compared with alternative taxes. For example, a firm that takes more risks on average could be expected to earn a greater rate of return than one that takes less. A reasonable tax on excess profits would have to avoid taxing the former firm more than the latter. However, such estimates are likely to be subject to a high degree of error. Other problems in measuring profits include:

- accounting for investment cycles (as a firm investing today might make losses only to recover these over a period of many years);
- measuring intangible assets such as entrepreneurial capacity where these assets are paid for out of accounting profits, rather than more readily identifiable expense categories such as wages;
- distinguishing payments that amount to the passing on of monopoly rents to factors of production (for example, where payments are inflated or amount to cost-padding);
- ensuring sensible allocations of cost are undertaken when some outputs are not subject to the tax,

and so forth.

As a result, profits seems like a very poor choice of tax base, as it is not easy to construct a profits tax that does not distort outcomes and, additionally, profits are difficult to identify and measure. It seems extraordinary for the Commission to appear to recommend such a choice without any systematic assessment of the likely welfare losses compared to alternatives.

Finally, if a profits tax is to be applied as part of an interconnection regime, it should not be as an afterthought; rather, it should be taken explicitly into account across the whole

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8 A profits tax would also tax income delivered to shareholders twice.

regulatory regime. For example, at a minimum, the Commission's suggestion that overall profit may remove the need to recover costs through interconnection would require considering the extent to which the access deficit incurred under proposed interconnection prices can be off-set by profits made and expected to be made by Telstra on the supply of PSTN services. This, of course, would add another layer of complexity to the regulator's decision making process, which is already a highly complex procedure.

Profits taxes under different market conditions

Moving to consider the impact of a profits tax on PSTN services, there are three possible situations. The supply of PSTN services is alternatively:

- currently effectively competitive and zero monopoly profits are earned by market participants;[9] or
- structurally effectively competitive and, after some adjustments over the medium term, zero monopoly profits will be earned by market participants; or
- structurally implies positive monopoly rents will be earned over the long run by market participants.

Under the first circumstance—the supply of PSTN services is effectively competitive—monopoly profits are, on average, unsustainable. This implies no tax on excess profits should be applied to carriers as a means of funding the access deficit. Under workable competition, monopoly profits only exist when a firm manages to outperform its rivals. That is, monopoly profits amount to a reward for superior delivery of benefits to

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[9] Effective or workable competition does not guarantee zero monopoly profits by all firms at all points in time. Indeed, it is likely that, at any point in time, certain firms successful in a particular endeavour will earn some profit generated by market power (from Bertrand profits at one extreme through to profits due to gaining, albeit temporarily, a monopoly-like position). However, under workable competition, any given firm over time can be expected to earn zero monopoly profits.

consumers whether in price[10] or quality. However, over the medium to long term, the expected return to firms includes no monopoly profits; rather, firms are driven by competition to invest in innovation so as to gain the occasional "jump" on their competitors. Firms invest up to their expected return, (that is, in effect they "bid away" any monopoly profits earned from occasionally being ahead of the market). The net effect of this is that the expected return to any firm over time includes no monopoly profits. Thus, a tax on monopoly profits can only reduce what would otherwise be efficient investment in lower-cost technologies, improved quality or new services. In effect, a profits tax can only penalise firms that deliver superior service, reducing the incentives that drive the delivery of such services. Equally, a tax on profits would lead to a reduced burden on suppliers or products that failed to deliver competitive benefits to consumers. This would in effect subsidise inferior products.

In the second circumstance—PSTN supply is structurally competitive, but positive economic rents are temporarily earned as competitive forces press prices towards levels consistent with workable competition—the process, while not instantaneous, is inevitable, and likely to occur over a period that is brief as compared with the lifespan of the assets invested by the competing carriers. In this circumstance, positive expected monopoly profits exist. Arguably, such profits, *distinguished from those profits that would be earned by successful firms under workable competition*, could be taxed subject to the usual comparisons of the expected benefits and costs of such a tax. However, several important risks can be associated with such a tax. In particular, risks arise when the regulator is not able to:

- **distinguish the "ordinary" monopoly profits of an effectively competitive market from those profits earned over and above this (so as to ensure that firms which earn monopoly profits due to their ability to deliver superior services to consumers are not punished by the tax);**
- **implement a profits tax that does not inefficiently distort choice between different firms and product lines;**

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[10] **Monopoly profits and lower prices are possible when a firm has discovered a lower cost way of delivering a service. In workable competition, a firm with lower costs than its rivals can earn Bertrand profits by matching or somewhat undercutting its rivals' prices.**

- **identify when expected monopoly profits of firms in the industry over time are zero (since at any point in time some firms in effectively competitive markets typically earn monopoly profits); and**

- **credibly commit to repeal such a tax when expected monopoly profits of firms in the industry over time fall to zero - a problem made all the more difficult when there are influential beneficiaries of the tax (tax constituencies).**

For markets that are structurally effectively competitive but in which initial monopoly profits are earned, the first two of these bullet points are particularly difficult to meet. Applying a profits tax, or any other tax, differentially across carriers is likely to be highly inefficient. The fundamental reason for this is that the market is in transition. Entry and extension of market share by recent entrants are taking the market toward its long run state—a situation where expected monopoly profits are zero. Differential treatment of existing and potential firms would distort the signals all firms receive, but it is exactly these signals that are driving the process of rent elimination. Distortion of these signals would result in distorted (that is, inefficient) outcomes.[11] But this is the impact of a profits tax, if uniformly applied. Profitable firms and product lines are taxed more heavily than those that are not.

These problems are similar to those that arise in "infant firm" protection more generally. An omniscient regulator might be able to identify just the right tax/subsidy combination to "withdraw" rents from the firm that earns monopoly profits and subsidise the outputs of its competitors. However, if the regulator were indeed omniscient, competition would be purely wasteful, as the regulator could simply mandate efficient costs and prices. In practice, no regulator, facing real information constraints, could have any assurance of even coming close to the efficient solution. Given that market forces, left to their own devices, will in any event tend towards the efficient outcome, it seems difficult to see what gains could come from a strategy that is most likely to distort the way markets work.

The third circumstance noted above is where the supply of PSTN services is unlikely to

11 **An argument similar to that underlying the call for regulatory forbearance in nascent industries.**

ever be effectively competitive.[12] Successful carriers can, in this scenario, be expected to earn some level of monopoly profits over the long term. A profits tax would make sense if it could be implemented in a way that has a higher tax to deadweight loss ratio than alternative taxes. This requires similar sensitivities as to when profits are due to successful delivery of benefits to consumers and the distortion of choice between highly profitable firms and product lines (the first two bullet points immediately above). However, if the relevant market's underlying structure is relatively static, then the transition issues outlined are of less concern. Of course, this may not be the case even where the market remains structurally incapable of supporting workable competition.

It needs to be noted that, even if the market is indeed structurally non-competitive, it is still likely to be inefficient to tax a single firm; rather, the efficient tax rate will depend on: whether only one firm or several can earn monopoly profits; the rate of substitution of inputs and outputs between these firms; and the extent to which any tax can be lump-sum in character over the longer term. Putting it simply, even if it was inefficient (and perhaps even impossible) to tax the marginal entrant, it would still not be efficient to tax Telstra alone if Cable & Wireless Optus was also advantaged in a "natural oligopoly".

Conclusion

In summary, a profits tax is complex and is likely to create efficiency losses as compared with other taxes. A profits tax, even applied uniformly to all telecommunications firms, would distort the supply and consumption of telecommunications services as compared with other services. Applying such a tax to Telstra's PSTN services alone, whether implicitly as suggested by the Commission, or explicitly, will distort outcomes, not only between the telecommunications sector and other industries, but within the sector itself (that is, between the taxed supplier, Telstra, and its rivals). The negative impacts of a profits tax would be even higher because telecommunications markets are in a state of flux due to rapid technological change. In Australia, this is magnified by the extent to

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12 It is unlikely that the market or markets in which at least downstream PSTN services are supplied are structurally incapable of supporting workable competition. With appropriate access to any essential inputs necessary to supply these services ensured by regulation, there are no substantive barriers to entry in these markets.

which the market for PSTN services, due to regulatory changes, is still in transition toward a market characterised by effective competition. This is because the taxes have a greater potential to influence behaviour when large adjustments in market structures are occurring.

Despite these difficulties, the Commission seems to suggest a profits tax by default, rather than by planning, and one that should be levied on Telstra alone, rather than on all suppliers of PSTN services. If a profits tax is to be considered—and there is an *a priori* case that it should not be—then an explicit account of its expected costs and benefits should be undertaken. Any position to the effect that the level of interconnection prices is of little concern so long as Telstra makes profits, amounts to policy without analysis and highly dubious.