eJournal of Tax Research

CONTENTS

Comparison of a lower corporate income tax rate for small and large businesses

John Freebairn[1]

Abstract

The comparative effects of a lower corporate income tax rate on effective tax rates and investment decisions of small and large businesses are assessed, and some of the implications for the economy are explored. A lower corporate tax rate results in a larger reduction in the effective tax burden facing large businesses. This combined with the higher funds supply elasticity generates a larger investment response by large businesses, and flow on to GDP and labour incomes. Despite this, however, a larger share of the benefits of a lower corporate tax rate accrue to non-resident shareholders of large businesses.

Key words: corporate income tax, small business, large business, capital income taxation

1.   INTRODUCTION

An analytical framework is developed to compare and contrast the different effects of a lower corporate income tax rate[2] for Australia on small versus large businesses. The current political debate on business tax reform and recent computable general equilibrium modelling of the effects of a lower corporate tax rate provide a context. Following the 2015 Commonwealth budget reduction in the corporate tax rate for small businesses with an annual turnover of up to $2 million (Hockey & Cormann, 2015), the 2016 Commonwealth budget proposed to extend the small business threshold to $10 million from July 2016, with further increases each year through to 2022–23, before a common reduction for all businesses (Morrison & Cormann, 2016).[3] The Labor opposition supports a lower rate only for small businesses with a turnover of up to $2 million a year (Australian Labor Party, 2016). The Henry Tax Review (Henry et al., 2009) for Australia and the Mirrlees Review (Mirrlees et al., 2011) for the UK rejected the idea of a lower corporate tax rate for small businesses, primarily because of the complexity, costs and doubtful efficiency benefits. Recent computable general equilibrium model studies of the effects of a lower corporate income tax rate for Australia by Rimmer et al. (2014), Cao et al. (2015), Kouparitsas et al. (2016), Dixon and Nassios (2016) and Murphy (2016) implicitly assume similar effects of a lower corporate tax rate across businesses of different sizes. For simplicity they use a representative firm for each industry. Also, the assumptions that all corporate income after tax is distributed as dividends and there is a constant equity to debt funding ratio are challenged, and plausible alternative assumptions are found to influence the effects of a lower corporate tax rate on businesses of different sizes.

Key different characteristics of small and large businesses which generate different effects of a lower corporate tax rate are: the relative importance of resident versus non-resident shareholders; and different capital income tax systems. Capital income tax refers to the tax wedge between the corporate investor pre-tax return and the saver after-tax return. The tax wedge is shown to vary between resident and non-resident shareholders, and then for each category of shareholder between income distributed as dividends or retained for additional investment. The imputation system reduces the effect of a lower corporate tax rate on the effective tax burden for resident shareholders. By contrast, under the current system of withholding taxes applying to non-resident funds invested in Australian companies, most of a lower corporate tax rate reduces the effective tax rate and it is passed on to non-resident shareholders. Large businesses with a higher share of non-resident shareholders face a more elastic supply of investment funds in the global capital market than small businesses primarily dependent on family savings and retained earnings. Differences in the shareholder mix and the tax system between small and large businesses are shown to result in important differences in the effects of a lower corporate tax rate on the effective tax burden, the magnitude of the investment response, and the distribution of the benefits of a lower rate.

---

[2] A lower effective corporate tax rate can be driven by a lower statutory tax rate, or by additional exemptions and deductions from a comprehensive tax base. For reasons of space and brevity, the paper proceeds with a lower statutory rate, while recognising that the arguments apply also to a reduced tax base.

[3] Specifically, the budget proposed to lower the current 30 per cent rate to 27.5 per cent for businesses with a turnover of less than $10 million a year from July 2016, and to increase the turnover threshold by annual increments to $1 billion by 2022–23, before extending reductions for all businesses to 25 per cent by 2026–27. In addition, small businesses are able to expense capital items costing up to $20,000.

The rest of the paper is as follows. Section 2 provides background data on: the mix of businesses by alternative measures of size and their relative contributions to the economy; and differences between small and large businesses in the sources of, and the elasticity of supply of, investment funds. The different tax treatments of capital income earned by corporate and other businesses, and for corporations between resident and non-resident shareholders, and then between debt, dividends and retained earnings, are discussed in Section 3. Drawing on the background of Sections 2 and 3, Section 4 assesses the comparative effects of a lower corporate tax rate in reducing the effective tax burden on marginal investment by small and large businesses. A partial equilibrium model of investment demand and supply is used to assess the effects of the lower effective tax on investment levels, distribution of the lower corporate tax rate, and other business decisions. A final Section provides a summary and conclusions.

2.   SMALL AND LARGE BUSINESSES IN THE AUSTRALIAN ECONOMY

There are numerous definitions and measures of a small business. One set of definitions focus on institutional structure. This paper primarily considers corporate businesses. A snapshot or static picture of business size measures size by turnover as under the current policy discussion, but also alternatively by employment, payroll, assets and income. Then, there are different magnitudes for each measure, such as less than 5, 20, or X employees, and inevitably the specified magnitudes are arbitrary. Another set of business size characteristics take a dynamic picture of contributions to employment growth, technological change and firm survival. The Australian Bureau of Statistics (ABS), Australian Taxation Office (ATO) and Household Income and Labour Dynamics in Australia (HILDA) provide data on many of the different business size measures.[4]

The institutional mix of private businesses at the end of 2014–15 is shown in Table 1. Of the 2.1 million businesses, companies represent 36 per cent. However, companies account for a much larger share of economic output, income, employment and investment. Over the last decade the share of companies has increased. Most large businesses are corporates, but there are also many small businesses that are corporates.

Table 1: Australian Private Business by Type, 2014–15, and Some Measures of Transition Rates

Type of business	Number of businesses	Share of businesses (%)	Survival rate, 2011–15 (%)	Entry rate, 2014–15 (%)	Exit rate, 2014–15 (%)
Sole proprietor	555,294	26	50	16	16
Partnership	299,540	14	64	7	11
Trust	497,226	24	70	12	9
Company	747,586	36	66	15	12
Total	2,100,162		62	14	13

Source: ABS Catalogue No 8165.0, Table 10, except for column 4 which comes from Table 11 (ABS, 2016d).

---

[4] A 2015 Reserve Bank of Australia (RBA) conference volume on small businesses provides an excellent review of the many dimensions of small businesses (Moore & Simon, 2015).

Table 2 reports ATO data on the mix of companies classified as private and public companies, and the taxable income within each category.[5] Over 99 per cent of the companies are private companies, and most of these are small, and family-controlled and managed. Public companies with an annual taxable income of more than $5 million represent just 0.3 per cent of taxable companies, but they account for over 61 per cent of taxable corporate income. Many of these large companies are multinationals with a significant share of non-resident shareholders.

Table 2: Taxable Resident Companies Classified as Private/Public and by Taxable Income, 2013–14

Status and taxable income	Companies		Taxable income	
	Number	Share of total (%)	$ m	Share of total (%)
Private companies:				
<$100k	216,545	65.9	5,817	2.2
$100–500k	76,432	23.3	17,271	6.5
$500k–1m	16,280	5.0	11,379	4.3
$1–5m	13,280	4.2	27,592	10.4
>$5m	2,442	0.7	39,093	14.8
Total private	325,592	99.1	101,152	38.2
Public companies:				
<$100k	778	0.2	-42	
$100–500k	501	0.2	125	
$500k–1m	222	0.1	166	
$1–5m	568	0.2	1,478	0.6
>$5m	954	0.3	161,823	61.1
Total public	3,023	0.9	163,550	61.8
Total resident taxable	328,615		264,702	

Source: ATO, Taxation Statistics, 2013–14.

For businesses of different sizes according to the number of employees, Table 3 shows contributions to the economy as shares of national employment and value added. For the ABS definition of 'small business' as being less than 20 employees (ABS, 2004), small businesses account for 97 per cent of all businesses by number, but only 43 per cent of employment and 33 per cent of value added. Very large businesses with 200 or more employees represent just 0.2 per cent of businesses, however they account for 32 per cent of employment and 44 per cent of value added. The relatively higher value added contribution versus employment for large businesses reflects more capital per employee and a larger share of higher skilled employees.

---

[5] Some caution is required with annual taxable income for a particular year as a general measure of average taxable income over time. In any year a specific company's taxable income can be below or above average because of a combination of: losses carried forward; large depreciation and other expenses incurred prior to the production boost; cyclical and other short-term adverse effects on sales; and bad luck and/or poor management.

The relative importance of small businesses varies across the different industries, with, for example, larger than average employment and value added shares in agriculture and construction, and smaller shares in mining and manufacturing.[6]

Table 3: Contributions of Business by Employment Size to the Economy, 2013

Number of employees per business	Number of businesses		Employment* % of total	Value added* % of total
	'000	% of total		
0	1,264	61		
1–4	563	27		
5–19	197	10		
<20	2,025	97	43	33
20–199	51	2	25	23
≥200	4	0.2	32	44
Total	2,078			

*share of private non-financial sector

Source: Nicholls and Orsmond (2015) drawing on ABS Catalogues 8165.0, 8166.0 and 8167.0.

Data on firm survival, entry and exit rates in Table 1, and other ABS (2016c) data on involvement in research and development (R&D) and innovation, reveal considerable dynamics across businesses of different sizes and also considerable heterogeneity within the different size categories.[7] From Table 1, about 62 per cent of all businesses in July 2011 survived to June 2015, with sole proprietors slightly below the average and companies slightly above the average. Across the different business types, the average entry and exit rates over 2014–15 were around 13 per cent, with greater movements for sole proprietors and below average movements for partnerships. ABS (2016c) reports that some businesses across the different measures of size are involved in R&D and innovative activity to develop better and new products and to reduce costs of production. However, a much bigger share of large businesses report innovative activity, and large businesses account for over 80 per cent of the national investment in R&D. Innovative small businesses predominately are new or start-ups rather than established small businesses, and are only a subset of small business. More generally, drawing on data collected by the RBA from its business liaison program, Nicholls and Orsmond (2015, p. 5) conclude that 'the drivers of small firms' current price, employment and investment decisions are generally not statistically different from larger firms, though this may in part reflect the large degree of heterogeneity in the small business sector'. This picture of heterogeneity of business dynamics across businesses of different sizes supports the arguments of the Henry Review (Henry et al., 2009) and Crawford and Freedman (2010) for neutral taxation of businesses of different sizes for efficiency reasons.

---

[6] For additional statistical details see Wilkins (2016).

[7] Clearly, there are many anecdotes of small businesses which are innovative and with expanding employment, but at the same time there are anecdotes of dynamic and successful large businesses, and there are anecdotes of both small and large businesses which fail.

Corporations depend on a mixture of debt and equity funds to finance their investments. Given the different characteristics of debt and equity, including a guaranteed but in general lower income and expense for debt, together with portfolio diversification preferences, debt and equity are imperfect substitutes for both savers and investors. While there is much heterogeneity across businesses in sources of investment funds and income distribution, and also across time for each business, there are some general patterns which have important implications for the effects of a lower corporate tax rate. On average, between 30 and 40 per cent of investment is financed by debt, and the majority of equity finance is from retained earnings rather than the issue of new equity (Fang et al., 2015). Supporting the latter is the observation that on average, two-thirds of the after-corporate income tax return on shareholder equity is distributed as dividends, and one-third retained, with a slightly higher payout rate for non-ASX and smaller corporates (Bergmann, 2016).

Since colonisation, Australia has been a net capital importer, and non-resident shareholders hold a large share of the equity used to fund investment by the larger companies. Across the business sector, average foreign ownership is around 33 per cent (ABS, 2016a). For most of the multinationals, non-resident shareholders represent 50 per cent or more, including around 80 per cent for mining companies (Connolly & Orsmond, 2011).

Most small businesses, both unincorporated businesses and family-controlled companies, are highly dependent for business equity on family savings and reinvested, or non-distributed, business income. Matić et al. (2012) estimate that less than 20 per cent of small businesses draw on outside debt or equity. Family-funded small businesses have to compete for limited household saving against alternative investments in owner-occupied housing, [8] other property, public shares, superannuation and financial deposits, and for some investment overseas. [9] The low elasticity of supply for aggregate household saving combined with portfolio diversification considerations means the supply of household saving for small business investment in most cases will be inelastic. While small businesses have access to debt finance from the banks and other financial intermediaries, most have limited access to equity from general Australian investors and especially from non-resident investors. Lack of information, asymmetric information and high transaction costs are more marked for private small businesses.

By comparison, large public companies, and especially multinational companies, have access to non-resident equity and debt funds. With Australia being a small player in a large global capital market, the supply of non-resident funds available to public listed corporations is highly elastic, and in some studies it is assumed to have an infinite elasticity (Cao et al., 2015; Murphy, 2016).

---

[8] For some family small businesses there is a significant complementarity between household saving allocated to the home and the business with property used as collateral for business borrowing (Connolly et al., 2015).

[9] ABS (2015) shows that across all households in 2011–12, for average household wealth of $728,139, 3.3 per cent was in own incorporated business, 2.4 per cent in own unincorporated business and 2.8 per cent in trusts. The more important by value household wealth is owner-occupied homes at 43.1 per cent, other property at 15 per cent, superannuation at 15.4 per cent, and 7.9 per cent in other financial assets.

3.   EFFECTIVE TAX RATES

This section describes the effective tax rates for different saving and investment options to highlight the different taxation of business investment income between: resident and non-resident shareholders; individuals and superannuation funds; income on shares distributed as dividends and retained earnings; and, debt and equity. The effective tax rate is the tax wedge between the pre-tax rate of return earned by the investor and the after-tax income rate of return received by the saver. A combination of differences of the tax system, measurement of the tax base, including exemptions, and the statutory tax rate(s) determine the effective tax rate on the different options. Table 4 provides a summary of the wide range of different effective tax rates.

Corporate income tax acts as a withholding tax, and it is a component of the tax wedge between the required pre-tax return earned by the company on its investment and the after-tax return received by the shareholder or saver.

Measurement of the capital income return to corporate equity uses an Australian production or source base measure of nominal income. Effectively, the corporate tax base is a measure of the residual return to equity, or of the consumer surplus to the investor. The return includes the normal return to compensate saving and risk taking, and above normal returns involving rents for limited in supply inputs, monopoly power and short-term quasi-rents on innovation and managerial expertise.

With a few exemptions, the Australian corporate income tax base is a comprehensive one. Special exemptions include immediate expensing of investments of less than $20,000 for small businesses with an annual turnover up to $2 million, accelerated depreciation on most transport equipment and some oil and gas, and R&D preferences (Australian Treasury, 2016). Current corporate income tax rates are 28.5 per cent for small corporations with a turnover of less than $2 million a year, and a flat 30 per cent for all other corporations.

The system of taxation of the capital income earned by shareholders of Australian companies varies between resident and non-resident shareholders, and then for income distributed as dividends and retained by the company for additional investment. With the imputation system, equity returns distributed to resident shareholders face the personal rate for households, which is a progressive rate schedule, and for superannuation funds a flat rate of 15 per cent for accumulation funds and zero for most in the retirement phase.[10] For franked dividends, a dollar for dollar credit is given for the corporate tax. The imputation system for resident shareholders and for company income distributed as dividends means a reduction (increase) in corporate tax paid is offset by an additional (lower) dollar of personal tax, and a smaller (larger) credit for superannuation funds.

For non-resident shareholders, dividends bear the 30 per cent corporate tax if franked and no withholding tax.[11] Unfranked dividends, meaning no corporate tax because of, for example, exemptions from the tax base and losses carried forward, are subject to a withholding tax. The withholding tax rate varies by tax treaty and is in most cases a

---

[10] From July 2017, for post-accumulation funds the superannuation income tax rate is zero for assets up to $1.6 million, and then 15 per cent for income earned on assets above $1.6 million.
[11] Dixon and Nassios (2016) estimate that franked dividends represent about 90 per cent of dividends.

flat rate of no more than 10 per cent (Australian Treasury, 2015).[12] For franked dividends paid on existing shares and corporate investment, a lower corporate tax rate is a dollar for dollar transfer to non-resident shareholders.

Returns to equity reinvested by the company face a different tax treatment to retained earnings. Realised capital gains generated by the additional investment face a second set of taxation for resident investors, namely the corporate tax rate plus a capital gains tax on realised gains at a half of the progressive personal rate for individuals, and for superannuation funds of 10 per cent during the accumulation phase and zero for retirement accounts. For non-resident investors, the retained earnings are subject to company income tax up to the statutory rate, but a lower effective rate if the tax base is less than comprehensive, and capital gains are exempt from further Australian tax, except for special cases involving land assets.

Different taxation systems apply to debt interest than for equity returns. For all business types, corporate and non-corporate, debt interest is a deductible business expense. On interest income received by residents, households pay the progressive personal rate and superannuation funds pay a flat 15 per cent rate during the accumulation phase and zero during the retirement phase. Then, for residents the effective tax burdens for debt and for equity income distributed as dividends are equal, but a different effective tax rate applies to retained earnings. Non-resident providers of debt funds to Australian companies pay a low withholding tax rate on debt interest income. The withholding tax rate on interest varies by country and tax treaty (with an estimated average tax rate of less than 3 per cent (Smails, 2015)), and it is much lower than the 30 per cent rate on franked dividends.

Returns to equity investments in non-corporate businesses, including sole proprietors, partnerships and trusts, are taxed as personal income. The measured tax base for the residual return to equity investment involves a number of concessions, including immediate expensing for small businesses for capital items costing less than $20,000, some exemptions from capital gains taxation, and generous allowances for actual and quasi-household expenses not available to wage earners. In general, for distributed income the progressive personal income tax rate is applied, with an 8 per cent discount for small business income of up to $1,000 a year per individual introduced in July 2016 to match the benefits of the lower corporate tax rate on small corporations (Morrison & Cormann, 2016). Retained income reinvested in the business initially becomes a deduction as depreciation and other expenses, and the future returns are distributed as personal income or realised as a capital gain. The realised capital gain component is taxed at half of the personal income tax rate.[13]

The consumption tax treatment of income earned on household saving investment in own homes clearly is much lower than that of other household investment options, including in companies. In general, the taxation of income earned on investment in other property is lower than shares.

---

[12] Non-residents of some countries, and specifically the US, may receive credit for Australian tax paid on debt and equity returns in assessing the home country tax contribution. Rimmer et al. (2014) indicate that Australian tax is the final tax for about 90 per cent of non-resident investment income earned in Australia.

[13] Taxation of realised capital gains, as opposed to an accrued system, in most cases provides further concessions through the delay, and is often to a lower marginal tax rate. For some however, the lumpy nature of the realised capital gain may shift the taxpayer into a higher marginal rate.

Table 4: Effective Tax Rates for Different Funding and Investment Options

Investment and funding option	Effective tax rate
Company:	
Debt funds	
–resident household	Personal progressive, Tp
–resident super fund	Super flat, Ts
–non-resident	Withholding, average < 3%
Equity, dividend	
–resident household	Personal progressive, Tp
–resident super fund	Super flat, Ts
–non-resident, franked	Corporate, Tc
–non-resident, unfranked	Withholding, < 10% for most
Equity, retained and capital gain	
–resident household	Up to Tc plus 0.5Tp
–resident super fund	Up to Tc plus 0.67Ts
–non-resident	Up to Tc
Unincorporated business:	
Debt finance	Personal progressive, Tp
Equity, distributed income	Personal progressive, Tp
Equity, retained income and capital gain	Progressive, 0.5Tp
Alternative household options:	
Own home	Zero
Other property	Personal, $aTp = (1 - a) 0.5 Tp$
Financial deposits	Personal progressive, Tp

1.   Tp is the progressive personal tax rate, with marginal rate from 0 per cent up to 49 per cent;

2.   Ts is the flat superannuation fund rate of 15 per cent during accumulation and 0 per cent during retirement phases;

3.   Tc is the corporate income tax rate, currently 28.5 per cent for businesses with turnover of up to $2 million a year, and 30 per cent for all others; and

4.   a is the share of rent less expenses accrued income (or loss) in accrued income plus capital gain income.

The effective tax rates of Table 4 and the predominance of resident investors in small companies compared to the dominance of non-residents in most large companies reveal different effective tax rates on debt and equity investments between small and large businesses. The imputation system for resident shareholders results in different effective tax rates to those of the withholding tax system for non-resident shareholders. Also, income distributed as dividends and income retained for further business investment have different effective tax rates. Importantly, a lower corporate tax rate will have a different magnitude of changes to the effective tax rate for resident and non-resident shareholders and for dividends and retained earnings.

4.   EFFECTS OF A LOWER CORPORATE INCOME TAX RATE

The effects of a lower corporate income tax rate are assessed in three steps, with a comparison of the effects on small and large corporations. First, drawing on Section 3, the effects of a lower corporate tax rate on the effective tax burden on a marginal investment are measured, with large differences for a resident relative to a non-resident shareholder. Second, a partial equilibrium comparative static model of the demand for investment and supply of funds is used to assess the investment response to the lower effective tax burden. Drawing on Section 2, the supply of funds for additional investment is more elastic for large businesses with a large share of non-resident shareholders than for small businesses largely dependent on family funds. Third, some general equilibrium flow-on effects of the additional investment on the wider economy, including the labour market and government revenue are assessed.

4.1   Changes to effective tax rates

The magnitude of effect of a lower corporate tax rate on the effective tax burden for a marginal investment will vary with the relative importance of equity and debt finance, and for equity finance between resident and non-resident shareholders, and then between returns distributed as dividends and reinvested. For investment funded by debt funds, there are no changes for both resident and non-resident sourced funds.

Resident equity investors face the same effective tax rate for dividends under the imputation system, and for retained earnings a portion of the lower corporate tax rate is recaptured through the concessional taxation of capital gains generated by the additional investment. By contrast, non-resident equity investors receive almost a dollar for dollar transfer from the Australian Treasury for the lower corporate income tax; the exception is the small share of unfranked dividends which face no corporate income tax and the same withholding tax rate.

Formally, the change in the effective tax burden on additional investment by a corporation, ΔTE, with a lower corporate income tax rate, ΔTc, can be represented as:

$$\Delta TE = RS\ ES\ RIS\ (1 - 0.5Tp)\ \Delta Tc + (1 - RS)\ ES\ (1 - FS)\ \Delta Tc\ (1)$$

where RS is the share of equity funds provided by residents, ES is the share of equity funds in the new investment, RIS is the share of equity returns retained and reinvested, Tp is the resident income tax rate for individuals and superannuation, and FS is the share of dividends franked.[14] The first right-hand term of (1) is the effective tax rate change for resident shareholders, and the second right-hand side term is the effective tax rate change for the non-resident shareholders.

Clearly, values for the parameters of (1) driving the effect of a lower corporate tax rate on the effective tax rate on additional investment vary across business, including by size, and over time for each business. However, there are significant differences on average between small and large businesses. Equity funding for small businesses primarily is by residents and then for most from family funds. That is, RS is close to unity and only the first right-hand term is applicable. To illustrate, suppose equity contributes 60 per cent of funds and ES is 0.6, a third of the equity income is reinvested in the business and RIS is 0.33, and there is an effective capital gains tax

---

[14] For simplicity, an implicit assumption in (1) is that ES and RIS are independent of the corporate tax rate. In a fully general equilibrium model, both would be functions of Tc.

rate of 15 per cent (equal to half of a middle income personal rate of 0.3). Then, a 5 percentage point reduction in the corporate rate becomes a 0.765 percentage point reduction in the effective tax rate on additional investment by a small business.

By comparison, using (1) for a large business, a lower corporate income tax results in a much larger reduction in the effective tax rate. At one extreme case, if non-resident equity is used to fund marginal investment, almost all of the reduction of the statutory corporate tax rate flows to a lower hurdle rate of return on additional investment, that is $\Delta TE = \Delta Tc$. Or, taking the mining industry example with 80 per cent non-resident shareholders, and an equity share of 0.6, over a half of a lower corporate tax rate reduction is passed through to a lower effective tax rate, or at least three times the reduction for a small resident-owned business.

4.2   Investment increase effects

Employing a conventional partial equilibrium model of the demand for and supply of business investment, the magnitude of the investment response, ΔI, to the lower effective tax rate, ΔTE of (1), is given by:

$$\Delta I = [(Es\ Ed) / (Es + Ed)]\ \Delta TE \quad (2)$$

where Es and Ed are the (absolute value) elasticities of the supply of and demand for investment funds. This investment response is illustrated in Figure 1 below as the increase from K to K'. The investment response will be larger the larger the reduction of the effective tax rate, the more elastic the investment demand function, and the more elastic the supply of funds function.

Using (2) as a framework, a lower corporate tax rate will lead to a much larger investment response, ΔI, by large as compared with small business. First, as noted in the above discussion of (1), the effective tax reduction ΔTE is larger for a large business. Second, the elasticity of supply of funds for additional investment, Es, is larger for most large businesses. Most small companies depend on resident shareholders, and then most on family saving, for funds for investment. A combination of a low household saving elasticity and the competition in drawing business funds away from alternative household investments in owner-occupied housing, other property, and so forth results in a low elasticity of supply of funds, Es, to the family-owned and operated company. By contrast, large companies with a high share of non-resident shareholders have access to the international capital market for additional funds. Many take the view that the elasticity of supply of international funds to Australian multinational companies is close to infinite, and this is the assumption made in many of the computable general equilibrium model studies of a lower Australian corporate tax rate (including Cao et al., 2015; Kouparitsas et al., 2016; Murphy, 2016).

Third, while there is debate and uncertainty about the magnitude of the investment demand elasticity, Ed in (2), and then the magnitude of the investment stimulus, there is no doubt that there will be an increase in investment response. The investment demand elasticity in computable general equilibrium models depend primarily on the assumed elasticity of substitution between capital and labour in the production function. For example, Dixon and Nassios (2016) prefer a low elasticity value of 0.4 compared with 0.8 preferred by the Treasury (Cao et al., 2015; Kouparitsas et al., 2016) and Murphy (2016); and all report sensitivity studies to values 50 per cent

above and below the preferred elasticity value. Meta studies of the responses of investment to interest rates and taxation, such as Feld and Heckemeyer (2011), report a wide range of elasticity estimates. Of interest is the results of a study of actual business investment decisions as a component of the RBA's business liaison group. The study found firms used much higher hurdle rates of return than the cost of funds, often preference for the payback period criterion, and for many stability over time in the choice of investment hurdles to changes in interest rates and taxation (Lane & Rosewall, 2015). Investment lags of many years reflect adjustment costs and the timing of replacement of existing investments with larger scale and more advanced technology items. The larger the investment demand elasticity, Ed, the larger the investment response to a lower effective tax rate.

There is no compelling evidence that the demand elasticity is larger for small businesses compared with large businesses. While some small companies are innovative and growth-oriented, and will apply the extra available cash provided by the tax reduction to investment, many other small companies with lifestyle and other low-growth objectives are more likely to use the cash gain for other household purposes. Shareholder pressures for larger profits and dividends are dominant drivers of management decisions in large public companies. These a priori considerations suggest a lower value for the investment demand elasticity, Ed in (2), for small versus large businesses.

In addition to the lower tax-induced increase in aggregate investment, a lower corporate tax rate brings greater neutrality of the tax burden on some business decisions with associated gains in efficiency, but with different effects on small and large businesses. For non-resident investors in large businesses, a lower corporate tax rate reduces the effective tax burden on equity relative to the very low and unchanged rate on debt, and so reduces distortions to the equity to debt mix. Also, the lower corporate rate reduces the effective tax wedge between franked and unfranked dividends. For small businesses, to the extent a lower corporate tax rate reduces the effective tax burden involved in the corporate plus capital gains tax burden on retained earnings, tax distortions to the mix of dividends versus retained earnings are reduced, as are the magnitudes of distortions to the allocation of household saving to the tax exempt owner-occupied dwellings.

4.3   Second round economy and income distribution effects

Additional investment stimulated by a lower corporate tax rate in time boosts the national stock of capital. The larger capital inflow also brings additional foreign technology and management skills, and greater access to global supply chains. A larger ratio of capital and technology to labour shifts outwards the demand for labour. With labour demand more elastic than labour supply, most of the labour demand shift flows to higher wages with a relatively smaller increase in employment. In this way, in the longer term many of the benefits of a lower corporate tax rate flow through to labour and the general population.

Increased investment and labour productivity increase gross domestic product (GDP). The larger the investment response, the larger the increase in GDP, and as argued in Section 4.2 above, the investment response to a lower corporate tax rate will be larger for large versus small businesses. The greater the share of the additional investment sourced in Australia rather than from imports, the larger the additional flow-through effect to GDP. There is no comprehensive data to support a significant difference on

the import share of investment for small versus large businesses. The lower corporate tax rate induced expansion in the demand for labour, and increased labour incomes will be larger the greater the elasticity of substitution of labour for capital and the greater the share of geographic mobile investment (as illustrated in the sensitivity results from the computable equilibrium model studies of Cao et al. (2015) and Dixon and Nassios (2016)).

The increase in gross national income (GNI) will be less than the increase in GDP for large companies. Non-resident shareholders who are more important in large rather than small businesses receive much of the first round benefits of the lower corporate tax rate on existing investments, and they receive most of the after-corporate tax income earned on the additional investment (with a more detailed explanation in Figure 1 below). By contrast, for small businesses, and for those primarily with resident investors, most of the additional GDP stimulated by a lower corporate tax rate flows as higher after-tax incomes to resident shareholders and to employees. Bearing in mind that the available computable general equilibrium models employ a typical firm by industry and do not disaggregate for small and large businesses, the Treasury modellers (Kouparitsas et al., 2016) and Murphy (2016) estimate a positive GNI increase but less than the GDP increase, and Dixon and Nassios (2016) estimate a positive GDP increase but a negative GNI effect.[15]

Consider next the distribution of a lower corporate income tax rate between shareholders and the government following the investment response. Figure 1 considers the case for non-resident shareholders. Suppose for simplicity an infinitely elastic supply of non-resident funds and that non-resident equity shares fund the marginal investment. If non-residents require a global market determined after Australian tax return of r*, for an Australian corporate tax rate of Tc (and assuming constant current withholding taxes) the required pre-tax return is $r = r^*/(1 - Tc)$. With a funds supply function S reflecting the after-tax return to the saver and a demand for funds for investment function D reflecting the pre-tax return on investment, the market sets investment and the capital stock at K. Corporate tax collected by Australia is given by area a+b+c+d. Note that the corporate tax base is the residual return to equity, and the tax collected includes a share, Tc, of the above normal return on infra-marginal investments and on the economic rents earned on geographic immobile investments, namely area a.

Now, reduce the corporate tax rate so that the required pre-tax return falls to $r' = r^*/(1 - Tc - \Delta TEI)$, with ΔTEI being the lower effective tax rate from (1). The lower supply function of equity funds, from S to S', results in higher investment and an increase of the capital stock from K to K'. Corporate tax collected on income earned on the original capital stock falls by area a+b, with the share held by non-residents a transfer from the Australian Treasury to non-residents. Additional tax of area e is collected at the lower tax rate on income earned on the additional capital funded by non-residents.[16] Only with a very large investment demand elasticity, and beyond the

---

[15] Potential explanations for the different results include: the former assumes a higher labour for capital substitution elasticity giving a larger investment and GDP response; and the latter does not include the effect of a lower statutory tax rate reducing profit shifting by multinational companies which reduces the transfer to non-residents.

[16] Note that this result conflicts with the words of Kouparitsas et al. (2016) and Murphy (2016) stating that there is no gain to non-residents because the pre-tax return falls, r to r' in Figure 1, to offset the lower tax rate. While this is true for marginal investments, the lower corporate tax rate continues to collect a share of above normal returns on infra-marginal investment, area c, albeit a lower sum than area a+b.

values available in the literature, would the revenue gain on extra investment, e, exceed the revenue loss on existing investment, a + b.

Figure 1: A Lower Corporate Income Tax Rate
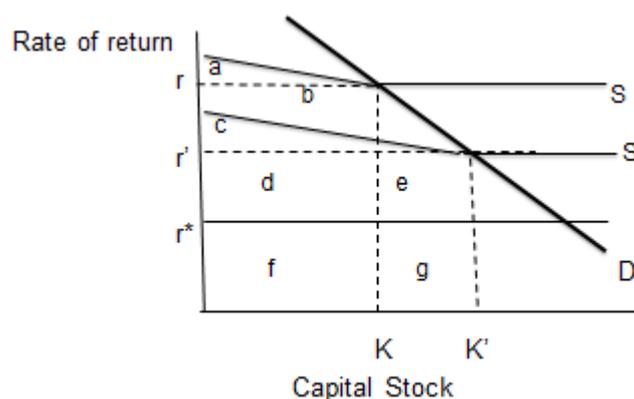
In addition, and not shown in Figure 1, a lower Australian corporate income tax rate will likely reduce the magnitude of profit shifting by multinational companies from Australia to lower tax rate countries. If estimates of profit shifting to lower statutory tax rates for Europe by de Mooij and Devereux (2011) are generally applicable to Australia, a lower statutory corporate tax rate would reduce the magnitude of profit shifting by multinational companies and provide additional Australian company tax revenue to that shown in Figure 1.

By contrast, for small companies with resident shareholders, the first round government revenue loss from a lower corporate tax rate will be much less than for large companies with non-resident shareholders. For resident shareholders, under the imputation system a reduction of franking credits on dividends with a lower corporate tax rate is offset by a higher personal tax payment, and over time some of the lower corporate tax paid on retained earnings is recaptured as tax on higher capital gains or future higher dividends.

In addition to the partial recapture of the first round revenue cost of a lower corporate tax rate from shareholders, in the longer run the larger economy as measured by the increase in GDP means higher other tax bases and additional revenue. These gains include the larger labour income induced by the larger capital stock to increase income tax and payroll tax receipts. With a lower corporate tax rate inducing a larger investment increase, and then GDP increase, these second round revenue gains will be larger for a reduction of the corporate tax rate for large companies than for small companies.

An idea of the magnitude of revenue recapture from a larger economy promoted by a lower corporate income tax rate is given by the computable general equilibrium model studies.   Assuming a representative firm for each industry, as opposed to the disaggregation into small and large businesses considered in this paper, the reported

---

Given that the increase in GNI is less than the increase in GDP, and extra tax revenue of area e is collected on the additional investment, the reported model results in the bulk of these papers seeming more consistent with the Figure 1 model than with the above wording in these papers.

net revenue gain is an aggregate or average. In aggregate, Kouparitsas et al. (2016) and Murphy (2016) estimate that about half of the first round revenue cost of a lower corporate tax rate would be recaptured; the smaller investment and GDP response estimate by Dixon and Nassios (2016) would generate a smaller recapture rate.

5.   CONCLUSION

The many potential definitions of small and large businesses using characteristics such as turnover and employment, and then the characteristic quantity, are arbitrary. There is no general evidence that any of these measures of business size effectively classify businesses by relative contributions to the economy or by the form of, and magnitudes of, market failures to warrant a different corporate income tax rate on small versus large businesses.

In comparing and contrasting the effects of a lower corporate income tax rate on small and large businesses in Australia, a key distinguishing characteristic is the mix of resident and non-resident shareholders. Resident shareholders dominate small companies, and for most the shareholders are family. By contrast, many large companies, and in particular multinational companies, have a large share of non-resident shareholders, and in many cases a 50 per cent and above share. Differences in the capital income taxation of residents versus non-residents, and differences in the elasticity of supply of funds for investment in Australian businesses from family shareholders and from non-resident shareholders of large companies, significantly influence the magnitudes, but not the direction, of the effects of a lower corporate income tax on business investment and the wider economy.

A lower corporate income tax rate will induce a much larger reduction in the effective tax rate for non-resident shareholders relative to resident shareholders, and hence a larger increase in the incentives and rewards for additional investment by large businesses. For resident shareholders, under the imputation system for dividends, which represent about two-thirds of corporate income, the lower corporate tax is offset by a higher personal tax collection; and for the third of corporate income retained and invested, a portion of the initial lower corporate tax is recaptured in later years from additional capital gains tax and income tax on higher future dividends. By contrast, in the case of non-resident shareholders and many large businesses, under the current system of withholding taxes a reduction in the company tax rate initially is close to a dollar for dollar transfer from the Australian Treasury to the shareholder.

The relative magnitude of the stimulus of a lower corporate tax rate to more investment by large as compared to small companies is further boosted by the higher supply elasticity of funds for additional investment from non-resident versus resident shareholders. Small companies heavily dependent on family funds face a low aggregate household savings elasticity and portfolio competition for the allocation of household saving to property, financial deposits or the company. By contrast, non-resident shareholders consider their investment in Australia as just one option in a much larger global capital market. Together, the much larger effect of a lower corporate tax rate on reducing the effective capital income tax rate faced by non-resident shareholders compared with resident shareholders and the larger elasticity of supply of funds from non-resident investors into Australia mean a many-fold larger increase in investment response to a lower corporate tax rate for large versus small companies.

Other important drivers of the magnitude of the investment response to a lower corporate tax rate include the elasticity of the investment demand function, the share of debt and equity, and the share of income distributed. On average, the elasticity of the investment demand function and the time profile of investment response to a lower effective tax rate is likely to be similar across different businesses sizes. A lower corporate tax rate will reduce the current tax concession for debt over equity for non-residents but not for residents, and it will make retained earnings more attractive relative to dividends for residents but not for non-residents. These greater tax neutrality and efficiency gains effects of a lower corporate tax rate are likely to be small relative to the effects of the aggregate investment response.

There are two sets of opposing forces influencing the net cost to revenue of a lower corporate income tax rate on small versus big businesses. The initial or first round revenue loss is much larger for large businesses with their higher share of non-resident shareholders. For residents and dividends, the lower company tax is offset in full by more personal and superannuation fund income tax, and some of the lower tax on reinvested income is recovered in the future. By contrast, non-resident shareholders of large companies receive close to all of the first round lower corporate tax rate reduction. However, the much larger investment response by large businesses to a lower corporate tax rate results in a much larger GDP response than for small businesses. In turn, the larger GDP means larger income and expenditure tax bases, and associated revenue collection. Whether these larger second round taxation gains exceed the larger first round loss for large versus small businesses becomes an empirical question dependent on many parameters for which there is much uncertainty.

If the political debate for a lower corporate income tax is to include options of a lower rate for small businesses, future computer general equilibrium modelling should replace the current representative or average business with at least two business types to recognise the key differences of the resident/non-resident shareholder mix, the different effective tax burdens on residents and non-residents, the elasticity of funds supply, and perhaps also differences of the tax treatment of equity returns distributed as dividends or retained to fund additional investment.

6.   REFERENCES

Australian Bureau of Statistics (ABS) 2004, *Characteristics of Small Business*, No. 8127.0, Canberra.

Australian Bureau of Statistics (ABS) 2015, *Household Income and Wealth, Australia*, 2013–14, No. 6523.0, Canberra.

Australian Bureau of Statistics (ABS) 2016a, *Australian National Accounts: Finance and Wealth*, 2016, No. 5232.0, Canberra.

Australian Bureau of Statistics (ABS) 2016b, *Australian Industry*, 2014–15, No. 8155.0, Canberra.

Australian Bureau of Statistics (ABS) 2016c, *Innovation in Australian Business*, 2014–15, No. 8158.0, Canberra.

Australian Bureau of Statistics (ABS) 2016d, *Counts of Australian Business, Including Entry and Exit*, June 2012 to June 2016, No. 8165.0, Canberra.

Australian Bureau of Statistics (ABS) 2016e, *Summary of IT Use and Innovation in Australian Business*, 2014–15, No. 8166.0, Canberra.

Australian Bureau of Statistics (ABS) 2016f, *Selected Characteristics of Australian Business*, No. 8167.0, Canberra.

Australian Labor Party 2016, *10 Year Plan for Australia's Economy*, available at www.alp.org.au.

Australian Taxation Office (ATO) 2015, *Taxation Statistics*, 2013–14, Canberra.

Australian Treasury 2015, *Australian Tax Treaties*, available at www.treasury.gov.au/Policy-Topics/Tax-Treaties.

Australian Treasury 2016, *Tax Expenditure Statement*, 2015, Canberra.

Bergmann, M 2016, 'The Rise in Dividend Payments', *RBA Bulletin*, March quarter, pp. 47–56.

Cao, L, Hosking, A, Kouparitsas, M, Mullaly, M, Rimmer, X, Shi, Q, Stark, W & Wende, S 2015, *Understanding the Economy-wide Incidence of Major Australian Taxes,* Treasury Working Paper 2015-01, Canberra.

Connolly, E, La Cava, G & Read, M 2015, 'Housing Prices and Entrepreneurship: Evidence for the Housing Collateral Channel in Australia' in Moore, A & Simon, J (eds.), *Small Business Conditions and Finance, Proceedings of a Conference*, Reserve Bank of Australia, Sydney, pp. 115–144.

Connolly, E & Orsmond, D 2011, 'The Mining Industry: From Boom to Bust' in Gerard, H & Kearns, J (eds.), *The Australian Economy in the 2000s, Proceedings of a Conference*, Reserve Bank of Australia, Sydney, pp. 111–156.

Crawford, C & Freedman, J 2010, 'Small Business Taxation' in Adam, S et al. (eds.), *Dimensions of Tax Design*, Institute of Fiscal Studies, pp. 1028–1099.

de Mooij, R & Devereux, M 2011, 'An Applied Analysis of ACE and CBIT Reforms in the EU', *International and Tax Public Finance*, vol. 18, pp. 93–120.

de Mooij, R & Ederveen, S 2008, 'Corporate Tax Elasticities: A Reader's Guide to Empirical Findings', *Oxford Review of Economic Policy*, vol. 24, no. 4, pp. 680–697.

Dixon, J & Nassios, J 2016, *Modelling the Impacts of a Cut to Company Tax in Australia*, Centre of Policy Studies Working Paper No. G-260, Victoria University.

Fang, A, Kosev, M & Wakeling, D 2015, 'Trends in Australian Corporate Financing', *RBA Bulletin*, December quarter, pp. 29–38.

Feld, L & Heckemeyer, J 2011, 'FDI and Taxation: A Meta-study', *Journal of Economic Surveys*, vol. 25, no. 2, pp. 233–272.

Henry, K, Harmer, J, Piggott, J, Ridout, H & Smith, G 2009, *Australia's Future Tax System: Report to the Treasurer,* Canberra.

Hockey, J & Cormann, M 2015, *Budget Paper No. 2*, 2015–16, Commonwealth of Australia.

Kouparitsas, M, Prihardini, D & Beames, A 2016, *Analysis of the Long Term Effects of a Company Tax Cut*, Treasury Working Paper 2016-02, Canberra.

Lane, K & Rosewall, T 2015, 'Firms' Investment Decisions and Interest Rates', *RBA Bulletin*, June quarter, pp. 1–7.

Matić, M, Gorajek, A & Stewart, C 2012, 'Small Business Funding in Australia' in *Small Business Finance Roundtable*, Reserve Bank of Australia, Sydney, pp. 15–23.

Mirrlees, J et al. 2011, *Tax by Design*, Institute of Fiscal Studies, London.

Moore, A & Simon, J (eds.) 2015, *Small Business Conditions and Finance, Proceedings of a Conference*, Reserve Bank of Australia, Sydney.

Morrison, S & Cormann, M 2016, *Budget Paper No. 2*, 2016–17, Commonwealth of Australia, Canberra.

Murphy, C 2016, *The Effects on Consumer Welfare of a Corporate Tax Cut*, Working Papers in Trade and Development No. 2016/10, ANU.

Nicholls, S & Orsmond, D 2015, 'The Economic Trends, Challenges and Behaviour of Small Businesses in Australia' in Moore, A & Simon, J (eds.), *Small Business Conditions and Finance, Proceedings of a Conference*, Reserve Bank of Australia, Sydney, pp. 5–30.

Rimmer, X, Smith, J & Wende, S 2014, 'The Incidence of Company Tax in Australia', *The Treasury, Economic Roundup*, issue 1, pp. 33–47.

Smails, A 2015, 'Interest With Tax Reductions: Does Absence Make the Heart Grow Fonder?', *eJournal of Tax Research*, vol 13, no. 2, pp. 533–551.

Wilkins, R 2016, *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 14*, Melbourne Institute of Applied Economics and Social Research, University of Melbourne.