



Tax Cuts to Compete

The influence of corporate taxation on
Australia's economic growth

Lateral Economics

About this paper

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Tax Cuts to Compete: The influence of corporate taxation on Australia's economic growth

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About the author

Dr Nicholas Gruen was the principal author of this Lateral Economics report. He has degrees in law, history, economics and public policy. He is CEO of Lateral Economics, Visiting Fellow at the ANU Asia Pacific School of Economics and Government, and Visiting Fellow at the Centre for Public Policy at the University of Melbourne. He has held senior positions with the Business Council of Australia and on the Productivity Commission. He was economic advisor to Treasurer John Dawkins in the early 1990s; before that, as advisor to Senator John Button, he helped design the Button plan to deregulate the car industry.

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Committee for Economic Development of Australia

Level 5/136 Exhibition Street
Melbourne 3000 Australia
Telephone: (61 3) 9662 3544
Fax: (61 3) 9663 7271
Email: info@ceda.com.au
Web: ceda.com.au

Foreword

Tax Cuts to Compete, written for CEDA by Dr Nicholas Gruen, goes against the conventional wisdom in making the case for giving priority to lower corporate tax. Since the reduction of Australian corporate tax to 30 per cent in 2000, there has been a perception that personal tax should be the focus of Australian tax policy changes. Dr Gruen makes a strong argument that if our aim is to make the economy grow faster, mobile international capital should be the first target of our tax policy. And he offers some thoughts on how such a change could be brought about without further disadvantaging the least well-off in our society.

Dr Gruen's earlier paper *Tax Cuts for Growth*, published by CEDA in May 2006, suggested that if we aim to cut personal income taxes, then cuts to low income earners' rates will do the most to boost economic growth. Indeed, its arguments were strong enough to be incorporated into the OECD's 2006 survey of the Australian economy.

In the publication of these papers, we are indebted to CEDA advisors including the Melbourne Institute of Applied Economics and Social Research's Professor John Freebairn and CEDA Research Committee chair Phil Ruthven. I would also like to acknowledge the input of David Walker, CEDA's Policy and Communications Director. Once again, our thanks to Dr Gruen for bringing to this paper his characteristic rigour and his passion for contributing to Australia's public policy debate.

It has been a constant theme of CEDA's recent work that Australian public policy in many fields now ranks with the world's best. As we improve our performance, we more often face the challenge of coming up with new approaches to policy, rather than simply copying other nations. This paper represents an important vehicle for us to rise to that challenge.



Greg Meek
Acting chief executive, CEDA

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Summary

Both theory and international research suggest Australia can maximise economic growth by cutting taxes on capital. In particular, Australia can gain from cutting taxes on corporate profits.

Capital is far more responsive than labour supply to tax cuts. Economic theory suggests this is true for all economies over long periods of time, but it is particularly (and increasingly) true as capital becomes increasingly mobile within the global economy.

At least in the first instance, cutting capital taxation tends to benefit higher income earners and consequently raises difficult equity issues, although Australia's existing dividend imputation system reduces this effect. However, given dividend imputation's apparent inefficiency in reducing Australia's cost of capital, Australia can sensibly finance a lower company tax rate through the abolition of imputation.

Company tax could be then lowered by as much as 11 percentage points – which would reduce the company tax rate to 19 per cent. The subsequent increase in economic growth could allow an even lower rate over time.

This would make a major contribution to economic growth without adverse equity effects.

Introduction: What is “real reform” in taxation?

The economist’s job is to say “this or that, not both. You can’t do both”.

Kenneth Arrow, 1970 p. 17

Our thinking about tax reform is influenced by several ideas that, though they are compelling and important, nevertheless are often misunderstood.

One such idea is that Australia’s tax system must be “competitive”. Indeed, as the title of this paper attests, tax competitiveness can be very important. It makes sense for some aspects of the tax system to be framed with an eye to competing with other countries. But in other areas of Australia’s tax system the link with competitiveness issues is far weaker. There the idea of competitiveness tends to divert our focus from where it should always be – on the relevant trade-offs that alternative policy options involve.

Another related and compelling idea is that of neutrality in Australia’s tax system – that in the interests of equity and efficiency, income from different sources should be taxed similarly. Thus we often hear that the top marginal rate of personal tax should be aligned with company tax rates. Of course in a sense – usually passed off with the expression “other things being equal” – aligning the differing taxation of income from work and capital is desirable. But one might similarly say that reducing tax to zero is desirable, other things being equal. The fact is that – and this is particularly the case with taxation – precisely because we cannot satisfy all our preferences, we must choose between them. Policymakers must set priorities. And because of their importance, those priorities should be chosen deliberately and rationally – by design rather than by default.

This paper argues that if Australia informs its priorities with an understanding of both contemporary economic theory and empirical research we will arrive at a much more compelling, much more promising agenda for tax reform – one that could make a major contribution to economic growth in the decades ahead.

What is capital taxation?

CEDA Information Paper 84: Tax Cuts for Growth (Lateral Economics 2006) considered how Australia's personal taxes can be cut in ways that best boost economic growth. This paper focuses on capital taxation. In principle this includes the taxation of all returns to capital such as interest, dividends and capital gains. Arguably it also includes taxes on capital itself such as wealth taxation. Depreciation rates also affect the taxation of capital.

For a variety of historical and practical reasons, different kinds of capital and capital income have been taxed differently in Australia and overseas. In Australia, income from personal exertion and interest are treated similarly, income from capital gains receives concessional treatment as personal income, and income from companies is taxed separately. However, the dividend imputation system increases the extent to which interest and dividend income (at least that paid by Australian companies to Australian investors) are treated similarly.

The main focus of this paper is on company tax, rather than other forms of capital taxation.

Insights from economic theory

The French Minister of Finance under King Louis XIV, Jean-Baptiste Colbert, is famous for his dictum that the art of taxation is to pluck the greatest amount of goose feathers, while minimising the extent of the hissing. Though offered as political advice, Colbert's words also describe the economic theory of taxation arising from the work of the prodigious economist, mathematician and philosopher, Frank Ramsey.

Ramsey (1927) showed that the efficiency costs of a set of commodity taxes raising a given amount of revenue are minimised if each tax rate is set to minimise its effect on decision-making. He showed how this is achieved by maximising tax rates where responsiveness to tax is least and minimising it where responsiveness is greatest.

Ramsey's ideas have been taken further than he himself took them – though his 1927 paper contained intimations of the insights of the economics of the 1970s and 1980s.¹ Until that time, the consensus among economists was that capital income (generally referred to as “unearned” income) should be taxed more heavily than labor or “earned” income. These views arose at a time when the taxation of all forms of income was very low by today's standards. They were strongly motivated by notions of fairness. At the same time, the analytical tools for considering the relative efficiency of different taxes through time were weak. And the costs of capital taxation build up through time, as it impedes capital accumulation.

As Lucas has observed, in the 1960s thinking about capital taxation tended to be against an analytical backdrop² in which an economy's savings rate was a simple function of income. In other words it could be taxed at “confiscatory” levels without discouraging saving (Lucas 1990, pp. 293, 299). Today many economists believe capital taxes impose heavier inefficiencies than consumption and personal income taxation.³ Geoff Kingston explains the logic of the models in Box 1.

¹ Ramsey himself actually offered intimations of more contemporary views about capital taxation towards the end of his 1927 paper where he argued that the already existing case for remitting tax on savings was “strengthened enormously by taking into account the expectation of taxation in the future” (pp. 59-60). See also Martina (2000).

² Of the Solow-Swan growth model.

³ Indeed many of the central models that economists use to think about taxation suggest that capital taxation should be abolished, with any lost revenue being recouped by increasing other taxes.

Box 1: Contemporary thinking on the costs of capital taxation

From the 1980s onwards there have been numerous theoretical and empirical studies that seek to extend Ramsey's approach to dynamic (i.e. multi-period) economies. Thus, these studies have considered the question of how to divide a given present value of revenue from taxes into taxes on total consumption and on incomes from capital and labour, in an economic environment of optimising behaviour and rational expectations. This literature builds on the observation that the choice of total consumption at different dates is analogous to the choice between different goods at the same date ... It should therefore be taxed at a similar rate ...

Judd (2001) and others point out that the distortion induced by a tax on asset income will compound up through time. As the assumed number of years rises, the present value of deadweight efficiency losses will mount up, with three important consequences.

First, the presence of an "exploding" tax wedge makes it hard to imagine a specification of household preferences that could possibly justify a tax on asset income ...

Second, it turns out that a tax on labour income generated by exertion will also dominate a tax on asset income, provided the number of years is sufficiently large.

Third, a finite time horizon becomes one possible starting point for making a case for positive taxes on capital income.

(Kingston 2006, pp. 8-10)

Economic theory with plausible parameters – the closed economy case for capital tax cuts

Mankiw and Weinzierl (2005) have offered some indicative calculations which illustrate the ideas explored in the previous section. They began with a simple model economy with taxes on income from capital and from personal exertion at 25 per cent.

According to plausible parameters, over a long period of time, a cut in capital taxation can be expected to pay for around half its cost in increased tax receipts from increased investment and growth. In contrast, a cut in personal taxation would recoup less than 20 per cent of its cost even if personal tax cuts were assumed to elicit harder work. These estimates seem plausible, although there are a range of technical matters that are discussed briefly in the rest of this section.

There are several important caveats regarding the Mankiw and Weinzierl study. For instance, it assumes that households optimise their saving and

spending decisions over infinite time horizons. However, the authors find that modelling without this assumption makes at most only a modest difference to their results (p. 12).⁴

Though Leeper and Yang (2006) subsequently published work that was critical of Mankiw and Weinzierl, Leeper and Yang's work actually corroborates the earlier authors' major thrust, producing similar results with somewhat different but no less plausible parameterisation. Leeper and Yang's parameters produce the familiar result that capital taxes generate far greater gains than labour tax cuts. They also show, as the relative benefits of capital and labour tax cuts in the Mankiw and Weinzierl modelling suggest, that paying for capital tax cuts with increases in labour taxes reduces gains but still leaves over half those gains intact.

In addition, if some more realistic assumptions are made – like imperfect competition and/or external benefits from equipment investment – the return from cuts in capital taxation is substantially increased. One aspect of this is brought out in Brad DeLong's comments on the Mankiw and Weinzierl paper.⁵

⁴ The paper also proposes an implausible fiscal balancing mechanism. Tax cuts are offset in the budget with lower lump-sum transfers, for instance to welfare and farm subsidy beneficiaries. As Brad DeLong commented on the Mankiw and Weinzierl paper, this was hardly a realistic modelling of the Bush capital tax cuts of 2003 which increased government deficits.

DeLong suggested at the time that the increased fiscal distortions required to servicing the higher debt levels would likely be sufficient to turn the growth dividend from such capital tax cuts negative. This insight was subsequently largely corroborated by Leeper and Yang (2006) in a fully specified model similar to Mankiw and Weinzierl.

Australian governments of both political persuasions have shown far greater fiscal responsibility. Accordingly, any reduction of company tax in Australia would probably be managed in a broadly revenue neutral way with other spending cuts or revenue increases.

⁵ Unlike Mankiw, who has been an economic advisor to the Bush Administration, DeLong took up a position advising the Clinton Administration and his political persuasions appear to be to the moderate left of the US political spectrum.

Box 2: Brad DeLong on Mankiw and Weinzierl's estimates of the effects of cutting capital taxes

I very much fear that our current system of capital [taxation] leaves not just \$20 bills on the sidewalk but \$1000 bills ... If there are important labor rents earned by workers in capital-intensive industries, then the excess burden from capital taxation will be magnified and will fall on the fortunate rent-sharers in labor as well. If total factor productivity does not fall from the sky but is instead linked to investments in any of a number of ways, then any capital tax that reduces investment will reduce productivity growth as well ...

As far as American economic growth is concerned, the big thing in the past two decades has been the extraordinary reduction in the real price of computers and the concomitant incredible surge of capital deepening in information technology ...

Do we really believe that this technological progress in making computers was independent of investment in information technology – that Moore's Law would still have held had our businesses invested nothing at all in computers over the past two decades? No, we do not. Then by how much would more capital-friendly tax policies in the 1970s and 1980s that encouraged investment, including investment in information technology, have brought forward in time the high-tech productivity boom of the 1990s and 2000s? This is a first-order question to which I do not know the answer. But it is hard to think about this question seriously and not conclude that it is a powerful factor making it likely that this paper's estimates of growth effects and revenue offsets are more likely to be low than high.

(DeLong 2004)

Competitiveness: The international dimension

The use and abuse of the idea of competitiveness

The idea that Australia needs a “competitive” tax regime is beguiling. It can also be actively misleading. If we choose to impose higher (or lower) taxes than our trading partners, this signifies that, as a community, we choose to enjoy more (or less) of the fruits of our labour collectively rather than privately. With an important caveat explained below, and as counterintuitive as it seems to some, it has no implications for business costs relative to the costs of business in other countries.

If a tax “weighs down” all Australian producers equally, there is no reason to expect it to weigh down the “competitiveness” of the Australian economy as a whole (that is, to lower Australia’s capacity to export to international markets and compete in its domestic market).

If certain other things do not change – namely the level of savings and investment – the trade balance will likewise remain unchanged, with other aspects of the economy, such as the exchange rate, adjusting to restore aggregate trade performance or “competitiveness” to its previous level.

This does not mean we should ignore taxes. They will affect productivity, and if taxes fall disproportionately on some firms or sectors rather than others those firms or sectors will be disadvantaged in international markets. But the crucial point here – first made by David Ricardo in the early nineteenth century – is that the cost burden that disadvantages a firm is not the disadvantage of the tax weighing on it in relation to foreign competitors producing competing products, but the disadvantage of facing higher taxes than other domestic firms that may not be in the same industry but that nevertheless compete in the firm’s domestic market for resources such as labour, capital and raw materials.

With this understood, we can return to speaking of “tax competitiveness” in a quite specific way. International competitiveness is important in our tax system where it affects Australia’s ability to attract resources which might otherwise be available to other countries. Tax competitiveness has specific relevance with regard to retaining and attracting international capital. And as discussed in *Information Paper 84: Tax Cuts for Growth*, it may be relevant, though probably substantially less so, to the issue of retaining and attracting skilled labour to Australia.

Capital taxes and competitiveness

Note that all of the gains to lower capital tax discussed in the section above involved gains within a closed economy. In the models discussed, lower capital taxation generates growth by increasing capital accumulation, with the domestic economy generating the capital itself because of improved incentives for saving and investing. But in addition to being made locally, capital can be supplied to an economy from other countries.

Zodrow (2005, p. 8) summarises the theoretical significance of capital flows between countries from an orthodox economic perspective:

From a theoretical perspective, open economy factors tend to reinforce the case for consumption-based tax treatment of capital income. This is especially the case in the context of a small open economy that must take the after-tax return to internationally mobile capital as fixed. In this case ... the optimal source-based (i.e., production-based) tax on capital income is zero. The intuition behind this strong result is that such a tax will drive out internationally mobile capital until its before-tax rate of return rises by enough to entirely offset the tax.

This extreme result is undermined by a wide range of imperfections in real economies. For example, where economic rents exist in the domestic economy and can be captured by foreign firms, some level of company taxation will be efficient.⁶ Recent articles by Sørensen (2006) and Zodrow (2006) provide a good list of other considerations against the case for zero capital taxes.

Still, the starkness of the theoretical considerations should give us pause about the potential costs of basing tax policy on “in principle” notions of alignment rather than the minimisation of economic inefficiency.

⁶ Unless the foreign firm itself can take those rents elsewhere, as may be the case if it enjoys the advantages of proprietary technology.

Empirical evidence

There is now a solid base of empirical research corroborating many of the theoretical considerations set out above. Where most of the empirical literature suggests labour supply is relatively unresponsive to changes in personal tax, “[t]he econometric work of the last fifteen years provides ample evidence of the sensitivity of the level and location of foreign direct investment to its tax treatment” (Gordon & Hines 2002, p. 1969).

Corporate tax and foreign direct investment

De Mooij and Ederveen (2003) perform a powerful “meta-analysis” of 25 empirical studies of the relationship between foreign investment and corporate tax regimes.⁷ The most recent reworking of the meta-analysis with additional studies and a somewhat changed methodology generates a new median measure of tax-rate elasticity of -2.1 , suggesting that for each one percentage point change in the tax rate, foreign direct investment (FDI) will rise by 2.1 per cent (De Mooij & Ederveen 2006).⁸

The meta-analysis also produces some other results, all of them plausible. It suggests that effective tax rates (how much tax is collected relative to profits made) are much more influential than statutory rates. The intuition here is that FDI managers look at the actual effect of tax and take into account tax concessions rather than being overly influenced by the rate.⁹ Further, later studies generate more elastic parameters, suggesting that capital for FDI is becoming more mobile. Though caution should always be exercised when interpreting such varying results,¹⁰ it seems Zodrow’s summary comment that the literature produces “elasticities in the neighborhood or in excess of one” is fairly conservative given the results.

⁷ More than simply a literature review, the meta-analysis adds its own value in several ways. Firstly, where possible, individual study results are manipulated to produce measurements of an elasticity parameter that is consistent across studies. For each study, the authors of the meta-analysis reported “tax-rate elasticity” as the percentage change in FDI into the US in response to a one percentage point change in the corporate tax rate. Technically this is a “semi-elasticity” relating absolute (rather than percentage) changes in one parameter to percentage changes in another. If applied to Australia it would be the change in FDI in response to a change in tax rate from 30% to 29% (or 31%), rather than a change from 30% to 29.7% or 30.3%. The mean result was -4.7 , although removing outliers from the mean produced a figure of -3.3 and the median was -3.2 . This was revised to -2.1 in subsequent work – see below.

⁸ Note the revision downwards from their earlier figures (quoted in footnote 7) is not due to the newly included additional studies, which are broadly consistent with the original studies in the sample, but due to a different methodology.

⁹ In the earlier study, elasticity goes from -1.2 in the case of statutory rates, to -4.2 for marginal effective rates, to a figure that is probably implausibly high for average effective tax rates -9.3 .

¹⁰ See Devereux and Griffith for a powerfully sceptical review of the tax elasticity literature and its usefulness to date (2002).

Corporate tax and economic growth

Given the case for lower company tax even in a closed economy, and given the way the mobility of capital between countries strengthens it, it is not surprising to find empirical work suggesting that company tax rate reductions are correlated with growth.

In a substantial cross-country study, Lee and Gordon (2005) found a significant and statistically robust negative relationship between individual countries' growth rates and their company tax rates. The study suggested a 10 percentage point cut in the company tax rate produces an increase in annual per capita growth of between 0.57 and 1.82 per cent. If these figures are even close to the truth they suggest a strong case for lower company taxation and also the likelihood of how such a move would be "self-funding", as Mankiw and Weinzierl's modelling suggests.

It is also noteworthy that the same relationship does not appear to exist between the top marginal rate and growth. This is broadly consistent with the idea that in a closed economy, taxes on personal exertion are less growth-inhibiting than capital taxes. It is also broadly consistent with the idea that in an open economy, capital is far more mobile than even skilled labour. Lee and Gordon find virtually no relationship between countries' growth rates and their top marginal personal tax rates.

In results which are relevant both here and to the question of the effective incidence of personal and company taxation (that is, the question of who really pays these taxes), Hassett and Mathur (2006) investigate the correlation between wage rates and income and company taxation. Though their findings regarding company tax rates might be interpreted as reinforcing their ideological preferences (they are affiliates of the free market American Enterprise Institute), their findings are given additional credence by the results they report regarding the effect of personal income tax. Hassett and Mathur ask "Do tax rates, corporate and personal income, systematically affect wage rates?" They report their results as follows:

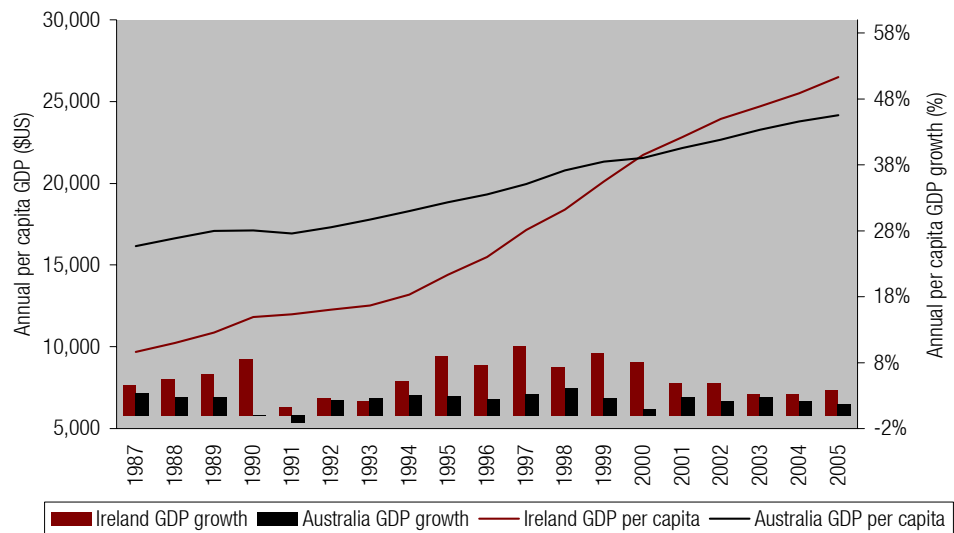
Our empirical results indicate that domestic corporate taxes are negatively and significantly related to wage rates across countries ... Further, high corporate taxes in competing countries also lead to higher domestic wages. Taken together, our results suggest that capital moves from high tax to low tax countries, and affects wages.

Our results for personal income taxes are surprising. We find that tax rates do not significantly impact wage rates. This is consistent with a model wherein no part of the increase in labor taxes is passed onto wages. In such a model, labor bears the entire burden of the tax. (2006, pp. 4-5).

The case of Ireland

Ireland provides a paradigm illustration of the possible significance of the arguments in this paper. Ireland has aggressively courted inbound foreign direct investment (FDI) with corporate tax rate concessions. This appears to have been an important ingredient in its extraordinary economic performance. In 1987 Ireland sought investment in specific sectors with a company tax rate for chosen foreign investors of 10 per cent. Ireland has since equalised the corporate tax rate for both domestic and local firms at just 12.5 per cent. Between 1996 and 2005 it attracted around five times more FDI per capita than Australia (Kingston 2006b, p. 1), and Ireland is the only OECD country to have substantially outperformed Australia in per capita economic growth during that time.¹¹

FIGURE 1. IRISH AND AUSTRALIAN ECONOMIC GROWTH 1987–2005



Source: The Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2006, <http://www.ggdc.net>

¹¹ One argument against the Irish approach is that some of the countries exporting capital to Ireland will have foreign tax credit regimes. In effect these regimes tax multinational firms on their foreign earnings, but forgive them what tax they have paid abroad up to a certain level. The reason these regimes have not been a major stumbling block to Ireland's strategy has been that they tend to be applied in the aggregate (see, for example, Gordon and Hines, 2002, p. 1956). Firms are able to average the tax they pay, and can still gain from generating profits in low-tax areas. Nevertheless the issue is one that would need to be monitored closely if countries continue to compete in lowering company taxation. De Mooij and Ederveen's meta-analysis (2003) also confirms the lack of FDI responsiveness to tax credit regimes.

TABLE 1. IRISH AND AUSTRALIAN ECONOMIC GROWTH 1987–2005

	Ireland		Australia		Difference
	GDP per capita (US\$)	GDP growth per capita (%)	GDP per capita (US\$)	GDP growth per capita (%)	
1987	9,698	4.68%	16,173	3.40%	1.28%
1988	10,234	5.53%	16,630	2.83%	2.70%
1989	10,880	6.31%	17,093	2.78%	3.53%
1990	11,818	8.62%	17,106	0.08%	8.54%
1991	11,969	1.28%	16,915	-1.11%	2.39%
1992	12,277	2.58%	17,308	2.32%	0.26%
1993	12,538	2.12%	17,772	2.68%	-0.56%
1994	13,198	5.27%	18,309	3.02%	2.25%
1995	14,399	9.10%	18,855	2.98%	6.12%
1996	15,495	7.61%	19,322	2.48%	5.13%
1997	17,134	10.57%	19,948	3.24%	7.33%
1998	18,386	7.31%	20,779	4.17%	3.14%
1999	20,127	9.46%	21,334	2.67%	6.80%
2000	21,741	8.02%	21,549	1.01%	7.01%
2001	22,824	4.98%	22,162	2.84%	2.14%
2002	23,944	4.91%	22,652	2.21%	2.70%
2003	24,718	3.23%	23,287	2.80%	0.43%
2004	25,514	3.22%	23,771	2.08%	1.14%
2005	26,501	3.87%	24,177	1.71%	2.16%
Average 1987–2005		5.78%		2.27%	3.51%

Source: The Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2006, <http://www.ggdc.net>

There are other plausible reasons for Ireland's outperformance of Australia – including its success in education, its receipt of farming subsidy payments, its proximity to the massive European market and its use of the English language. However, Ireland's outperformance has been truly astonishing, suggesting that none of these explanations are satisfactory. And as large as Lee and Gordon's correlations between company tax and growth rates are, the difference in per capita GDP growth that they predict is approximately the difference that occurred between Australia and Ireland.¹²

¹² The difference in GDP per capita between the two nations somewhat overstates welfare gains, as the foreign capital attracted to Ireland generates obligations to service that capital with payments from Ireland to foreigners. This in turn depresses the domestic consumption which can be afforded from any given level of production. Nevertheless, even accounting for this, Irish economic growth has far exceeded Australia's.

Ireland has moved from GDP per capita of 40 per cent below Australia's to about 10 per cent above it since 1987. Ireland also imposes personal taxation at around OECD average rates, with top personal tax rates of 42 per cent and a consumption tax of 21 per cent; that is, in other areas Irish public policy is not so far from other European countries' relatively high tax regimes. Yet in 2002, with a company tax rate of 16 per cent, Ireland's revenue from company tax was 13.1 per cent of total tax revenue. In Australia, with a company tax rate of 30 per cent, revenue from company tax was 16.8 per cent of total tax revenue (Kingston 2006, p. 15.).

Capital taxation and equity

Promoting growth by cutting company tax may be attractive, but the disproportionate extent to which reducing capital taxation might benefit the wealthy introduces the question of equity. Certainly capital taxation – taxation of capital gains and dividend and interest payments – imposes far heavier payments on the relatively well-off.

Yet we need to consider at least three important issues:

- a. The extent to which the legal and effective incidence of company tax may differ
- b. The fact that a substantial proportion of the capital invested in Australia comes from foreign investors (and we care little and can do even less regarding the distribution of income and wealth among foreigners).
- c. The equity implications of changing company tax rates given our dividend imputation system.

We briefly consider each of these issues in turn.

1. The legal and the effective incidence of tax payments

The legal and the effective incidence of tax payments often differs. Most obviously, business bears the legal incidence of the goods and services tax (GST) and payroll taxes. Yet consumers pay the lion's share of GST through higher prices of goods and services. Arguably requiring businesses to pay payroll tax reduces their capacity to pay higher wages. In each case, to the extent that the tax increases the price of goods and services and/or reduces wages, business passes the effective burden of bearing the tax onto others.

Arnold Harberger's pioneering 1962 study on this subject remains influential. His assumptions simplified heroically, as they had to, but nevertheless reasonably. He concluded that capital taxes were borne by owners of capital – not by workers (as lower wages) or consumers (as higher prices).¹³

¹³ Though interestingly the tax burden was shifted partially from those subject to company taxation to those forms of capital that do not bear it. Where company tax rises, capital flows from funding companies to other activities. This depresses returns in these other areas until post-tax returns across the capital market are equalised, and all capital holders bear a lower return to pay the tax.

Though Harberger's simplifications have been challenged with an ever increasing number of variations on his original model,¹⁴ Auerbach (2005, pp. 1, 40) observes after an extensive survey of the literature that:

For a variety of reasons, shareholders may bear a certain portion of the corporate tax burden. In the short run, they may be unable to shift taxes on corporate capital. Even in the long run, they may be unable to shift taxes attributable to a discount on "old" capital, taxes on rents, or taxes that simply reduce the advantages of corporate ownership. Thus, the distribution of share ownership remains empirically quite relevant to corporate tax incidence analysis ...

2. A substantial proportion of the capital invested in Australia comes from foreign investors

As Gordon and Hines put it, even today "[t]he presumption has been that for plausible elasticities [of various parameters], the burden of corporate income tax falls primarily on capital owners". Yet, as they make clear, these conclusions must be heavily qualified to the extent that the economy is open to capital flows.

In a small open economy, in contrast, a tax on the return to domestic capital has no effect on the rate of return available to domestic savers, since the domestic interest rate is determined by the world capital market. Domestic investment falls in response to higher tax rates. For firms to continue to break even, in spite of the added tax, either output prices must rise or other costs must fall by enough to offset the tax. When output prices are fixed by competition with imports, the tax simply causes the market-clearing wage rate to fall. As a result, the burden of the tax is borne entirely by labour or other domestic factors. While a labour income tax would also reduce the net wage rate, it would not in contrast distort the marginal return to capital invested at home vs abroad. Following Diamond and Mirrlees ... a labour income tax dominates a corporate income tax *even from the perspective of labour* (2002, p. 1939, emphasis added).

In principle openness works both ways. Not only do foreign suppliers of capital add the tax they are forced to pay into the rate of return they require to supply the capital, but Australian investors can take their capital offshore in order to avoid Australian company taxation. Even so it seems plausible to suggest that the elasticity of foreign capital provision is greater than the elasticity of domestic supply of capital – a matter that has received almost no attention in the literature. Much Australian capital supplied to

¹⁴ Models have been developed where corporate taxes are passed on to others even within the closed economy envisaged in the Harberger analysis. Further, Harberger's analysis is "comparative static" and does not fully trace the implications of lower returns to saving and investing. In such models, as shown above, some company tax is passed from capital owners to workers, as their wages are lower than they would be with greater capital accumulation.

Australian firms satisfies a strong preference that it be invested here because the supplier has greater knowledge of business conditions and relative business opportunities here than they do of conditions and opportunities in foreign markets. This is most true of equity in small- and medium-sized enterprises, but there remains a strong home market bias in almost all equity markets, even for large firms. To the extent that this is true, and for as long as such biases exist, the owners of capital will be unable to fully pass on the burden of taxation to other factors of production.

3. The equity implications of changing company tax rates given the dividend imputation system.

Finally, dividend imputation is critical to both the legal and effective incidence of Australian company taxation. Under imputation, when dividends are paid, they carry tax credits for all company tax paid. Australian shareholders can use these credits to lower their personal tax payments and even claim cash in the absence of tax liabilities. Because imputation means that company tax operates as a withholding tax against Australian shareholders' personal tax liabilities, company tax itself has little distributional significance. Setting aside the delays in company tax credits being distributed to shareholders in dividends (which can be considerable in some cases), a rise or fall in company tax has as much significance as a rise or fall in PAYE contributions by employers without any change in the underlying personal tax liability of wage earners.

Capital taxation and avoidance: the case for alignment

The idea of aligning company and top marginal tax rates has appealed to politicians in both major political parties and tax commentators for many years. Alignment would clearly have benefits. It would make a small contribution to simplicity and it would remove some tax avoidance possibilities.

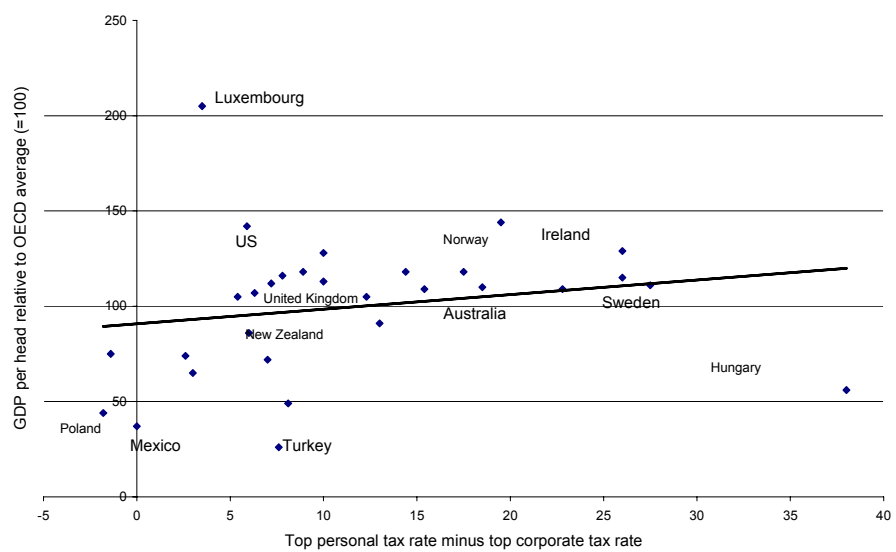
However, alignment violates the basic principles of Ramsey taxation – the idea that tax rates should be inversely proportional to the responsiveness of the tax base. Given that the principles of Ramsey taxation suggest that top personal rates should be higher than company rates, the idea of closing the 16 percentage point gap that currently exists between them – especially when further reductions in company tax rates seem like a higher priority than lowering top marginal rates – looks like using a sledgehammer to crack a nut.

As Allen Consulting has put it, “there are no very strong arguments for alignment, and some strong arguments against” (2005, p. 27).

- Reducing income tax rates to the current corporate tax rate has substantial budgetary costs and would benefit those on higher incomes.
- The ease with which a taxpayer can reduce their effective personal tax rate through incorporation is frequently overstated. Whether someone controls their own proprietary company or owns a few shares in a large public company, money earned within the company cannot be spent by its owner until the company distributes it to the shareholder, and then this payment attracts tax at the shareholder's marginal personal rate. With the abolition of undistributed profits taxation in 1987, companies provide some advantages in deferring personal income tax, but not in avoiding it.

To these considerations we might add Kingston's observation (2006, p. 3) that what little correlation there is between alignment and prosperity in OECD economies appears to be negative.

FIGURE 2: GDP PER HEAD VERSUS GAP BETWEEN TOP PERSONAL AND CORPORATE TAX RATES, 2002



Source: Kingston, 2006a. Compiled from *OECD in Figures 2005* edition; *OECD Purchasing Power Parities, 2005*

Accordingly, while non-alignment does raise avoidance issues (though they are not as bad as they appear to some), the appropriate response is with anti-avoidance measures. The issue should be tackled on its merits and with due investigation of the appropriate options. However, when company and personal tax were briefly aligned in 1987, the existing anti-avoidance measures involving supplementary taxation of undistributed profits were abolished.

Some policy options to consider

If company tax was lowered, then we would expect the short-run effect would be far less favourable to the well-off than would appear on the surface. This is for two reasons. Firstly, a substantial proportion of the burden of company tax has already been lifted from the shoulders of those supplying equity – particularly, but not exclusively, foreign equity. Secondly, much of the distributional effects of company taxation on Australian shareholders are washed out by the dividend imputation system. Accordingly, when Australia next decides to use revenue to fund tax cuts, the most constructive way to stimulate economic growth will likely be by cutting company taxes.

Concerns about the equity implications of company tax cuts can be alleviated with greater generosity for those on middle and lower incomes. This could be done through the tax and transfers system, as suggested in the companion paper to this, *Information Paper 84: Tax Cuts for Growth* (Lateral Economics 2006).

There is also another very promising route to reform.

A return to classical company taxation?

Dividend imputation was introduced in Australia in 1987 to eliminate the double taxation of dividends – that is, the process by which the company paid tax on its profits and then the shareholder paid further personal tax on its ex-tax dividend distributions from that company. Dividend imputation was a big and bold reform in its time. Yet like any tax arrangement it involved difficult trade-offs.

In an age of globalisation, it is virtually impossible to “level the playing field” between domestic and foreign capital by eliminating double taxation on all dividend income. Australia may decide to treat company tax as a withholding tax on the dividends received by domestic shareholders, but it needs the agreement of foreign governments for them to honour imputation credits in the same way.

As the Review of Business Taxation in 1999 commented, for foreign investors in Australia “company tax operates more like a classical system and the shareholder is taxed on dividends without account being taken of tax paid at the entity level”. The 1999 Review also noted that one response to the “lack of neutrality between domestic and international entity tax arrangements” was reversion to the classical system – or the abolition of dividend imputation ... Such an approach may be appropriate in a country where international investment considerations outweigh domestic considerations” (Treasury 1999, Para 240-243).¹⁵

Dividend imputation and the cost of capital

Despite its delivery of greater neutrality between different kinds of investment in Australian entities by Australian taxpayers, the revenue forgone in the dividend imputation system appears to make surprisingly little impact in lowering the cost of capital to Australian firms. Although Australian shareholders have a strong preference for franked dividends,¹⁶ there is strong evidence that imputation credits are undervalued by the market – perhaps hugely so. As Cannavan, Finn and Gray (2004, p. 174) observe, “it is common in commercial practice to ignore the value of

¹⁵ Available at <http://www.rbt.treasury.gov.au/publications/paper3/ov5.htm>.

¹⁶ For instance around 90% of Australian personal taxpayers' dividend income is franked (Hathaway & Officer 2004, p. 7).

imputation credits both when valuing real assets and when conducting capital budgeting analyses”.

Since the introduction of dividend imputation, Australian policymakers have taken action several times both to expand the usefulness of imputation credits to domestic shareholders (for example, by expanding superannuation funds’ access to franking credits and allowing tax exempt shareholders to cash in excess franking credits for cash refunds). At the same time we have assiduously acted against attempts to allow foreigners to benefit from credits by enacting various strategies to prevent dividend “streaming”. Dividend streaming involved a range of financial practices that enabled financial intermediaries to pass the domestic financial benefit of those franking credits earned by foreign shareholders who could not use them to Australian taxpayers who could.

As Officer (1988) points out, because Australia is a small economy in a large global financial world, its cost of capital is expected to be set on world capital markets. Researchers have attempted to measure the value that the market places on franking credits by examining the extent to which shares fall in value when going “ex-dividend”. The estimates produced by researchers have ranged from less than zero in the year after the introduction of dividend imputation (Brown & Clarke 1993) to up to 82 cents in the dollar (Hathaway & Officer 1992). A recent study by Hathaway and Officer (2004) estimates credits to be worth around 50 cents in the dollar. All studies show a wide range of estimates and wide confidence intervals. The methodology of these studies has also been subject to substantial criticism, particularly recently.¹⁷

Since these studies, Cannavan, Finn and Gray (2004) have estimated the implicit value of imputation credits in two kinds of derivative contracts. They investigate the implicit value of imputation credits both before and after anti-dividend streaming legislation in 1997.

Their study concludes that:

- a. The cash value of dividends has been fully valued by the market.
- b. Imputation credits were valued at up to half their face value in large firms with high yields before anti-dividend streaming legislation was introduced and were “effectively worthless” for low-yielding firms.
- c. Since legislation has obstructed dividend streaming, “imputation credits are effectively worthless to the marginal investor”.

¹⁷ See for instance Cannavan, Finn and Gray (2004); Chetty, Rosenberg and Saez (2005); Bond, Devereux and Klemm (2006).

The third of these points leads the authors to a conclusion which is surely momentous for a scheme which forgoes up to \$20 billion in revenue. The reasoning is worth following closely:

[L]arge companies are unlikely to be financed solely by resident investors – at least some nonresident investment is likely to be required ... If imputation credits are worthless to these investors, they will only invest if they are provided a sufficient return by way of cash dividends and capital gains ...

Since resident investors receive a higher return (via the imputation credits granted by the local tax system), they will be the first to invest. The marginal investor will then be a nonresident, who will receive a return in the form of capital gains and cash dividends that just meets their required expected return ... The company must produce the same return for the marginal stockholder whether an imputation system exists or not if the marginal stockholder receives no value from imputation tax credits.

As the authors comment: “This means that in a small open economy such as Australia, *the company’s cost of capital is not affected by the introduction of a dividend imputation system*” (2004, p. 193). Evidence of valuation within firms appears to conform to Cannavan et al’s estimate of the value placed on imputation credits by the marginal foreign investor. Over four-fifths of the firms responding to Truong, Partington and Peat’s survey (2005) did not take the value of imputation credits into account in assessing investment projects, and those that did typically valued them at well below their face value. They conclude as follows: “Even if we assume that the credits are only valued at a quarter of their face value, omission of credit values means that the cash flow is understated by 10.7 percent under the 30 percent tax regime” (p. 20).

Even if we follow some of the earlier studies and believe that imputation credits have some positive value in the Australian market, or believe that their value may have risen as a result of recent action increasing their value for tax-exempt Australian residents, it is hard to escape the conclusion that dividend imputation is a revenue-inefficient means of lowering the cost of capital to Australian firms.

Removing the tax expenditure on dividend imputation and applying it to lower the company tax rate should capture a larger share of the global capital market and lower the cost of capital to Australian firms. Given that dividend imputation costs a little over one-third of the revenue that company tax yields, Hathaway and Officer calculate the effective rate of company tax at “closer to 19 per cent than the statutory rate”. Their range

of 21–19 per cent stands as an indicative target for the company tax rate if Australia moves back to a classical system.¹⁸

The behavioural responses to such a move cannot be predicted with any certainty, but foreign investment is likely to increase substantially – by nearly a quarter if we take the findings of De Mooij and Ederveen as our best guide. If the economic benefits of the additional investment were anything like they are predicted in the literature outlined above, revenue neutrality might allow the rate to be reduced to still lower levels – perhaps 15 per cent or less.

What are the potential pitfalls of such a move? Firstly, the removal of dividend imputation would introduce non-neutralities between the taxation of equity and debt financing. This seems unlikely to outweigh the benefits as outlined above, but it should still be borne in mind. In tax policy, tradeoffs are unavoidable.

Secondly, though the attractiveness of Australia to foreign investors is increased, it becomes less attractive to domestic investors – at least in the long run. If a perfect capital market is assumed, the supply of Australian capital to Australian enterprises would fall, as the tax on dividends (which are the ultimate reward for equity investment) reverted to “double taxation” which would sum to a higher rate than the rate currently paid.

Yet the extent to which this would happen in the light of the findings above is an interesting question. In particular, if most project analyses within firms do not take account of the benefits of imputation credits to Australian shareholders, will they take into account the costs of double taxation on dividend payments? Gruen (1997) shows evidence that firm managers appeared not to take into account the cost of their shareholders’ loss of dividend imputation credits in valuing R&D tax concessions. Further, it seems likely that the responsiveness to improved incentives for foreign investment in Australia would exceed the responsiveness of domestic capital, making “competitiveness” considerations more urgent for the taxation of foreign shareholders.

¹⁸ Hathaway and Officer (2004, p. 2.) give the proportion of company tax that is “actually tax personal tax collected or withheld at the company level”.

Conclusion

Cutting company taxation appears to offer the most effective means of spurring economic growth through tax cuts. It should be brought back onto the agenda of public discussion for policy makers and commentators.

One of the main reasons for complacency on the company tax rate has been the broad support for the idea of alignment of company and top personal rates. In the context of recent cuts to company tax, this has put the spotlight back on top marginal rates.

Yet the evidence both from economic theory and from a growing body of empirical research is clear. The basic economic theory of taxation tells us that taxes should not be harmonised, but should indeed be different for sufficiently different activities, and particularly where there are different levels of responsiveness to tax. Whereas the behaviour of labour is relatively unresponsive to personal taxation rates, particularly at higher incomes, investment – particularly foreign investment – appears to be highly responsive to company taxation rates.

Further, the revenue inefficiency of the dividend imputation system provides a revenue neutral opportunity to lower company tax rates. Moving back to a classical company tax system would fund a cut in Australia's company tax rate of up to 11 percentage points. Moving back to a classical system does not merely offer a chance of lowering the company tax rate to one of the lowest in the region. It does so without placing any demands on the federal budget and without imposing relatively heavier tax burdens on middle and lower income earners. If the company tax rate was reduced to 19 per cent, foreign direct investment would increase by almost a quarter using the median estimates produced by De Mooji and Ederveen, or by a little more than one-fifth using the estimate produced by Hines (1999).

Foreign investors will remain the “marginal” (that is, price-setting) investors in the Australian market in many circumstances. It seems overwhelmingly likely that the current tax expenditure of up to \$20 billion on dividend imputation would more effectively lower the cost of capital to Australian business if it were passed on in the form of a lower company tax rate.

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NATIONAL OFFICE

Level 5, 136 Exhibition Street
Melbourne Vic 3000
GPO Box 2117T
Melbourne Vic 3001
Tel (61 3) 9662 3544
Fax (61 3) 9663 7271
Email info@ceda.com.au

**NEW SOUTH WALES
and the ACT**

Level 9, 275 George Street
Sydney NSW 2000
GPO Box 2100
Sydney NSW 2001
Tel (61 2) 9299 7022
Fax (61 2) 9299 7020

QUEENSLAND

Level 10, 175 Eagle Street
Brisbane Qld 4000
GPO Box 2900
Brisbane Qld 4001
Tel (61 7) 3229 9955
Fax (61 7) 3229 8166

**SOUTH AUSTRALIA and the
NORTHERN TERRITORY**

Level 7, Qantas House
144 North Terrace
Adelaide SA 5000
PO Box 8248, Station Arcade
Adelaide SA 5000
Tel (61 8) 8211 7222
Fax (61 8) 8211 8222

VICTORIA and TASMANIA

Level 5, 136 Exhibition Street
Melbourne Vic 3000
GPO Box 2117T
Melbourne Vic 3001
Tel (61 3) 9662 3544
Fax (61 3) 9663 7271

WESTERN AUSTRALIA

Suite 1, 25 Gladstone Street
Perth WA 6000
PO Box 8623
Perth Business Centre WA 6849
Tel (61 8) 9228 2155
Fax (61 8) 9228 2166



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