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Dividend Imputation or Low Company Tax?

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Dividend imputation or low company tax?

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Recent OECD data offer limited support for the proposition that our company tax rate could be cut substantially with little or no loss of tax revenue. Treasury-type analysis suggests otherwise: our headline rate could be cut to 20 per cent if abolishing dividend imputation were used to finance a cut in the headline rate. But this type of exercise relies on strong assumptions, and imputation mitigates other idiosyncrasies of our tax system. Accordingly, abolition of imputation should await a cut in our top marginal personal rate along with a transition to back-end taxation of most superannuation accounts.

In 1987, Australia introduced dividend imputation. Under this policy, Australian households, superannuation funds and charities receiving franked dividends, i.e. from Australian companies that have paid company tax to the Australian Taxation Office, are reimbursed \$19bn pa via the system for taxing individual and superannuation incomes. In 2000 investors became able to claim franking credits even if they paid no tax, and this feature has become popular with self-funded retirees.

Should franking credits for households, superannuation funds and charities be abolished, thereby freeing up \$19bn pa for cutting the headline rate of company tax? It is hard to estimate with any precision the amount by which we could cut the headline rate. Treasury's 2015 Tax Discussion Paper floats this policy but does not take a stand on actual numbers. Building on the framework of Treasury Working Paper 2015-01 I estimate that the headline rate for large companies could be cut from 30 per cent to 20 per cent. But the relevant calculations rely on strong assumptions. For example, Australian companies are assumed not to revert to the low payout ratios and high gearing that were widespread before imputation. Moreover, eyeballing a scatterplot of recent OECD data suggests that the new headline rate would be more like 25 per cent. That is, Treasury-type modelling generates more optimistic guesses.¹

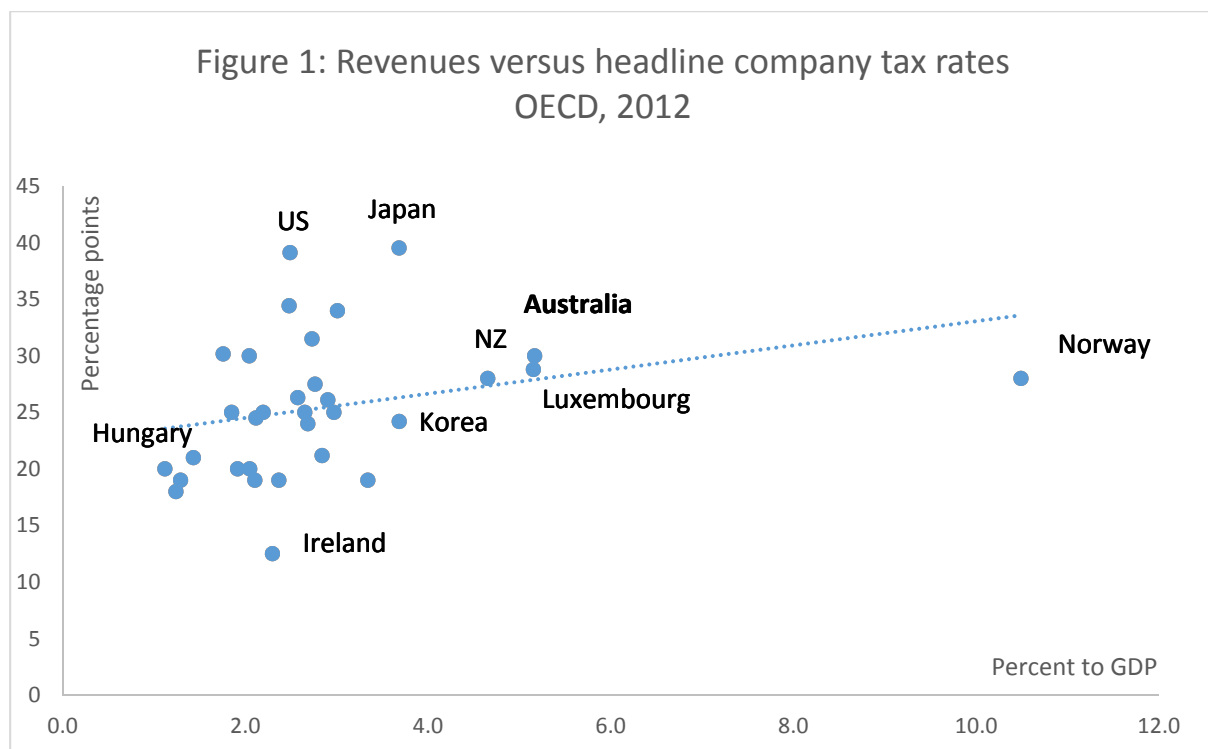
The standard analysis of company tax in the small open economy was originated by Sir Donald MacDougall and has been reprised in the Treasury Working Paper. That analysis assumes capital is perfectly mobile internationally, labour is immobile, payout ratios are 100 per cent, corporate borrowing is zero (or unresponsive to tax policy), and the marginal investor resides wholly offshore. Under these conditions the size of the domestic capital stock is driven by the headline company tax rate, and is unaffected by dividend imputation. This is the essence of the case for abolishing dividend imputation and using the proceeds to lower the headline rate.

Yet foreign-controlled entities which cannot access imputation credits can minimise company tax by means of earnings retention, debt finance and transfer pricing, weakened as these strategies are by Australia's capital gains tax, thin-capitalisation rules and withholding taxes on interest and dividend payments offshore. Moreover, there appears to be some leakage offshore of imputation credits: "An estimated \$12 billion (30 per cent) of the imputation credits distributed each year are received by non-resident shareholders" (Tax Discussion Paper). And when foreign investors have the option of relocating to Australia, it is not obvious that foreign entities are denied franking credits even in

theory. Indeed, Australia’s business migration program is expressly designed to attract investor-settlers.ⁱⁱ In these ways and others, there is ample room for disagreement about the consequences of abolishing dividend imputation.

Revenues versus rates

If business tax revenues and the domestically-located capital stock are both sensitive to the headline company tax rate then OECD data should confirm that. A variant of this hypothesis is that there may be a “tournament effect” whereby setting an extremely low rate generates a disproportionate rise in revenues and/or the national capital stock. Typically mentioned in this context are Irish rates (12½ per cent) and Swiss rates (21 per cent.) Thus, back in 2002 Ireland’s company tax receipts as a percentage of total tax revenues stood at three quarters of the corresponding Australian percentage even before accounting for the disbursements of franking credits to Australian taxpayers (Kingston 2006). Figure 1 shows the latest available data on corporate tax revenues and rates in the OECD.



Source: OECD (2015).

Note: 2012 data for Chile and Mexico were not available. Along with Australia and New Zealand those two countries are the only members of the OECD to have retained full dividend imputation (Tax Discussion Paper, Table 5.1).

In 2012 Australia's company tax rate neighbours were New Zealand and Luxembourg. Outliers of the scatterplot were Hungary (lowest revenues) Norway (highest revenues), Ireland (lowest rate) and Japan (highest rate).

Ireland collected more corporate tax revenue as a share of GDP than 12 out of the 31 countries in the sample, even though it does not have dividend imputation. That share stood at 2.3 per cent, compared to 2.5 per cent in the case of the United States, which has what is in effect partial imputation but a headline rate of 39 percent. As recently as 2006, Irish corporate tax revenue stood at 3.2 per cent of GDP. The decline between 2006 and 2012 was presumably to do with Ireland's subdued economy in the wake of the global financial crisis.

Likewise, in the OECD as a whole, 2012 offered little sign of a "tournament effect" whereby setting an ultra-low headline rate generates exceptional revenues. Rather, there was a positive association between revenues and rates, consistent with conventional thinking on public finance.

Saul Estlake has been reported as saying that abolishing dividend imputation in Australia would enable cutting our headline rate to 25 per cent (Irvine 2015). A relevant data point in Figure 1 is the one for South Korea, which in 2012 collected company taxes worth 3.7 per cent of GDP, by means of a headline rate of 24 per cent, along with partial shareholder relief from double taxation (Tax Discussion Paper, Table 5.3). By contrast, Australia raised 5.2 per cent of GDP. This difference, namely $5.2 - 3.7 = 1.5$ percentage points, is close to the total imputation credits claimed by individuals, superannuation funds and charities, namely 1.3 per cent of Australia's GDP in calendar 2012.ⁱⁱⁱ Thus Figure 1 supports Estlake's estimate.

Gruen (2006, pp22-23) says, by contrast, that "an indicative target for the company tax rate if Australia moves back to the classical system" is in the range of 19 - 21 per cent, although "revenue

neutrality might allow the rate to be reduced to still lower levels—perhaps 15 per cent or less.” Gruen cites de Mooij and Ederveen (2006) and others in support of the 15 per cent figure. Following the logic of the Treasury Working Paper I estimate that our headline corporate rate could be cut to 20 per cent (see appendix). This is broadly consistent with Gruen’s numbers.

Cannavan, Finn and Gray (2004) find that franking credits had negligible market value following system-tightening measures in 1997. Gruen notes that this result strengthens the case for abolishing dividend imputation. However, Minney (2010, p32) finds that “there has been an increase in the value assigned to franking credits over recent years for stocks in the ASX 300”, from 24 per cent of their theoretical value in the period 2001-2005, to 53 per cent for 2006-2009.

A third way to estimate the new rate after abolition is simply to scale down the current rate of 30 per cent by the proportionate reduction in revenues once franking credits are no longer distributed to households, superannuation funds and charities. This method gives a new rate of $30 \times (65 - 19)/65$ i.e. 21 per cent, in between the two earlier estimates.

Models

MacDougall (1960), Treasury Discussion Paper (2015), a speech by a Deputy Secretary of the Treasury (Heferen 2015) and Treasury Working Paper 2015-01 all highlight a similar diagram showing that cutting the headline rate faced by foreign investors would enlarge the national economy. Figure 2 of the Treasury Working Paper explicitly portrays some effects of using franking credits to finance a cut in the headline rate. The Treasury Discussion Paper and Heferen’s speech portray “quantity of investment” (presumably the stock of physical capital) on the horizontal axis and rates of return on the vertical axis. Heferen’s speech highlights a triangular area labelled “economic value lost due to the tax”, although it is unclear what this area represents. Moreover, none of the Treasury documents takes a stand on the associated economic magnitudes. Figure 2 tries to fill some of these gaps.

Figure 2: Abolishing dividend imputation

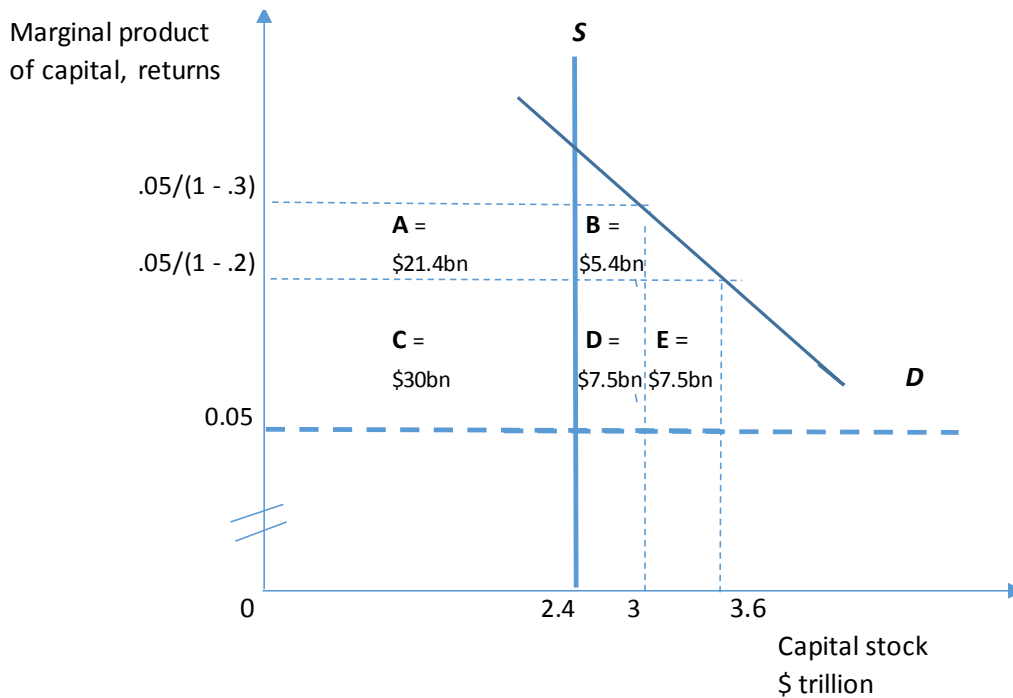


Figure 2 portrays the Australian economy before and after the \$19bn pa of franking credits claimed by individuals, superannuation funds and charities are used to finance a cut in the headline company rate.

The horizontal axis shows the capital stock. The schedule **D** portrays the marginal product of Australian-located physical capital. Following Mankiw et al. (1992), the exponent on physical capital in the aggregate production function is one third (see appendix). Following the Treasury Working Paper, the schedule **S** shows the supply of capital by Australian residents, and is assumed perfectly inelastic, debatable as that assumption is. The Australian-located capital stock initially stands at \$3tn, of which \$2.4tn is Australian owned (Treasury Working Paper).

The vertical axis shows the marginal product of capital located in the Australian economy along with three different rates of return. The heavy dashed line cuts the vertical axis at 0.05, reflecting an assumption that offshore investments are in perfectly elastic supply at a 5 per cent real rate of return (see appendix). The initial headline rate of company tax is 30 per cent, implying that foreign investors require a pre-tax rate of return of $0.05/(1 - 0.3) = 7.1$ per cent pa for Australian

investments to be considered. The initial return before tax to domestic investors is also 7.1 per cent pa.

The revenue initially collected from foreign investors is given by **B + D**, i.e. $(3 - 2.4) \times 0.3 \times .071 = \12.9bn pa . The headline revenue initially collected from domestic investors is **A + C**, i.e. $2.4 \times 0.3 \times 0.071 = \51.4bn pa . Total headline revenue is **A + B + C + D**, or $\$64.3\text{bn pa}$, close to the required $\$65\text{bn pa}$. I follow the Treasury Working Paper in assuming “company income tax revenue from domestically owned capital is largely returned in the form of franking credits”.

Now suppose franking credits to households, superannuation funds and charities are abolished and that the proceeds, namely $\$19\text{bn pa}$, are applied to cutting the headline rate. Foreign investors now face a headline company tax rate of 20 per cent (see appendix). Foreign investment booms, driving up the domestically located capital stock to $\$3.6\text{tn}$. The return before tax to investors is driven down to 6.25 per cent pa. Revenue collected from foreigners rises by **E minus B**, i.e. by $\$2.1\text{bn pa}$. Headline company tax revenue collected from domestic residents falls by **A** i.e. by $\$21.4\text{bn pa}$.^{iv}

Interactions

Part of the case for replacing dividend imputation with a lower headline corporate tax rate is that Australia has fallen out of step with its traditional peer group. Notably, Canada and the United Kingdom have lower headline rates than ours—26 per cent and 21 per cent respectively. Canada offers a “dividend tax credit at shareholder level for underlying domestic corporate profits” (Tax Discussion Paper, Table 5.1) but appears not to have the cash-refund feature that we have had since 2000. The UK offers some shareholder relief. But full imputation is not the only quirk in our tax system. Also unusual are our highly progressive taxes on personal incomes and our 15 per cent tax on the earnings of superannuation funds in accumulation mode. Imputation helps ameliorate these other idiosyncratic policies.

Swan (2015) points out that abolishing imputation without revising our current personal tax scale would result in very high effective marginal rates on dividend income, especially if the company tax rate were left at 30 per cent. The effective marginal rate on dividend income faced by an individual taxpayer in the 37 per cent tax bracket would then rise to 56 per cent. The effective marginal rate faced by a personal taxpayer in the 47 per cent bracket would rise to 63 per cent, “comparable to France with the world’s highest tax rate on distributions.” Even if the company tax rate were reduced to 20 per cent, the effective marginal rate for someone in the 47 per cent bracket would still be a hefty 58 per cent.

Consider the decision to invest \$1 with the intention of spending the proceeds 30 years hence. Assume that the dollar is invested within the super system, the earnings rate on the fund is 5 per cent pa, and franking credits negate the earnings tax. Then \$1 compounds to $(1+.05)^{30} = \$4.32$. By contrast, if the earnings were taxed at 15 per cent then \$1 would compound to $[1+(1-.15) \times .05]^{30} = \3.48 . Understanding the power of compound interest, Australian life-cycle savers would contemplate the alternative strategy of building up equity in a geared family home or investment property—dwellings are gearing-friendly and tax-benefit effective. Yet housing is a consumer durable rather than a productive asset.

Most countries in the Northern Hemisphere do not tax pension fund earnings until the account-holder retires, whereupon super drawdowns are taxed in line with the regular rate scale. Thus, tax on super is essentially a progressive consumption tax. Viewing tax on super in this way, the need recedes for incessant debate about the fairness of tax concessions for super. This policy also encourages voluntary contributions and self-funded retirements.

Then there are the effects of imputation on debt and equity choices. David Murray’s Financial System Inquiry (2014) is one of a number of reports to note that imputation tends to reduce the leverage of Australia’s corporate sector, thereby promoting financial stability. Domestic investors reweight towards domestic equities at the expense of foreign equities, and bonds (both domestic and foreign). Home bias is not entirely bad: people do want to “keep up with the Joneses”. Imputation also discourages the retention of earnings, thereby disciplining corporate managers.

Concluding comments

Treasury's Tax Discussion Paper says that dividend imputation "makes little contribution to attracting foreign investment to Australia" and "involves a significant cost to revenue". Treasury appears to be drawn towards abolishing dividend imputation along with cutting the headline rate of company tax.

Treasury's erstwhile Resource Super Profits Tax and its recent modelling of imputation have something in common. Both envisage a fiscal free lunch whereby a tax measure imposes losses on Australian investors without affecting their behaviour, yet generates gains for the economy as a whole. Fleshing out a simple version of the Treasury model, I estimated that abolishing imputation could cut returns before tax to domestic investors from 7.1 per cent pa to 6.25 per cent pa. A perpetuity repriced at this yield would fall in value by 14 per cent—self-funded retirees beware. Yet there could be a rise in national income of 4.9 per cent, assuming that all the proceeds of abolishing imputation are applied to reducing the headline company rate (see appendix).

Dividend imputation may raise the cost of capital for the marginal investor, but it helps mitigate the other idiosyncrasies of our tax system. Abolishing imputation is a capital-market analogue of abolishing tariffs. Just as freeing up imports should be sequenced after domestic liberalisation, so abolishing dividend imputation should be sequenced towards the back end of comprehensive tax reform. A better way incrementally to promote business investment could be simply to cut the headline rate by small amounts, if and when spending control and the economic outlook permit. In 2011, for example, New Zealand successfully cut its headline rate from 30 per cent to 28 per cent.

Appendix: Estimating the effects of abolishing dividend imputation

Building on Treasury Working Paper 2015-01, I estimate the magnitudes associated with abolishing dividend imputation and using the proceeds to cut the company tax rate. Equation (6) of that paper argues foreign investors require the before-tax rate of return to physical capital located within

Australia, r_{bt} , to equal the exogenously-given global rate of return r_w divided by one minus the company tax rate τ_K :

$$r_{bt} = \frac{r_w}{1 - \tau_K}. \quad (1)$$

Assume a Cobb-Douglas aggregate production function $Y_d = cK^{1/3}\bar{H}^{2/3}$, where Y_d is domestic product, c is a constant, K is the Australian-located stock of physical capital, and \bar{H} the fixed stock of labour in Australia (exertion plus human capital). Next, substitute the marginal product of capital for r_{bt} in eq. (1):

$$\frac{c}{3}K^{-2/3}\bar{H}^{2/3} = \frac{r_w}{1 - \tau_K}. \quad (2)$$

Hence the link between a change in the company tax rate and the resulting change in the Australian-located capital stock is:

$$\Delta K = -\frac{3}{2}K \left(\frac{\Delta \tau_K}{1 - \tau_K} \right). \quad (3)$$

If the headline company tax rate is initially 30 per cent and the capital stock is initially \$3tn then a cut of 10 percentage points in the headline rate induces an inflow of \$642bn of foreign capital. If a headline \$65bn pa of company tax revenue is initially collected from domestic and foreign investors, then $0.3 \times (r_w / 1 - 0.3) \times 3 = 0.065$, i.e. the model-consistent value of r_w is 5 per cent pa.

Now reallocate \$19bn of franking credits from domestic households, superannuation funds and charities to paying for a cut in the headline rate. The new capital stock K' and the new tax rate τ'_K must satisfy

$$\frac{0.05}{1 - \tau'_K} \tau'_K K' = 0.065 - 0.019. \quad (4)$$

Use equation (3) to substitute for K' ($= \Delta K + K$) in (4). This pins down the new tax rate τ'_K ($= \Delta \tau_K + \tau_K$) as a solution of the quadratic equation

$$0.321(\tau'_K)^2 - 0.292\tau'_K + 0.046 = 0. \quad (5)$$

The relevant solution is $\tau'_K = 0.2$ i.e. 20 per cent. It follows from (3) that $K' = \$3.6\text{tn}$.

The change in national welfare following abolition can be measured by the percentage change in national income. In the setup here, national income Y_n is given by domestic product minus the flow of dividends offshore:

$$Y_n = cK^{1/3}\bar{H}^{2/3} - r_w K_f \quad (6)$$

where K_f is the foreign-owned capital stock. It follows that a first-order approximation to the percentage change in national income is:

$$\begin{aligned} \frac{\Delta Y_n}{Y_n} &= \frac{cK^{1/3}\bar{H}^{2/3}}{3Y_n} \frac{\Delta K}{K} - r_w \frac{\Delta K_f}{Y_n} \\ &= \frac{Y_d}{Y_n} \frac{\Delta K}{K} \left(\frac{1}{3} - r_w \frac{K}{Y_d} \right). \end{aligned} \quad (7)$$

Introduce the facts that in calendar 2014 gross national income was \$1.569tn, and gross domestic product was \$1.599tn. This together with earlier information implies that the change in national income following lower company tax and the abolition of imputation is 4.9 per cent.

References

- Australian Treasury 2015. *Re:think*, Tax Discussion Paper (March).
- Cao, L, Hosking, A, Kouparitsis, M, Mullaly, D, Rimmer, X, Shi, Q, Stark, W, and Wende, S 2015. 'Understanding the Economy-Wide Efficiency and Incidence of Major Australian Taxes', Treasury Working Paper 2015-01.
- Cannavan, D, Finn, F and Gray, S 2004. 'The value of dividend imputation tax credits in Australia', *Journal of Financial Economics*, vol. 73, iss. 1, pp. 167–197.
- de Mooij, R, and Ederveen, S 2006. 'What a difference does it make? Understanding the empirical literature on taxation and international capital flows', Economic Paper 58, European Commission.

Gruen, N 2006. 'Tax cuts to compete: the influence of corporate taxation on Australia's economic growth', CEDA Information Paper 85.

Heferen, R 2015. 'Tax reform and the economic backdrop', speech, Australian Treasury.

Irvine, J 2015. 'We have to raise revenue, not just cut spending' *Sydney Morning Herald*, 18 May.

Kingston, G 2006. 'Our Treasurer should cultivate an Irish lilt', *Policy*, (Summer iss.), pp. 3-8.

MacDougall, G 1960. 'The benefits and costs of private investment from abroad: a theoretical approach', *Economic Record*, vol. 36, iss. 73, pp. 13-35.

Mankiw, N, Romer, D and Weil, D 1992. 'A contribution to the empirics of economic growth', *Quarterly Journal of Economics*, vol. 107, iss. 2, pp. 407-437.

Minney, A 2010. 'The valuation of franking credits to investors', *JASSA: The Finsia Journal of Applied Finance*, iss. 2, pp. 29-34.

Murray, D 2014. *Final Report*, Financial System Inquiry (December).

OECD 2015, *Tax Database*.

Swan, P 2015. 'Investors will be the losers if imputation system goes', catallaxyfiles.com, 9 April.

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ⁱ The most common argument for retaining dividend imputation is that it counters the "double taxation" of capital income. But there is much double taxation elsewhere in tax systems that attracts little adverse comment. For example, taxes on corporate and personal incomes in most federations are levied at both the federal and state level, and it is not obvious that this has been a bad thing. So the case for retaining imputation needs to cast a wider net.

ⁱⁱ In fact, MacDougall did consider the case of labour market responses.

ⁱⁱⁱ The raw figure "in recent years" was 19bn pa (Australian Treasury 2015, p83). The headline total company tax take was \$65bn pa.

^{iv} My use of the word "headline" alludes to the consideration that the setup of Figure 2 does not account for the rise in revenues collected via the personal tax, following abolition. The problem is that the notion of a "representative recipient" of franked dividends would have to lump together untaxed pensioners with people on the top personal rate.