Extended Company Tax Reforms: A CGE analysis

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Citation

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Executive Summary

This study provides updated, economy-wide modelling of company income tax (CIT) reform in Australia using the VURMTAXG model, incorporating three key extensions to earlier work commissioned by the Productivity Commission for *Creating a more dynamic and resilient economy: Interim Report* [see Productivity Commission (2025) and Nassios *et al.* (2025)]. These extensions improve the treatment of foreign ownership, introduce a Net Cash Flow Tax (NCFT), and account for productivity effects arising from turnover-based CIT thresholds.

First, the model now differentiates foreign ownership shares not only by industry but also by firm size. While this enhances the representation of capital income flows, its effects on outcomes are modest, as much of the variation in foreign ownership was already captured through industry-level data. A detailed exposition of the approach adopted is provided in section 2.1 herein.

Second, the study introduces a 5% NCFT applied to all businesses. The NCFT treats investment as immediately deductible and taxes gross operating surplus, generating substantial revenue—much of it from foreign investors. This revenue almost fully offsets the losses associated with cutting the CIT rate and, unlike relying solely on personal income taxes for revenue neutrality, supports increases in gross national income (GNI), domestic welfare, real post-tax wages, and real private consumption. For full details, see section 2.2 herein.

Third, the modelling incorporates the allocative efficiency distortions caused by a staged CIT schedule, whereby firms with turnover below $1 billion face a reduced 20% tax rate while larger firms remain at 30%. These thresholds induce sub-optimal behaviour and are modelled as a productivity loss under monopolistic competition. Despite these efficiency costs, the full package of CIT cuts funded primarily by an NCFT still yields net economic gains. For full details, see Nassios and Dixon (2025), and section 2.3 herein.

Overall, implementing an NCFT alongside CIT reductions reverses the welfare losses observed when CIT cuts are funded through personal income taxes alone. The combined reform raises GNI and delivers long-run improvements in welfare (up to $17.9 billion), real private consumption (0.2–0.3%), and real post-tax wages (0.65–0.7%), even after accounting for productivity-reducing threshold effects. A gradual, five-year phase-in of the NCFT also delivers substantial gains.

The analysis highlights that an NCFT can play a pivotal role in modernising Australia's business tax system by providing a robust revenue base, alleviating pressure on domestic taxpayers, and enabling CIT reform while strengthening national income and welfare.

Extended Company Tax Reforms
A CGE Analysis

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Abstract[4]

This study presents updated and extended economy-wide modelling of company income tax reform in Australia, using the VURMTAXG model. Relative to Nassios *et al.* (2025), this study introduces three extensions: estimates of foreign ownership shares by industry and firm size (these were previously estimated by industry only); the implementation of a Net Cash Flow Tax (NCFT); and consideration of threshold effects of a staged Corporate Income Tax (CIT) schedule under monopolistic competition.

We find that a Net Cash Flow Tax displays considerable potential to recoup lost revenue from cuts to the CIT rate, taking pressure off domestic households and reversing losses in gross national income, domestic welfare, real post-tax wages and real private consumption associated with a cut to the CIT rate. Even after accounting for foreign ownership shares by firm size, and productivity losses due to the effects of size thresholds for CIT, the implementation of the full package of CIT cuts funded mainly by a NCFT and residually by personal income taxes is shown to increase gross national income and economic welfare.

JEL classification: C68; E62; H21; H25.

Keywords: Taxation policy; CGE modelling; Dynamics; Corporate income tax.

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Contents

Nomenclature

NOTATION	MEANING
Y	Cost of investment made at t=0, e.g. $Y=\$1{,}000$
L	Lifetime of investment (number of years), e.g. $L=5$ Note straight-line depreciation rate = $1/L$
X	Income stream from investment in a single period, e.g. $X=260$ Note that the earnings ratio is given by X/Y
R	Annual discount rate, e.g for 6% discount rate, $R=0.06$
NPV	Net present value of an investment
T	NCFT rate, e.g. for 5% tax rate, $T=0.05$
τ	CIT rate, e.g. for 20% tax rate $\tau=0.20$
ROR	Rate of return on an investment
RROR	Required rate of return (hurdle rate)
(*X*/*Y*)*	Required earnings ratio

NOTES

Subscripts *CIT* and NCFT are used to denote post-tax values under corporate income tax and cash flow tax respectively. Subscripts *i* and *g* denote returns to investors and government respectively. No subscript generally denotes pre-tax values.

1 Introduction

The Centre of Policy Studies (CoPS) was engaged by the Productivity Commission (PC) to assess the long-run economic impacts of alternative company income tax (CIT) reform scenarios in Australia for *Creating a more dynamic and resilient economy: Interim Report* [Productivity Commission (2025)]. This paper builds on the earlier modelling [Nassios *et al.* (2025)] by incorporating three extensions.

The first extension is to account for foreign ownership shares by industry and size, to better account for tax cuts flowing to foreign and local owners of capital. This improvement only has a marginal effect on model results, as much of the effect was already considered through the separate incorporation of data on industry firm sizes and industry foreign ownership in the Interim Core Scenario.

The second extension is to introduce a Net Cash Flow Tax (NCFT) of 5% on all businesses. The NCFT treats investment as a deduction and collects revenue on gross operating surplus. This required some changes to VURMTAX, described in Section 2.2. The NCFT is found to raise sufficient revenue to almost offset the loss of revenue associated with CIT cuts. As much of the revenue is raised from foreign investors, this takes significant pressure off domestic households and, unlike a CIT alone, boosts gross national income relative to GDP.

The final extension is to incorporate threshold effects due to the staging of the company tax cut, specifically, the retention of the 30% rate for firms with turnover above $1 billion and the cut to 20% for firms below this threshold. We show that this creates a deadweight loss, with firms adopting sub-optimal behaviour because of the differentiated CIT rate, and we incorporate this as a deterioration in productivity the Final Core Simulation.

Two supplementary simulations are included. In the first of these, the NCFT is phased in so that existing investments (installed before the introduction of the NCFT) are not required to pay NCFT, reflecting the fact that these investments did not receive immediate expensing. The second supplementary simulation includes a tax cut of 2 percentage points for businesses with turnover above $1 billion, cutting the CIT rate from 30% to 28%.

The primary focus of this analysis is a comparison of the three extensions to the original "core scenario" reported in Nassios *et al.* (2025) and Productivity Commission (2025). For details of that scenario, referred to in this paper as the *Interim Core Scenario*, refer to Nassios *et al.* (2025). Descriptions of the Scenarios are summarised in Box 1 below, and a brief description of the VURMTAX model is given in Box 2.

A full set of results is available in the accompanying spreadsheet, *CIT Scenarios Part 2.xlsx*.

Scenario	**Extended description**
Interim Core Scenario	An overnight, unanticipated ten-percentage point reduction in the current corporate income tax rate for firms with turnover below A$1b but above A$50 million, along with a five-percentage point cut for firms with turnover below A$50 million, is introduced in 2026. Company tax rates for all firms with turnover below A$1b are 20% following the cuts in 2026, while firms with turnover above the threshold continue to pay the current 30% legislated rate. The cuts are fully funded via an increase in personal income tax collections relative to the base case. This scenario is reported as the "Core Scenario" in the Interim Report
Scenario A	Interim Core Scenario with foreign ownership shares differentiated by industry AND firm size. Note that in the Interim Core Scenario, foreign ownership shares are differentiated by industry only.
Scenario B	Scenario A, with a Net Cash Flow Tax of 5% applied to firms of all sizes, fully implemented in 2026. As with the Interim Core Scenario, budget neutrality is achieved via personal income tax collection.
Final Core Scenario	Scenario B, with threshold effects, which account for productivity loss due to distortions in firm decision-making due to differentiated tax rates for small and large firms.
Scenario C	Final Core Scenario with NCFT phased in gradually over 5 years, for illustrative purposes only.
Scenario D	Final Core Scenario plus CIT cut from 30% to 28% for businesses with turnover above $1 billion.

Box 1: Summary of Scenarios.

VURMTAXG is a 91-industry computable general equilibrium model of Australia based on VURM [Adams *et al.* (2015)]. The model is designed for detailed taxation analysis and is described in Nassios *et al.* (2019a). Herein, we use a two-region (NSW and the Rest of Australia [RoA]) aggregation of the core eight-region database. To parameterise VURMTAXG, CoPS relies on data from a variety of sources, including Australian Bureau of Statistics (ABS) Census data, Agricultural Census data, State accounts data, and international trade data. The core VURMTAXG model is based on the ABS 2021/22 Input-Output data release, national and state accounts aggregates, together with Government Financial Statistics data from ABS cat. No 5512.0 and various Government budget papers. VURMTAXG includes all the features underlying VURMTAX, together with a specialised Greenhouse account module whose database is parameterised using Australian national Greenhouse Accounts (ANGA) data for 2021/22.

Each region in VURMTAXG has a single representative household and a state government. The federal government operates in each region. The foreign sector is described by export demand curves for the products of each region, and by supply curves for international imports to each region. Supply and demand for each regionally produced commodity is the outcome of optimising behaviour. Regional industries are assumed to use intermediate inputs, labour, capital and land in a cost-minimising way, while operating in competitive markets. Region-specific representative households purchase utility-maximising bundles of goods, subject to given prices and disposable income. Regions are linked via interregional trade, interregional migration and capital movements, and governments operate within a fiscal federal framework.

Investment in each regional industry is assumed to be positively related to expected rates of return on capital in each regional industry, and negatively related to required rates of return on capital, i.e., interest rates and risk premia. VURMTAXG recognises two investor classes: local investors (i.e. domestic households and government) and foreign investors. Capital creators assemble, in a cost-minimizing manner, units of industry-specific capital for each regional industry.

VURMTAXG provides results for economic variables on a year-on-year basis. The results for a particular year are used to update the database for the commencement of the next year. More specifically, the model contains a series of equations that connect capital stocks to past-year capital stocks and net investment. Similarly, debt is linked to past and present borrowing/saving, and the regional population is related to natural growth and international and interstate migration. The model is solved with the GEMPACK economic modelling software [Horridge *et al.* (2018)].

In solving VURMTAXG, we undertake two parallel model runs: a baseline simulation and a policy simulation. The baseline simulation is a business-as-usual forecast for the period of interest; herein, this forecast is aligned to NSW TSY state and national macro aggregates. The policy simulation is identical to the baseline simulation in all respects, other than the addition of shocks describing the policy under investigation. We report results as cumulative deviations (either percentage or absolute) away from base case in the levels of variables in each year of the policy simulation.

Applications of VURMTAXG include analysis of the GST [Giesecke and Tran (2018); Giesecke *et al.* (2021)], company tax [Dixon and Nassios (2018)], land tax [Nassios *et al.* (2019b)], personal income taxation [Nassios and Giesecke (2025)], property taxation [Nassios and Giesecke (2022)], oil supply shocks [Liu *et al.* (2024)], and foreign student taxation [Liu *et al.* (2025)].

Box 2: Brief description of VURMTAXG.

2 Simulations

For details of the model, including the base case, closure, database, parameter settings, and derivation of marginal excess burdens, refer to Sections 2 and 3 of Nassios *et al.* (2025). All settings reported there are used herein.

This section contains detailed descriptions of the three extensions made to the VURMTAX model and company tax simulations. Section 2.1 describes foreign ownership shares by industry and size, which are used for Scenario A. The intention of Scenario A is to discern whether the tendency of foreign ownership shares to be greater in large firms, which receive no CIT cut, makes a difference to the overall impact of the company tax cut. This is modelled by applying tax cuts of different magnitudes to foreign and local capital in each industry. The calculation of these tax cuts is described in Section 2.1.

Section 2.2 describes a net cash flow tax (NCFT), which is modelled in Scenario B. This section outlines the theory of the NCFT, showing that the NCFT does not change the incentive to invest, but does affect the government budget and the income account balance. In Scenario B and the Final Core Scenario, there is immediate full implementation of the NCFT. A phased approach is also described in Section 2.2, and modelled in Scenario C for illustrative purposes.

Section 2.3 describes threshold effects, which are modelled in the Final Core Scenario. Threshold effects, where tax rates differ above or below a certain threshold, cause firms to operate with non-optimal costs or sales, creating a deadweight loss that has similar effects to a deterioration in multi-factor productivity. This is particularly pronounced where there is monopolistic competition. In Section 2.3, this deadweight loss is estimated and converted to a productivity loss that is applied in the Final Core Scenario.

All scenarios and the threshold model are solved using the Runge-Kutta method by Dormand and Prince (1980) implemented in GEMPACK [Horridge *et al.* (2018)].

2.1 Foreign ownership shares by industry and size

The company tax cut proposal is differentiated by firm size as shown in Table 1.

The Interim Core Simulation used ABS data on business counts by ANZSIC Division and turnover ranges to estimate turnover shares across the three size categories for each ANZSIC Division. These shares were used to weight the tax cut so that a suitably sized tax cut was applied to each industry (Table 2). Foreign ownership shares by industry were calculated separately using ABS data, and assumed to apply, within industry, to all size ranges. While this approach did not explicitly account for foreign ownership share by firm size, the correlation between high foreign ownership and high concentration of large firms by industry did capture much of the distribution of foreign ownership by firm size. For example, the mining industry has a relatively high proportion of foreign ownership and a relatively high proportion of large businesses, implying that large businesses have a relatively high proportion of foreign ownership. This is important because he economic transmission of the company tax cut depends on foreign ownership shares.

In this paper we improve this analysis by incorporating data on foreign ownership shares by industry and turnover range (Table 3) from the Business Longitudinal Analysis Data Environment (BLADE)[5].

[5] The results of these studies are based, in part, on data supplied to the ABS under the *Taxation Administration Act 1953*, *A New Tax System (Australian Business Number) Act 1999*, *Australian Border Force Act 2015*, *Social Security (Administration) Act 1999*, *A New Tax System (Family Assistance) (Administration) Act 1999*, *Paid Parental Leave Act 2010* and/or the *Student Assistance Act 1973*. Such data may only be used for the purpose of administering the *Census and Statistics Act 1905* or performance of functions of the ABS as set out in section 6 of the *Australian Bureau of Statistics Act 1975*. No individual information collected under the *Census and Statistics Act 1905* is provided back to custodians for administrative or regulatory purposes. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes and is not related to the ability of the data to support the Australian Taxation Office, Australian Business Register, Department of Social Services and/or Department of Home Affairs' core operational requirements.

Legislative requirements to ensure privacy and secrecy of these data have been followed. For access to MADIP and/or BLADE data under Section 16A of the ABS Act 1975 or enabled by section 15 of the *Census and Statistics (Information Release and Access) Determination 2018*, source data are de-identified and so data about specific individuals has not been viewed in conducting this analysis. In accordance with the *Census and Statistics Act 1905*, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation

The data in Table 3 is used to build the equivalent of Table 2 for domestic and foreign investors as follows. Table 4 shows the share of industry turnover by firm size and ownership. For example, “Small, foreign” is equal to the foreign ownership share of small companies (Table 3) multiplied by the share of small companies (Table 2). Ownerships shares of small companies are taken from Table 3 Column 1. The data on passive income is not used as it is assumed not to be relevant to industry activity. The “NA” cells in Table 3 are assumed to be zero, that is, there is assumed to be no foreign ownership of medium or large firms in Education or Arts and Recreation.

Columns (a)-(f) of Table 4 add to 100%. These calculations imply an overall foreign share given in column (g). These shares differ from the industry average foreign ownership shares estimated by CoPS and used in the original core scenario, which are based on international investment position data from the ABS (Cat. No. 5352) and given in column (h).

In some cases, the differences are substantial, in particular, in Mining (B), Manufacturing (C), Construction (E), Wholesale (F) and Retail (G). Data on the international investment position implies that foreign ownership shares in these sectors are high. In Public Administration, CoPS assumes that foreign ownership is zero, unlike the share derived from the BLADE data which implies that foreign ownership is 67%.

In all cases we adjust the foreign and domestic shares to be consistent with the original CoPS shares and use the owner-specific size shares to estimate industry average tax cuts by ownership (Table 5). Effectively the adjustment is to foreign ownership is made by changing the ownership shares from Table 3. This does not actually change the size distribution of foreign firms or of domestic firms but it is included for completeness. The industry tax cuts are then calculated using the owner-specific firm size weights.

The final tax cuts are illustrated in Figure 1. In some cases, the foreign tax cut is greater than the original tax cut, and in some cases it is less. For example, in Divisions H, L, N and S, the foreign owned capital is concentrated in medium size firms, which get the largest tax cut (10%), whereas domestic owned capital is concentrated in small firms which get the 5% tax cut. In Divisions E, F and I, the foreign tax cut is less than the domestic. In these divisions, the foreign share in large firms is much higher than the domestic share.

In general, foreign ownership is concentrated in medium and large firms, and domestic ownership is concentrated in small firms. Foreign owners are exposed to both the large tax cut (10% for medium firms) and no tax cut (for large firms), while domestic owners are mainly exposed to the medium tax cut (5% for small firms). As such, the overall tax cuts for foreign and domestic owners do not differ greatly in most industries.

2.2 Cash flow tax

2.2.1 Overview

This section describes our modelling of cash flow taxes in Australia.

A Net Cash Flow Tax (NCFT) operates by taxing gross operating surplus less investment expenses. In this sense it differs from a conventional CIT, which taxes gross operating surplus less depreciation. In a growing economy, investment expenses exceed depreciation (because investment covers replacement of depreciation, plus growth), meaning that a NCFT at a given rate collects less revenue than a CIT.

To model the NCFT it is necessary to consider how a net cash flow tax affects the post-tax rate of return on an investment, how a NCFT affects the decision to invest, and the amount of revenue that is collected by government. We consider the NCFT on its own and in the presence of a corporate income tax (CIT).

Using a simple formulation of NCFT, we show that post-tax rates of return for profitable investments are lower under a NCFT, but investment decisions are unchanged.

A NCFT effectively operates as though government purchases a portion of every investment and claims that portion of the income stream from the investment. Where investments are highly profitable (implying that rents are made), governments claim a proportion of these rents, rather than claiming a fixed proportion of all returns to capital which is the case under an ordinary company tax.

In this section we set out the derivations of pre-tax and post-tax returns to capital (under a NCFT only, i.e. no conventional company tax is applied), along with government revenue, household income, and the income account balance. We then derive rates of return and required earnings ratios for a CIT, a NCFT and CIT applied in parallel (both applied to a pre-tax base), a NCFT applied after a CIT (i.e. NCFT applied with the CIT treated as a deduction), and a CIT applied after a NCFT (i.e. CIT applied with the NCFT treated as a deduction).

The NCFT as modelled in our simulation is applied with the CIT treated as a deduction, i.e. the "CIT first, NCFT second" formulation, shaded blue in Tables 6 and 7. A key feature of this formulation is that the minimum required earnings ratio for an investment to go ahead is the same as it is under a CIT. This means that the NCFT is non-distortionary in its impact on investment.

The rates of return and required earnings ratios are set out in Tables 6 and 7.

2.2.2 Pre tax returns

The net present value of the income stream, viewed from the time the investment is made, is:

$$NPV = -Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L}. \quad (1)$$

For convenience, define

$$\rho = \frac{1}{(1+R)} + \frac{1}{(1+R)^2} + \cdots + \frac{1}{(1+R)^L}, \quad (2)$$

so that

$$NPV = -Y + \rho X. \tag{3}$$

The rate of return on the investment is given by

$$ROR = \frac{NPV}{Y} = -1 + \frac{\rho X}{Y}. \tag{4}$$

Figure 2 shows the rate of return for an investment with lifetime of 5 years, with various values for the earnings ratio (X/Y) and the discount rate R. With a lower discount rate, a lower earnings ratio can be tolerated. For example, with a discount rate of 2%, the investment goes ahead if X/Y > 0.23, but with a discount rate of 8%, the investment only goes ahead if X/Y > 0.27. (Note that for an investment with a lifetime of 5 years and a zero discount rate, an earnings ratio of 1/5 = 0.2 would give a zero return.)

To formalise the relationship between the earnings ratio and investment, let $RROR$ be the required rate of return (allowing for risk etc.), e.g. RROR=0.10. The condition for $ROR > RROR$ is:

$$\frac{\rho X}{Y} - 1 > RROR. \tag{5}$$

If this condition is met, the investment goes ahead.

Define the earnings ratio $\left(\frac{X}{Y}\right)^*$ as the minimum earnings ratio for which the returns on an investment exceed the required rate of return, that is:

$$\left(\frac{X}{Y}\right)^* = \frac{1}{\rho}(RROR + 1). \tag{6}$$

For example, at a discount rate of 6% and a required rate of return of 10%, for an asset with a lifetime of 5 years, we calculate $\left(\frac{X}{Y}\right)^* = 26.1\%$, which means that an asset costing $100,000 must have expected returns of at least $26,100 per year for 5 years to be viable.

2.2.3 Impact of a cash flow tax

A cash flow tax is applied as a refund on investment and a tax on investment income. The initial after-tax outlay of the investor is $(1-T).Y$ and in subsequent years the after-tax income of the investor is $(1-T).X$.

Under a cash flow tax the net present value ($NPV_{CFT,I}$) to the investor is given by

$$NPV_{CFT,I} = (1-T)\left\{-Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L}\right\}, \tag{7}$$

or

$$NPV_{CFT,I} = (1-T).NPV, \tag{8}$$

where NPV is the pre-tax return defined earlier.

The net present value of revenue collected by government ($NPV_{CFT,G}$) is

$$NPV_{CFT,G} = T.NPV. \tag{9}$$

Note that if an investment has a positive NPV, the NPV of revenue collected by government will be positive.

One approach to calculating the rate of return to the investor ($ROR_{CFTa,I}$) is to calculate the return on the *net* outlay by the investor ($(1-T).Y$)[6], that is,

$$ROR_{CFTa,I} = \frac{NPV_{CFT,I}}{(1-T).Y} = \frac{(1-T).NPV}{(1-T).Y} = ROR. \tag{10}$$

By this calculation, the ROR under a NCFT is equal to the pre-tax ROR. However, this calculation only takes into account the return on the *post-tax* value of the investment.

[6] This approach is used in Table B.8, Creating a more dynamic and resilient economy Interim Report p.61

Consider an investment of $100 which generates a net pre-tax return of $40 in present-value terms, or a pre-tax rate of return (ROR) of 40%. Under a cash flow tax of 5%, in post-tax terms this becomes an investment of $95 generating a post-tax return of $38, and the rate of return is still 40%, that is, $ROR_{CFT1,I} = ROR$.

The question arises as to what the investor, who hoped to invest $100 at a 40% ROR, should do with the $5 refund on their investment. Presumably the investor has decided that the original investment is the most attractive option for their funds. The investor is now obliged to invest the remaining $5 in the next most attractive option. Given that all profitable investment opportunities in the economy are already funded, the best option available may be a bond with a return of 10%, i.e. the required or hurdle rate of return. The investor is only able to make $0.50 from their last $5.

So, rather than making a 40% return of $40, the investor makes a return of $38.50. This logic leads to an alternative calculation for the rate of return:

$$ROR_{CFT,I} = \frac{NPV_{CFT,I} + T.Y.RROR}{Y} = \frac{(1-T).NPV}{Y} + T.RROR = (1-T).ROR + T.RROR, \quad (11)$$

or

$$ROR_{CFT,I} = ROR - T.(ROR - RROR), \quad (12)$$

which illustrates that the investor receives a lower rate of return under the cash flow tax, to the amount of $T.(ROR - RROR)$.

The decision to invest is based on the post-tax rate of return relative to the required rate of return, that is, the investment goes ahead if

$$ROR_{CFT,I} > RROR. \quad (13)$$

Note that

$$ROR_{CFT,I} - RROR = (1-T).(ROR - RROR). \quad (14)$$

In terms of the minimum required pre-tax earnings ratio $\left(\frac{X}{Y}\right)^*_{CFT}$, this means that

$$(1-T).\left(-1+\rho\left(\frac{X}{Y}\right)^*_{CFT}-RROR\right)=0, \qquad (15)$$

which implies that

$$\left(\frac{X}{Y}\right)^*_{CFT}={}^1\!/_{\rho}\,(RROR+1). \qquad (16)$$

That is,

$$\left(\frac{X}{Y}\right)^*_{CFT}=\left(\frac{X}{Y}\right)^*, \qquad (17)$$

meaning that if the pre-tax rate of return exceeds the hurdle rate ($ROR-RROR>0$), then the post-tax rate of return also exceeds the hurdle rate ($ROR_{CFT,I}-RROR>0$). The minimum required pre-tax earnings ratio is unaffected by the NCFT. **Therefore, investment decisions are not changed**.

Figure 3 illustrates rates of return pre- and post-NCFT for an investment with a lifetime of 5 years, for various discount rates and earnings ratios. The pre-NCFT rates of return are the same as those illustrated in Figure 2. The post-tax rates of return for investments that exceed the hurdle (RROR) are lower. Crucially however, the earnings ratio (X/Y) at which the investment is viable is the same, pre- and post-NCFT.

Returning to the earlier example, the cash flow tax effectively means the government has purchased 5% of the investment from the investor and will claim 5% of the income stream. In this example, by implementing a NCFT, the government "invests" $5, and makes a return of 40% * $5 = $2. Presumably the next best option available to government was to invest the $5 in the bond market at 10% and make $0.50. So, in a non-NCFT world, the investor makes $40 and the government $0.50, and under a NCFT, the investor makes $38.50 and the government makes $2. This amounts to a non-distortionary net transfer of $1.50 from the investor to the government. The NPV of the net transfer to government, $NNPV_{CFT,G}$, is given by:

$$NNPV_{CFT,G} = T.Y.(ROR - RROR). \tag{18}$$

Once a NCFT system is in completely in place, net revenue collected by the government in any period is equal to

$$G = T(X^T - Y^T) - RROR.T.Y^T = T(X^T - (1 + RROR)Y^T), \tag{19}$$

where X^T is total annual gross operating surplus across all activities and Y^T is total investment. The term $RROR.T.Y^T$ represents government borrowing costs to finance the NCFT investment refunds. **Note that this derivation does not require rents to be estimated**. In CoPS nomenclature, $X^T - Y^T$ is equivalent to V1LND_I + V1CAP_I – V2TOT_I.

2.2.4 Net Cash Flow Tax in the presence of a Corporate Income Tax

In this section we examine the implications of a NCFT applied simultaneously with a Corporate Income Tax (CIT). We start by setting out the implications of a CIT. This is followed by three formulations of the NCFT: (1) NCFT and CIT applied in parallel to the pre-tax base (with depreciation deductions for CIT); (2) CIT applied to the pre-tax base, followed by NFCT applied to a post-CIT base, and (3) NCFT applied to the pre-tax base, followed by CIT applied to a post-NCFT base.

2.2.4.1 CIT only

We start by setting out the implications of a CIT. The CIT is applied to capital income net of depreciation. For a CIT rate τ, the post-tax net present value on an investment Y with lifetime L is given by:

$$NPV_{CIT,I} = -Y + \frac{X - \tau\left(X - {}^{Y}/_{L}\right)}{(1+R)} + \frac{X - \tau\left(X - {}^{Y}/_{L}\right)}{(1+R)^2} + \cdots + \frac{X - \tau\left(X - {}^{Y}/_{L}\right)}{(1+R)^L}, \tag{20}$$

which simplifies to:

$$NPV_{CIT,I} = (1 - \tau).NPV - \tau.Y\left(1 - {}^{\rho}/_{L}\right). \tag{21}$$

The post-CIT rate of return is given by

$$ROR_{CIT,I} = (1-\tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right). \quad (22)$$

The second term on the RHS reduces the post-CIT rate of return relative to the pre-tax rate of return (recall that $\rho < L$). Unlike a NCFT, for which ROR > RROR implies $\mathrm{ROR_{CIT}}$ > RROR, implying that all investments that are viable under no NCFT are also viable under a NCFT, under a CIT there are some investments for which the CIT changes the decision to invest.

Under a CIT, the decision to invest is positive if $ROR_{CIT,I} > RROR$.

This implies that

$$(1-\tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right) - RROR > 0, \quad (23)$$

Or:

$$(1-\tau).\left(-1 + \rho\left(\frac{X}{Y}\right)^{*}_{CIT}\right) - \tau.\left(1 - {}^{\rho}/_{L}\right) = RROR, \quad (24)$$

where $\left(\frac{X}{Y}\right)^{*}_{CIT}$ is the minimum pre-tax earnings ratio required under a CIT.

Rearranging, we find:

$$\left(\frac{X}{Y}\right)^{*}_{CIT} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right). \quad (25)$$

The difference between the post- and pre-tax minimum required earnings ratio is given by

$$\left(\frac{X}{Y}\right)^{*}_{CIT} - \left(\frac{X}{Y}\right)^{*} = \frac{\tau}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{1}/_{L}\right). \quad (26)$$

Note that at any discount rate, $LX > Y$ (lifetime earnings exceed the initial outlay) meaning that the RHS of the above equation is positive, so the post-tax required earnings ratio exceeds the pre-tax required earnings ratio. This means that the CIT dampens investment.

An indicative value for the difference between the pre- and post-tax required earnings ratio, where L = 5 and τ=20% is equal to 0.0125 indicating that if a pre-tax earnings ratio of 0.25 was sufficient exceed the hurdle rate of return, a post-tax rate of 0.2625 would be needed. Note that this condition is independent of the discount rate.

Figure 4 illustrates the pre- and post-CIT returns for an asset, showing that there are assets for which the imposition of a CIT changes the decision to invest. For example, at a 4% discount rate, an asset with an earnings ratio of 0.25 passes the hurdle rate if there is no CIT, but does not pass if there is a CIT of 20%. As such, the decision to invest is distorted by a CIT.

Note that when $LX = Y$, that is, the undiscounted lifetime earnings are exactly equal to the initial outlay, the post-CIT ROR is equal to the pre-tax ROR.

2.2.4.2 CIT and NCFT in parallel

When the CIT and NCFT are applied in parallel, the post-tax NPV is given by

$$\begin{aligned} NPV_{CIT+CFT,I} = &\left[-Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L}\right] \\ &- T.\left[-Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L} - Y.RROR\right] \\ &- \tau\left[\frac{(X - {}^{Y}/_{L})}{(1+R)} + \frac{(X - {}^{Y}/_{L})}{(1+R)^2} + \cdots + \frac{(X - {}^{Y}/_{L})}{(1+R)^L}\right], \end{aligned} \tag{27}$$

where the first RHS term in square brackets is the pre-tax NPV, the second term is the NCFT liability and the third term is the CIT liability.

This implies that

$$NPV_{CIT+CFT,I} = (1 - T - \tau).NPV + T.Y.RROR - \tau.Y.\left(1 - {}^{\rho}/_{L}\right), \tag{28}$$

The rate of return is given by

$$ROR_{CIT+CFT,I} = \frac{NPV_{CIT+CFT,I}}{Y} = (1 - T - \tau).ROR + T.RROR - \tau.\left(1 - {}^{\rho}/_{L}\right). \tag{29}$$

Note that if there is no NCFT, i.e. $T = 0$, the rate of return reverts to the CIT formulation:

$$ROR_{CIT+CFT,I}\big|_{T=0} = (1 - \tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right) = ROR_{CIT,I}, \tag{30}$$

and if there is no CIT, i.e. $\tau = 0$, then the post-tax rate of return reverts to the NCFT formulation:

$$ROR_{CIT+CFT,I}\big|_{\tau=0} = (1 - T).ROR + T.RROR = ROR_{CFT,I}. \tag{31}$$

An investment goes ahead if

$$ROR_{CIT+CFT,I} - RROR > 0. \tag{32}$$

At the required earnings ratio $\left(\frac{X}{Y}\right)^{*}_{CIT+CFT}$

$$(1 - T).\left(-1 + \rho\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} - RROR\right) - \tau.\left[-1 + \rho\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} + 1 - {}^{\rho}/_{L}\right] = 0. \tag{33}$$

Rearranging, we find

$$\frac{(1 - T - \tau)}{1 - T}.\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} + \frac{\tau}{1 - T}\left({}^{1}/_{L}\right) = {}^{1}/_{\rho}\,(RROR + 1), \tag{34}$$

which implies that

$$\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} = \frac{1}{(1 - T - \tau)}\left((1 - T).\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right). \tag{35}$$

Note again that if there is no CIT ($\tau = 0$), this reduces to $\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} = \left(\frac{X}{Y}\right)^{*}$ which is identical to the NCFT-only case, and if there is no NCFT ($T = 0$), it reduces to $\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right)$ which is identical to the CIT-only case.

Under this formulation, the NCFT is no longer non-distortionary. To see why, note that if the NCFT was non-distortionary, this would imply that the required earnings ratio is unaffected, that is, $\left(\frac{X}{Y}\right)^*_{CIT+CFT} = \left(\frac{X}{Y}\right)^*_{CIT}$. However,

$$\left(\frac{X}{Y}\right)^*_{CIT+CFT} - \left(\frac{X}{Y}\right)^*_{CIT} = \frac{1}{(1-T-\tau)}\left((1-T).\left(\frac{X}{Y}\right)^* - {}^{\tau}/_{L}\right) - \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^* - {}^{\tau}/_{L}\right), \qquad (36)$$

which simplifies to

$$\left(\frac{X}{Y}\right)^*_{CIT+CFT} - \left(\frac{X}{Y}\right)^*_{CIT} = \left(\frac{(1-T)}{(1-T-\tau)} - \frac{1}{(1-\tau)}\right).\left(\frac{X}{Y}\right)^* - \left(\frac{1}{(1-T-\tau)} - \frac{1}{(1-\tau)}\right){}^{\tau}/_{L}. \qquad (37)$$

Returning to the earlier example, where the pre-tax required earnings ratio was 0.25, the lifetime was 5 years, and the CIT was 20%, the post-CIT required earnings ratio was 0.2625. Applying a NCFT of 10% ($T = 0.1$) increases the required earnings ratio by a further 0.0018, to 0.2642. This change is very small relative to the impact of a CIT.

The impacts of the CIT and NCFT can be seen in Figure 5. The NCFT-only and CIT-only impacts are as illustrated earlier in Figure 3 and Figure 4. The impact of applying a NCFT in the presence of a CIT is non-zero, but very small as derived above and illustrated in Figure 5.

2.2.4.3 CIT applied first

Here the NCFT is applied to cash flow net of CIT. The net present value of the investment is given by

$$NPV_{CIT1+CFT2,I} = -(1-T)Y + \frac{(1-T)\left(X - \tau\left(X - {}^{Y}/_{L}\right)\right)}{(1+R)} + \cdots + \frac{(1-T)\left(X - \tau\left(X - {}^{Y}/_{L}\right)\right)}{(1+R)^L} + T.Y.RROR, \qquad (38)$$

which simplifies to:

$$NPV_{CIT1+CFT2,I} = (1-T).\left[(1-\tau).NPV - \tau.Y.\left(1 - {}^{\rho}/_{L}\right)\right] + T.Y.RROR. \qquad (39)$$

The rate of return is given by:

$$ROR_{CIT1+CFT2,I} = \frac{NPV_{CIT1+CFT2,I}}{Y} = (1-T).\left[(1-\tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right)\right] + T.RROR. \quad (40)$$

An investment is made if:

$$ROR_{CIT1+CFT2,I} - RROR > 0, \quad (41)$$

which implies:

$$(1-T).\left[(1-\tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right) - RROR\right] > 0. \quad (42)$$

At the minimum required pre-tax earnings ratio $\left(\frac{X}{Y}\right)^{*}_{CIT1+CIT2}$,

$$(1-T).\left[(1-\tau).\left(-1 + \rho\left(\frac{X}{Y}\right)^{*}_{CIT1+CIT2}\right) - \tau.\left(1 - {}^{\rho}/_{L}\right) - RROR\right] = 0, \quad (43)$$

which implies:

$$\left(\frac{X}{Y}\right)^{*}_{CIT1+CIT2} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right). \quad (44)$$

That is,

$$\left(\frac{X}{Y}\right)^{*}_{CIT1+CIT2} = \left(\frac{X}{Y}\right)^{*}_{CIT}. \quad (45)$$

Therefore a NCFT applied to capital income *net of CIT* does not distort the decision to invest *relative to a CIT applied alone*. This is a key result because it implies that a simulation of a cash flow tax applied to capital income net of CIT has no impact on investment. The simulation only needs to focus on the transfer of funds from foreign and domestic investors to government.

The non-distortionary nature of the NCFT is illustrated in Figure 6, where the NCFT is applied to a no tax base, and a net-CIT-base, and in both cases creates no distortion to the required earnings ratio.

2.2.4.4 NCFT applied first

Here the CIT is applied a tax base net of both NCFT and depreciation. This is only included here for completeness, as the option modelled is to apply the NCFT to a tax base net of CIT, i.e. with CIT applied first.

The net present value of the investment is given by:

$$NPV_{CFT1+CIT2,I} = \left[-Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L}\right] \\ -T.\left[-Y + \frac{X}{(1+R)} + \frac{X}{(1+R)^2} + \cdots + \frac{X}{(1+R)^L} - Y.RROR\right] \\ -\tau\left[\frac{\left((1-T)X - {}^{Y}/_{L}\right)}{(1+R)} + \frac{\left((1-T)X - {}^{Y}/_{L}\right)}{(1+R)^2} + \cdots + \frac{\left((1-T)X - {}^{Y}/_{L}\right)}{(1+R)^L}\right], \tag{46}$$

where on the RHS, the first term in square brackets is the pre-tax return, the second term is the NCFT liability (including the refund), and the third term is the CIT liability, which is payable on income net of CIT and depreciation.

This simplifies to:

$$ROR_{CFT1+CIT2,I} = (1-\tau)(1-T).ROR + T.RROR - \tau.\left((1-T) - {}^{\rho}/_{L}\right). \tag{47}$$

The minimum pre-tax earnings ratio required for investment to go ahead is found where

$$ROR_{CFT1+CIT2,I} = RROR, \tag{48}$$

Or:

$$(1-\tau)(1-T).ROR - (1-T).RROR - \tau.\left((1-T) - {}^{\rho}/_{L}\right) = 0, \tag{49}$$

which implies:

$$\left(\frac{X}{Y}\right)^*_{CFT1+CIT2} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^* - \frac{{}^{\tau}/_{L}}{1-T}\right). \tag{50}$$

The impact on the required earnings ratio are ambiguous, with the negative of the term $\frac{\tau/_L}{1-T}$ reducing the required earnings ratio, while the multiplier $\frac{1}{(1-\tau)}$ increases the required earnings ratio. Over a normal range of earnings ratios and discount rates, the required earnings ratio is increased relative to the pre-tax or NCFT-only requirement, but less than the CIT-only requirement. This is illustrated in Figure 7.

2.2.5 Economy wide implementation and transition

The analysis so far has focussed on a single investment. At the economy-wide level, under the CIT-first formulation, when the NCFT is fully implemented, the tax base is equal to post-CIT gross operating surplus ($V1CAP^*$) less total investment ($V2TOT$). Define

$$NCFTBASE = V1CAP^* - V2TOT. \tag{51}$$

Transitioning from our current system, in which there is no NCFT, we consider two options. The first is the "all-in" option, which is used in the main simulation. In this option, the NCFT base is defined as above from the first year of implementation. A second option is a phased implementation, where the NCFT is only collected on investments that received the deduction when they were installed. When a firm expands its capital stock, it is not possible or practical to ascribe future cash flows to the new investment or to pre-existing stocks, but the NCFT could approximate this by being brought in immediately for investment and phased in gradually on positive cash flows.

To phase in the NCFT over *N* years, for a NCFT rate *T* we calculate an alternative rate *T** to reflect this incomplete base such that

$$T_n^*. [V1CAP^* - V2TOT] = T. \left[\frac{n-1}{N-1} V1CAP^* - V2TOT\right], \tag{52}$$

where T_n^* is the effective NCFT rate in year *n* of implementation.

The RHS of the above equation reflects to true tax collection in year *n* of an *N*-year implementation, while the LHS reflects the model equation where the tax is applied to the full NCFT base. This is rearranged to show:

$$T_n^*. = T.\frac{\left[\frac{n-1}{N-1}V1CAP^*/V2TOT - 1\right]}{[V1CAP^*/V2TOT - 1]}. \quad (53)$$

In the VURMTAX baseline for 2025, the value of $V1CAP^*/V2TOT$ is equal to 1.55. A 5% NCFT phased in over 5 years is phased in at the effective rates shown in Table 8. Note that the effective NCFT rate is negative for the first 3 years of implementation.

2.3 Threshold effects

2.3.1 Overview

This section describes the efficiency costs created by turnover-based thresholds in the corporate income tax system. Thresholds of this kind are commonly used to simplify administration or provide targeted support for smaller businesses. However, by creating abrupt changes in effective tax rates, they can also distort business decisions about scale and output, leading to higher resource costs across the economy. For a detailed description, we refer the readers to Nassios and Dixon (2025).

To assess these effects, we develop a detailed firm-size model that maps the distribution of firms around a turnover threshold of A$1 billion (equivalent to about A$400 million in annual capital rents). The model builds on Dixon *et al.* (2004), who model the impact on firm behaviour of labour (payroll) tax thresholds. Herein, we generalise this to allow for corporate income tax thresholds and describe how firms adjust their output and cost structures when a corporate income tax surcharge applies only above this threshold, while keeping overall surcharge revenue constant.

This approach allows us to estimate the efficiency, or “deadweight,” cost of the threshold—measured as the increase in resource use required to produce the same level of output.

In the Final Core Simulation, this deadweight loss is incorporated as a deterioration in multi-factor productivity across all industries on which corporate income tax applies. This is phased in over 5 years, as the full impacts, including adjustments to investment and capital stock, accumulate gradually.

We only model threshold effects due to distortion of business sizes. We do not model the potential impacts of reducing the share of large businesses in the economy, which could be positive or negative. Due to the tax cut for firms with turnover of less than $1 billion, there is likely to be an increase in economic activity in these firms, which may lead larger firms to lose market share. Large firms often have higher productivity, while their market power enables them to mark up prices and capture rents (Barkai, 2020). Providing a larger reduction in tax rates for firms with less than $1 billion in turnover may therefore reduce average productivity, but also reduce rents. While the productivity loss would potentially weigh on GDP and wages, reduced rents would reduce consumer prices and increase real wages. The net impact on consumer welfare could be either positive or negative. Modelling of these effects is beyond the scope of the current study.

2.3.2 The model

Assume a production constraint of the form:

$$F(A, X_1, X_2) = AX_1^{\beta} X_2^{1-\beta} = Y(Q)\,, \tag{54}$$

where

$$Y(Q) = Q + a(b - Q) + aQ \ln\left(\frac{Q}{b}\right)\,, \tag{55}$$

and

A>0 is technology;

X_1 and X_2 are factor inputs, specifically labour and capital;

Q is output;

$0<\beta<1$ is the labour factor cost share, set to 0.6 herein; and,

a and b are positive parameters.

The total cost of production C for a given firm is:

$$C = W_1X_1 + W_2X_2 + D_2\, T_2(W_2X_2 - H_2)\,, \tag{56}$$

where

$$D_2 = \begin{cases} 1 & X_2 > H_2 \\ 0 & X_2 \leq H_2 \end{cases}, \tag{57}$$

and

T_2 is the applicable capital tax rate;

H_2 is a threshold expressed in A$m on payments of the capital tax;

W_1 and W_2 are the unit factor costs.

We can redefine this slightly, in terms of the effective capital costs faced by firms:

$$\widetilde{W_2} = W_2(1 + D_2\, T_2), \tag{58}$$

leaving us with

$$C = W_1X_1 + \widetilde{W_2}X_2 - D_2\, T_2H_2\,, \tag{59}$$

To find the market equilibrium under perfect competition, we can minimise total cost (6) subject to the production function constraint in (54) and (55). Because we are using Cobb-Douglas technology, we our first-order conditions yield:

$$\frac{X_2}{X_1} = \frac{1-\beta}{\beta} \cdot \frac{W_1}{\widetilde{W_2}} = k\ . \tag{60}$$

Substituting (60) into (54) and (55) yields:

$$AX_1^{\beta}(kX_1)^{1-\beta} = AX_1k^{1-\beta} = Y(Q)\ , \tag{61}$$

or

$$X_1 = \frac{Y(Q)}{Ak^{1-\beta}}\ , \qquad X_2 = \frac{Y(Q)}{Ak^{-\beta}}\ . \tag{62}$$

We can also substitute (60) and (62) into the cost function in (59). Starting with (62):

$$C = X_1 \cdot \left(W_1 + \widetilde{W_2}k\right) - D_2\ T_2H_2\ , \tag{63}$$

And then, using (60) we can write W_1 in terms of W_2 and k:

$$W_1 + \widetilde{W_2}k = \left(1 + \frac{1-\beta}{\beta}\right) = W_1\frac{1}{\beta}. \tag{64}$$

With (62) used to substitute for X_1 and (64) used to substitute for W_1 in (63), the cost simplifies:

$$C(Q) = W_1\frac{1}{\beta} \cdot \frac{Y(Q)}{Ak^{1-\beta}} - D_2\ T_2H_2\ . \tag{65}$$

One can substitute for k using (60) to determine the unit cost parameter c_{unit}:

$$C(Q) = c_{unit}\left(W_1, \widetilde{W_2}\right) \cdot Y(Q) - D_2\ T_2H_2\ , \tag{66}$$

where

$$c_{unit}\left(W_1, \widetilde{W_2}\right) = \frac{1}{A}\beta^{-\beta}(1-\beta)^{-(1-\beta)}W_1^{\beta}\widetilde{W_2^{1-\beta}}. \tag{67}$$

From here, it is straightforward to define the average cost:

$$AC(Q) = \frac{C(Q)}{Q} = c_{unit}\left(W_1, \widetilde{W_2}\right) \cdot \frac{Y(Q)}{Q} - \frac{D_2\ T_2H_2}{Q}\ , \tag{68}$$

and the marginal cost:

$$MC(Q) = \frac{dC}{dQ} = c_{unit}\left(W_1, \widetilde{W_2}\right) \cdot \frac{dY(Q)}{dQ} \ . \tag{69}$$

At this stage, while the production technology is Cobb-Douglas, the input requirement is non-linearly related to output in general, via *Y(Q)*. Taking our specific functional form in (59) and substituting into (69) yields:

$$\frac{dY(Q)}{dQ} = \frac{d}{dQ}\left[a \cdot b + Q(1-a) + aQ\ln\left(\frac{Q}{b}\right)\right] = 1 + a \cdot \ln\left(\frac{Q}{b}\right), \tag{70}$$

or

$$MC(Q) = c_{unit}\left(W_1, \widetilde{W_2}\right) \cdot \left[1 + a \cdot \ln\left(\frac{Q}{b}\right)\right] . \tag{71}$$

Note that MC as defined here and for any $a>0$ will be a decreasing function of Q while $Q<b$, and will be an increasing function of Q for $Q>b$.

From (68), we can determine the optimal production point under perfect competition. Assuming free entry, and that firms continue to enter until average costs are driven to a minimum, we must solve:

$$\frac{dAC(Q)}{dQ} = 0 = c_{unit}\left(W_1, \widetilde{W_2}\right) \cdot \left[\frac{a}{Q} - \frac{a \cdot b}{Q^2}\right] + \frac{D_2\,T_2 H_2}{Q^2} \ . \tag{72}$$

Multiplying through by Q^2 and solving yields:

$$Q_{min,AC} = b - \frac{D_2\,T_2 H_2}{a \cdot c_{unit}\left(W_1, \widetilde{W_2}\right)} \ . \tag{73}$$

Given all parameters in the second term above are positive, the minimum of the average cost curve under a non-zero threshold lies to the left of efficient scale production, i.e., production per firm falls under a threshold ($H_2>0$). The numerator of the second term in (73) can be thought of as the refund received by a firm that must pay the (higher) company tax, due to the threshold being in place. How large is this numerator? Under the company tax scenario, we levy company tax at a rate of 10% of turnover above A$1b. While the threshold is expressed in turnover, because it is paid on capital

(GOS) income, it makes sense to translate this to a threshold of A$400m=$H_2$ on capital income, assuming the economy-wide average capital/labour ratio. Thus, the numerator is a number like 40, and is only non-zero for firms whose total costs exceeds A$1b. For firms at the threshold, this is about 4% of total costs.

2.3.3 Market equilibria under no tax

At efficient scale production under no tax, we can set T_2=0 throughout. With $Q_{min,AC}=b$ and

$$AC_{min,T_2=0} = c_{unit}(W_1, W_2) = c_o \, , \tag{74}$$

where we have noted from (58) that the rental cost for the firm is equivalent to the pre-tax rental rate W_2 because we have assumed corporate taxes to be zero. To simplify proceedings further, we re-base output in terms of efficient scale out, Q=nb, and we can simplify MC and AC as:

$$AC(n) = c_o \cdot \frac{Y(n)}{nb} - \frac{D_2\, T_2 H_2}{nb} = c_o + a \cdot c_o \cdot \left(\ln n + \frac{1}{n} - 1\right), \tag{75}$$

$$MC(n) = c_o + a \cdot c_o \cdot [\ln(n)] \, . \tag{76}$$

With the above, we set a value for a in the following way. As per Dixon *et al.* (2004), given a sets the curvature of the AC curve, set it such that average cost is 4% above minimum when production is half efficient scale. Evaluating (75) at n=0.5 and $AC = 1.04 * AC_{\min}$ yields:

$$a = \frac{0.04}{1 - \ln 2} \approx 0.13035. \tag{77}$$

In general, for any given demand function relating price, $P(Q)$, to sales, Q, we have:

$$AR(Q) = P(Q) \, , \tag{78a}$$

$$TR(Q) = P(Q) \cdot Q, \tag{78b}$$

$$MR(Q) = \frac{d}{dQ}[P(Q)\ \cdot Q] = P(Q) + \frac{dP(Q)}{dQ}Q. \tag{78c}$$

Under monopolistic competition, firms in the short-run choose their output level to maximise profit π(*Q*):

$$\pi(Q) = TR(Q) - C(Q). \tag{79}$$

The first order condition yields:

$$0 = \frac{d\pi}{dQ} = MR(Q) - MC(Q), \tag{80}$$

showing that firms will produce up until the point where marginal revenue equals marginal cost. Under a downward sloping demand specification, this point coincides with $MR<P(Q)$ and $P(Q)>MC$. In the long-run and under free entry and exit, in addition to (80) profits are driven to zero by market entry, which yields from (79) the additional condition that:

$$P(Q) = AC(Q). \tag{81}$$

To make this concrete, assume a long-run environment where (80) and (81) hold, and assume a constant elasticity (isoelastic) demand function, where

$$P(Q) = K\ \cdot Q^{1/\eta}\ , \tag{82}$$

with $K>0$ and $\eta<-1$. The revenue functions are:

$$TR(Q) = P(Q) \cdot Q = P(Q) \cdot b \cdot n^{1+1/\eta}, \tag{83a}$$

$$AR(Q) = \frac{TR(Q)}{Q} = P(Q), \tag{83b}$$

$$MR(Q) = \frac{dTR(Q)}{dQ} = P(Q)\left[1 + \frac{1}{\eta}\right]. \tag{83c}$$

which is identical to the functional form in Dixon *et al.* (2004).

A convenient parameterisation of the demand and revenue curve is to set choose K in (82) such that at efficient scale $AR = AC = MC = c_o$. This condition is satisfied if we choose

$$K = c_o \cdot b^{-1/\eta} \, . \tag{84}$$

Now, assuming firms operate where MR=MC producing n_o units of output relative to efficient scale. For exposition purposes, set c_o=1. This allows us to solve for n_o by solving:

$$n_o^{1/\eta}\left[1+\frac{1}{\eta}\right] = 1 + a[\ln(n_o)]. \tag{85}$$

A general solution to (85) can be found in terms of the Lambert W function [see equation (86a)] while in cases where a=0, i.e., $Y(Q)$ is a linear function of Q, the general solution simplifies to equation (86b):

$$n_o = \left[-\frac{a\eta^2}{\eta+1} W\left(-\frac{\eta+1}{\alpha\eta^2} e^{-1/(a\eta)}\right)\right]^{\eta} \qquad \forall a \geq 0, \tag{86a}$$

$$n_o = (1+1/\eta)^{-\eta} \qquad a = 0. \tag{86b}$$

Herein, we set a in accordance with (77). In addition, we set η=-5. One can either solve (85) numerically or solve (86a) for n. Either approach yields n_o=0.51507. We can substitute these results into (75), (76), (82), (83b) and (83c) with c_o=1 and a set as in (77), which shows that our short-run solution satisfies the following conditions:

$$MR(n_o) \approx 0.91352 \approx MC(n_o) \, , \tag{87a}$$

$$AR(n_o) \approx 1.1419 \approx P(n_o) \, , \tag{87b}$$

$$AC(n_o) \approx 1.0362 \, . \tag{87c}$$

The firm studied here therefore maximises profit at n_o, because (87a) holds. Comparing (87b) and (87c), we see price exceeds average cost, so firms are earning short-run profits.

In the long-run, the situation for firms at n_o should induce firm entry, shifting *AR* in until (81) is satisfied. Next, we illustrate this. The first step is to enforce the long-run condition in (83c), by substituting (75) with c_o=1 for *P*(*Q*). For zero threshold, this yields:

$$MR(n_{LR}) = \left[1 + \frac{1}{\eta}\right] \cdot \left[1 + a\left(\ln n_{LR} + \frac{1}{n_{LR}} - 1\right)\right]. \tag{88}$$

Next, equating *MR* and *MC*, the equation we must solve for long-run output relative to efficient scale, n_{LR}, is:

$$1 + a\ln(n_{LR}) \; = \left[1 + \frac{1}{\eta}\right] \cdot \left[1 + a\left(\ln n_{LR} + \frac{1}{n_{LR}} - 1\right)\right]. \tag{89}$$

You can show that the solution to (89) is

$$n_{LR} \approx 0.374225. \tag{90}$$

At this point, we find:

$$MR(n_{LR}) \approx 0.87188 \approx MC(n_{LR})\,, \tag{91a}$$

$$AC(n_{LR}) \approx 1.08985 \approx \frac{MC(n_{LR})}{0.8}\,. \tag{91b}$$

Herein, we forced *P*=*AC* by substituting (75) into (83c). We can formalise the long-run demand curve and thus the *AR* curve in the long-run by equating (75) with (82) and solving for the implied value of *K* in the long-run, which yields the following long-run demand curve:

$$P(n) = 0.89535 \; \cdot n^{1/\eta} = AR(n)\,. \tag{92}$$

We can verify that, at n_{LR}, (91) yields a price and average revenue that align with average cost. We can also plot these functions. See Figure 8.

2.3.4 Analysis in the presence of a flat company tax rate

The curves in Figure 8 are plotted for no threshold and zero company tax. How do these curves shift under a uniform company tax rate? To explore this, assume a 50% discount on the headline corporate income tax rate for exposition purposes, e.g., due to interest and depreciation deductions which trim the base. The tax rate is thus T_2=0.15, but D_2 is set at zero for all X_2. Under this assumption, (75) becomes:

$$AC(n) = (1+T_2)^{1-\beta} \cdot c_o \cdot \frac{Y(n)}{nb} = (1+T_2)^{1-\beta} \cdot AC_o(n), \tag{93}$$

while (76) is altered in similar fashion:

$$MC(n) = (1+T_2)^{1-\beta} \cdot MC_o(n). \tag{94}$$

Both of *AC* and *MC* are therefore vertically translated. Under perfect competition, firms operate at the minimum of their *AC* curve; under a uniform corporate tax, we define this point as n_{UT}, and from (95) we can see that the equation we solve to determine n_{UT} is identical to the equation we solve to determine the level of production under no corporate tax:

$$\frac{dAC\left(n_{UT,PC}\right)}{dn} = (1+T_2)^{1-\beta} \cdot \frac{dAC_o\left(n_{UT,PC}\right)}{dn} = 0. \tag{95}$$

Under a uniform corporate tax of 15% and a capital share of 40%, we can therefore overlay the revised *AC* and *MC* curves in Figure 8, which are included alongside the other curves in Figure 8 in Figure 9.

For clarity, we denote previous curves "NT" or no-tax in Figure 9, and new plots are labelled "UT" for uniform tax. As shown in Figure 9, under perfect competition, while by *MC(UT)* and *AC(UT)* are translated upwards relative to *MC(NT)* and *AC(NT)*, the translation does not alter their intersection point, or the minimum of the average cost curve; hence, firm output levels are unaltered relative to efficient scale under no-tax, however costs are higher.

Under monopolistic competition, in the short-run firms operate where *MC=MR* and maximise profits. Because *MR* is unchanged from (83c), the translation of the *MC(UT)* relative to *MC(NT)* reduces the short-run output level relative to the level under no-tax; see the intersection of *MR(SR)* and *MC(UT)* in Figure 9, which lies to the left of the intersection of *MR(SR)* and *MC(NT)*. Mathematically, this shift is evident when we equate (83c) with (94), yielding:

$$n_{UT,SR,MC}^{1/\eta}\left[1+\frac{1}{\eta}\right] = (1+T_2)^{1-\beta}\cdot\left(1+a\left[\ln\left(n_{UT,SR,MC}\right)\right]\right). \tag{96}$$

In the long-run, profits are driven to zero via firm entry, and price equals average cost. Because the average cost curve is shifted vertically in response to a uniform price, we find that marginal revenue in (88) under a non-zero, uniform tax differs relative to the no-tax case:

$$MR\left(n_{UT,LR,MC}\right) = (1+T_2)^{1-\beta}\left[1+\frac{1}{\eta}\right]\cdot\left[1+a\left(\ln n_{UT,LR,MC}+\frac{1}{n_{UT,LR,MC}}-1\right)\right], \tag{97}$$

which simplifies to:

$$MR\left(n_{UT,LR,MC}\right) = (1+T_2)^{1-\beta}\cdot MR(n_{LR}). \tag{98}$$

Because *MR* and *MC* are shifted by the same proportion in the long-run, running through the algebra we find that monopolistically competitive firms produce at the same level relative to efficient scale, irrespective of whether a uniform corporate tax is levied or not. While costs are higher under this scenario, there is no additional incentive for firms to reduce their optimal production level, i.e., it does not bias their size decision. This is illustrated in Figure 10, where we plot cost curves under an assumption of a uniform corporate tax of 15%.

2.3.5 Analysis in the presence of a company tax with a threshold

The curves in Figure 8 and Figure 10 are plotted for no-tax and no threshold, respectively. It remains to recalculate the market equilibria in the presence of a CIT of 20% of GOS on firms with turnover below A$1b, and 30% of GOS on firms above A$1b in turnover, and measure how the firms' cost curves change relative to a no threshold situation where a smaller tax rate is levied on all firms in uniform fashion.

To begin, we will assume a threshold in the following sense: the tax rate is zero below a threshold in turnover of A$1b, and 10% above the threshold.

2.3.5.1 Perfect competition

Under perfect competition, firms produce at the minimum of their average cost curves. In the presence of a threshold, the cost curves are composites of the curves we have seen in Figures 8 and 10. So long as costs lie below the threshold, the average cost curve follow the green solid line in Figure 8. Once capital costs rise above the threshold level, and firms are liable for the capital tax of 10%, the curves begin to track toward the grey dashed average cost curve in Figure 10, lying somewhere between the two ultimately. Algebraically, we can express the costs in piecewise fashion. If turnover lies below A$1b (or, assuming Cobb-Douglas technology, below A$0.4b), then costs are:

$$C(Q) = c_o \cdot Y(Q), \qquad AC(Q) = c_o \cdot \frac{Y(Q)}{Q}, \qquad MC(Q) = c_o \cdot \frac{dY}{dQ}, \tag{99}$$

and if we make the substitution *Q*=*nb* we arrive at:

$$C(n) = c_o \cdot b \cdot [a + n(1-a) + an\ln n], \tag{100a}$$

$$AC(n) = c_o \cdot \left[\frac{a}{n} + (1-a) + a\ln n\right], \tag{100b}$$

$$MC(n) = c_o \cdot (1 + a\ln n). \tag{100c}$$

For firms where turnover lies above the threshold, using 1-*β* as the capital cost share, we find:

$$C(Q) = c_o \cdot (1+T_2)^{1-\beta} \cdot Y(Q) - T_2 \cdot H, \tag{101a}$$

$$AC(Q) = \frac{c_o \cdot (1+T_2)^{1-\beta} \cdot Y(Q)}{Q} - \frac{T_2 \cdot H}{Q}, \tag{101b}$$

$$MC(Q) = c_o \cdot (1+T_2)^{1-\beta} \cdot \frac{dY}{dQ}. \qquad (102c)$$

Equation (102) can be simplified by substituting for *Y*(*Q*), yielding:

$$C(n) = c_o \cdot b \cdot (1+T_2)^{1-\beta} \cdot [a + n(1-a) + an\ln n] - T_2 \cdot H, \qquad (103a)$$

$$AC(n) = c_o \cdot (1+T_2)^{1-\beta} \cdot \left[\frac{a}{n} + (1-a) + a\ln n\right] - \frac{T_2 \cdot H}{nb}, \qquad (103b)$$

$$MC(n) = c_o \cdot (1+T_2)^{1-\beta} \cdot (1 + a\ln n). \qquad (103c)$$

Comparing (101) and (103), we see that *AC* is continuous at the threshold, but *MC* shifts vertically once we cross the threshold with T_2>0. We plot the *AC* curve under no-tax [*AC*(NT)], uniform tax [*AC*(UT)], and a tax with a threshold [*AC*(THR)] in Figure 11. As highlighted, *AC*(THR) tracks *AC*(NT) until the threshold is exceeded. Thereafter, the curve moves towards *AC*(UT), which is shifted vertically upward relative to *AC*(NT).

Assume a firm is large enough so that the threshold lies below efficient scale production. Under a 10% tax levied above a threshold of A$1b in annual turnover, this might be a firm of turnover equal to A$3b. In this case, the capital tax binds and must be paid, unless the firm contracts relative to efficient scale production of A$3b. Solving for the cost-minimising output level under perfect competition, we arrive at a similar equation to (73). Below, we have re-written it in scaled terms:

$$Q_{min} = b - \frac{T_2 H_2}{a \cdot c_0 \cdot (1+T_2)^{1-\beta}} \ . \qquad (104)$$

Herein, the threshold for paying the capital tax is H_2=A$0.4b (0.4*A$1b), which is equivalent to a turnover threshold of A$1b for triggering the capital tax because the cost function is Cobb-Douglas. Holding *a* as in (77), setting average cost at efficient scale (c_0) to 1 as before, and aligning *b* to turnover pre-tax of A$3b, we find:

$$Q_{min} = 3 - \frac{0.1 \cdot 0.4}{0.13035 \cdot 1 \cdot (1+0.1)^{0.4}} = 2.7046m. \qquad (105)$$

The result in (105) is approximately 0.901 of efficient scale production; the imposition of a threshold of A$1b in firm turnover has caused firms of A$3b to scale back production (assuming perfect competition) by about 9.9%. Under perfect competition, the deadweight loss per unit of output can be measured by the difference between the no-tax level of average cost at efficient scale (herein, set to 1), and the no-tax level of average cost at the new output level of 0.901 times efficient scale. The rise in resource costs per unit output is small if firms are perfectly competitive, and equal to 0.00073, or about 0.073%.

Most of the rise in average cost is therefore a result of the tax, rather than deadweight cost. We see this by substituting (105) into (103b), or by setting *n*=0.901 in (103b), which yields:

$$AC(0.901) = 1 \cdot (1.1)^{0.4} \cdot \left[\frac{0.13035}{0.901} + 0.86965 + 0.13035 \ln 0.901\right] - \frac{0.1 \cdot 0.4}{0.901 \cdot 3} = 1.025. \quad (106)$$

Using (103), we can also show that:

$$C(0.901) = 2.77 < b = 3, \quad (107a)$$

$$AC(0.901) = 1.025 = MC(0.901), \quad (107b)$$

$$Y(0.901) = 3 \cdot [0.13035 + 0.901 \cdot 0.86965 + 0.13035 \cdot 0.901 \cdot \ln 0.901] = 2.706, \quad (107c)$$

$$CIT_{REV} = 0.1 \cdot (0.4 * 2.706 - 0.4) = 0.0682 \quad (107d)$$

where in (107d), we calculate revenue based on capital costs using (107c), not a share of total costs, which now include taxes.

In principle, there will be many firms making decisions such as these. Because firms operate at higher average costs, the threshold introduces a deadweight cost. This deadweight cost is not captured within VURMTAX. We use models of many firms, operating in this way, and calculate the deadweight losses caused by the threshold.

2.3.5.2 Monopolistic competition

Under monopolistic competition, firms operate at output levels that are well below efficient scale production.

Assume a firm operates at a scale that is sufficient to pay the capital tax, despite the threshold. In the short-run, the output level relative to efficient scale is given by equating marginal revenue and marginal cost and solving for Q. As we noted earlier, while a threshold both scales average cost (due to the imposition of a tax) and translates it (due to the threshold), because the translation (threshold effect) functions like a refund, it does not impact marginal cost. Hence, the equation to solve is identical to the uniform tax case, which we reported in equation (96) previously but include below for convenience:

$$n_{THR,SR,MC}^{1/\eta}\left[1+\frac{1}{\eta}\right] = (1+T_2)^{1-\beta} \cdot \left(1 + a\left[\ln\left(n_{THR,SR,MC}\right)\right]\right). \qquad (108)$$

Short-run market outcomes under monopolistic competition with a threshold are thus identical to the uniform tax case if the tax is binding; see Figure 10. If firms lie below the threshold, then short-run outcomes will match no-tax outcomes reported earlier and depicted in Figure 8.

In the long-run, firm entry and exit drives price to average cost. Because the average cost curve is both vertically shifted (tax effect) and translated (threshold effect), long-run firm outcomes are altered by the threshold if the firm operates with a turnover level above the threshold. Equation (97), which reports the marginal revenue function in the long-run under monopolistic competition for a uniform capital tax becomes:

$$MR\left(n_{THR,LR,MC}\right) = \left[1+\frac{1}{\eta}\right] \cdot \left\{(1+T_2)^{1-\beta}\left[1 + a\left(\ln n_{THR,LR,MC} + \frac{1}{n_{THR,LR,MC}} - 1\right)\right] - \frac{T_2 \cdot H}{b \cdot n_{THR,LR,MC}}\right\}, \qquad (109)$$

which must be equated to:

$$MC\left(n_{THR,LR,MC}\right) = (1+T_2)^{1-\beta} \cdot \left(1 + a \ln n_{THR,LR,MC}\right). \qquad (110)$$

The resulting expression can then be solved for production relative to efficient scale, $n_{THR,LR,MC}$, in the long-run under monopolistic competition in the presence of a capital tax of 10% and a threshold of A$1b in turnover. As highlighted in Figure 12, output relative to efficient scales falls to 0.34 of efficient scale production, compared to 0.3742 of efficient scale production under a uniform tax, and no tax. Output per firm falls by about 10%.

How large are the deadweight losses in this section of the cost curve? Using equation (75), we can study the average costs for firms at production levels of 0.3742 of efficient scale production (1.0898), and 0.34 of efficient scale production (1.112), a difference of 0.0223. This is equivalent to a rise in resource cost per unit output of about 2%, which is much larger than was the case under perfect competition.

The above holds for one firm with turnover of A$3b. Our goal is to assess aggregate changes in resource cost per unit output across all firms in response to the threshold. We suspect that the aggregate figure will be lower than for firms of A$3b, because very large firms will see little change in their behaviour due to threshold, because their turnover is very much larger than the threshold.

2.3.6 Using firm turnover ranges to model the economy-wide deadweight costs

To examine the impact of turnover thresholds on deadweight costs, a highly discretised distribution of firm costs and turnovers is required, with particularly fine resolution around the A$1 billion turnover threshold (or, assuming a labour cost share of 0.6, a corresponding capital-cost threshold of A$400 million). The analysis begins with the estimation of an employment distribution by firm size.

Publicly available data from ABS (2025) are not sufficiently granular for this purpose. These data report firm counts across only four employment-size classes—1–4 employees, 5–19 employees, 20–199 employees, and 200+ employees—and therefore cannot identify discontinuities or spikes in the firm-size distribution. The turnover threshold of A$1 billion lies well within the upper class (200+

employees), corresponding to approximately 6 000 employees per firm, given national average large-firm wage costs of A$96 000 and capital rents of A$122 000 per unit of capital (derived from 2022–23 National Input–Output data).

We therefore assume that, in the absence of a turnover threshold, the cumulative employment distribution is a smooth, increasing function of firm size. This distribution is represented by a scaled log-uniform (reciprocal) cumulative function:

$$CDF_{EMP}(f_i) = EMP_{TOT} \cdot \frac{\ln\left(\frac{f_i}{C}\right)}{\ln\left(\frac{f_{max}}{C}\right)}, \tag{111}$$

where EMP_{TOT} is aggregate employment (headcount), f_{max} is a large number representing an assumed maximum employment head count for a firm in Australia (set to 200 000 employees), C is a calibration parameter set to 0.8, and f_{size} denotes firm size. The calibration yields a share of firms employing 200+ employees consistent with ABS (2025) data (approximately 0.5 per cent).

Employment within each firm-size interval is computed as the discrete difference:

$$I_{EMP}(f_i) = CDF_{EMP}(f_i) - CDF_{EMP}(f_i + R), \tag{112}$$

where R is the bin width. In the initial discretisation R is set to 0.5, producing 400 000 bins.

For model implementation, the distribution is aggregated to 945 bins, with finer resolution retained for firms with 4 500–24 000 employees. In this range, capital rents per firm are estimated to vary between approximately A$300 million and A$1.5 billion. The turnover threshold of A$1 billion is translated to a capital-rent threshold of A$400 million, assuming an economy-wide capital cost share of 0.4. This threshold lies within the highly granular region of the initial distribution. Following Dixon *et al.* (2004), who report that firm resource use per unit of output is sensitive to thresholds over approximately twice the threshold value, the firm-size distribution is maintained at high granularity up to 3–4 times the A$400 million capital-rent threshold. This allows us to measure the change in resource cost per unit output caused by the threshold' impact on firm size decisions.

Our initial model setup assumes a uniform, low corporate income tax surcharge of 1.5% applies to all capital rents and all firms, irrespective of size, in addition to a uniform core tax rate of 20% less allowable deductions.[7] The initial firm distribution follows the scaled log-uniform distribution described previously. Our counterfactual scenario introduces a threshold at A$400m in capital rents (equivalent to A$1 billion in turnover, because the capital share is exogenous by assumption), and holds surcharge revenues exogenous via the endogenous determination of the corporate income tax surcharge rate.[8]

2.3.7 Results

Figure 13 illustrates the shocks underlying our analysis. The blue line plots the initial assumed corporate income tax surcharge payable by firms with capital rents from A$320 million per annum to A$1.2 billion per annum. The slope of this line is the corporate income tax surcharge uniform rate, set at around 1.5%. The black dashed vertical line is the A$1 billion threshold, translated to a threshold on capital rents assuming a 40 percent capital rental share (this translates to a threshold of A$400 million). The orange line plots how this changes in response to the introduction of a corporate income tax surcharge threshold of A$400 million on capital rents (or A$1 billion on firm turnover), under the assumption of no change in aggregate surcharge revenue achieved via endogenous determination of the tax rate. The slope of the orange line (after the A$400 million threshold level is reached) is greater than the slope of the blue line, because the effective corporate income tax surcharge rate has increased to 8.6 percent to satisfy our constraint of revenue neutrality. This is similar, but slightly higher, than what one may guess as an effective corporate income surcharge rate if the legislated rate is 10 percent and one third of the tax base can be offset by deductions. The rate in such an example (6.7 percent) lies below the rate implied by our analysis,

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[7] Deductions trim the effective rate by about 2/3 relative to the marginal rate.
[8] The uniform (core) tax rate remains unaltered.

because some firms whose turnover levels were originally above the threshold alter their resource use per unit output to drive turnovers below the A$1 billion threshold. This reduces the economy-wide tax base, necessitating a higher effective tax rate.

This is evident in Figure 14, where we plot firm counts under a no-threshold (blue line) and A$1 billion turnover threshold (orange line). As firm capital rents approach the turnover threshold (black dashed line, translated to a threshold of A$400 million on capital rents), we see the orange line rise relative to the blue line, indicating firm counts rising relative to the no-threshold case below the threshold of A$400 million. Firm counts fall sharply above the threshold; as expected, firms reduce output relative to efficient scale in response to the threshold. Under no-threshold and a uniform tax of 1.5%, monopolistically competitive firms facing demand elasticities of -5 and average cost curves with *a* set as in (77) operate at 0.3427 of efficient scale production. Once the threshold is introduced, firms with turnovers that were slightly above the A$1 billion threshold under the no-threshold scenario, reduce production to 0.314 of efficient scale levels under a threshold. Because average cost curves are downward sloping, these reductions in output levels drive average costs of production higher. Resource costs per unit output rise; this is a deadweight cost caused by the threshold. The effects discussed diminish for higher turnover levels: as capital rents rise to A$1.2 billion (equivalent to a turnover of A$3 billion in our analysis), the impact of the threshold begins to subside and production levels relative to efficient scale are similar under the two scenarios. This is also evident from Figure 14, where we see the orange and blue lines beginning to track one another closely for larger firms with capital rents of A$1.2 billion. For very large firms, the threshold has little impact on resource costs per unit output.

Aggregating the cumulative effect of many firms altering output levels in this way, we find the deadweight cost of the threshold is A$1.7 billion under our core scenario. This is about 10 percent of the revenue cost of the policy in 2026 reported by Nassios *et al.* (2025), while relative to GDP in Australia in 2022/23, **this translates to a 0.076% one-off reduction in productivity** compared to where it would otherwise have been. The reduction in productivity is phased in over the first 5 years of the simulation, and is permanently in place from 2030 onwards.

2.3.8 Conclusions: Modelling threshold effects in VURMTAX

To represent threshold effects, a shock of 0.076% is applied to multi-factor productivity, phased in over 5 years. This is equivalent to the deadweight loss due to threshold effects described in this section.

3 Results

3.1 Overview

Readers are assumed to be familiar with the details of Nassios *et al*. (2025) with respect to the theoretical impact of company tax cut, along with the impacts of the Core Scenario, in which company tax rates are differentiated by firm size, and an increase in personal income taxes ensures budget neutrality.

In this section, we describe differences between the core scenario and the extended scenario. Charts and Tables are available at the end of the document.

3.2 Scenario A: Differentiated foreign ownership shares

As described in Section 2.1, differentiating foreign ownership shares by firm size makes very little difference to the overall CIT cuts applied. Much of the differentiation of local and foreign ownership was already captured in the Interim Core Scenario, where firm size by industry was taken into account. In industries where large firms dominate, such as Mining or Utilities, the industry tax cut applied in the Interim Core Scenario was very low. The relatively high share of foreign ownership in these industries meant that foreign capital-owners were receiving a low tax cut, as were local owners. Differentiating ownership by firm size when most firms are in the same size bracket does not create much difference in effective tax cuts by owner.

In general, while foreign firms are more likely to be in the large bracket, receiving no tax cut, they are also less likely to be in the small bracket, which receives the small (5%) tax cut.

In most sectors, including Mining, Utilities and Retail, the foreign and local tax cuts are very similar.

As such, results from Scenario A are very similar to the results from the Interim Core Scenario. As of 2050, results for key macroeconomic variables including GDP and the macro expenditure aggregates are all within 0.02 percentage points of the Interim Core Scenario. Industry results are also very similar.

The impact on welfare is a loss of $10.9 billion, compared to $11.2 billion in the Interim Core Scenario.

3.3 Scenario B: Differentiated foreign ownership shares and Net Cash Flow Tax

The NCFT, fully implemented in 2026, creates immediate large gains in gross national income (GNI). Compared to the Interim Core Scenario, in which overnight losses in tax revenue from foreign investors lead to a loss in GNI of 0.4%, adding a NCFT leads to a gain in GNI of 0.1%.

In the first year of implementation, the NCFT raises $13.3 billion, or 0.45% of GDP. This accounts for most of the turnaround in the GNI result relative to the Interim Core Scenario, which is equivalent to 0.5% of GNI. The share of NCFT revenue in GDP gradually falls to 0.3% by 2050 as capital-intensive industries decline as a share of the economy.

The NCFT provides a steady source of revenue, such that GNI grows to 0.5% above base case by 2050, driven by an increase in GDP of 0.4% and extra tax revenue collected from foreign owners of capital. This is a large marginal effect relative to the Interim Core Scenario, where GNI is 0.3% below base case by 2050 despite an increase in GDP.

As of 2050, the impact on welfare is $17.9 billion, a turnaround of $29.1 billion relative to the Interim Core Scenario. The NCFT creates significantly less pressure on the personal income tax system to maintain a neutral government budget balance. As of 2050, the personal income tax collections required for budget neutrality are just $3.6 billion above the base case, compared to $60 billion above base in the interim core scenario. As such, the 5% NCFT all but neutralises the cut to the CIT.

The positive impact on households is also apparent in the increase of 0.3% in real private consumption by 2050, a turnaround of 0.8% from the Core Interim Scenario, in which real private consumption fell by 0.5%. With the gain in GNI relative to GDP, the economy becomes more domestically-oriented, and there is a small increase in the real exchange rate and the trade balance moves only slightly towards surplus, compared to the large shift towards surplus and exchange rate devaluation in the Core Interim Scenario.

Overall, the macroeconomic impacts of the CIT combined with the NFCT are more even. In the Core Interim Scenario, the divergence between GDP and GNI led to a reduction in domestic consumption relative to GDP, and a move towards trade surplus. As such, much of the impact on growth was concentrated in the Mining sector. With a NCFT in place, GNI grows along with GDP, leading to a more even distribution of expenditure between the domestic and external sectors. As a result, output growth by industry is also more even, with moderate growth in most industries. Mining is still the largest growth industry but the difference between Mining and the rest of the economy is much smaller.

3.4 Final Core Scenario: Differentiated foreign ownership shares, NCFT and threshold effects

Threshold effects, as demonstrate in Section 2.3, weigh down on productivity by distorting the optimal operating size for firms and creating a dead weight loss. The loss in productivity due to threshold effects is estimated to by 0.07%. This reduces but does not reverse short term and long term gains in GNI and GDP found in Scenario B.

After accounting for threshold effects the long term gain in GNI is reduced from 0.5% to 0.4%, and the gain in real private consumption is reduced from 0.3% to 0.2%.

Similarly, industry output results follow a similar pattern to Scenario B, but increases in output are slightly muted.

In the long term, the gain in welfare after accounting for threshold effects is $14.8 billion, or almost $400 per person. This is in contrast to a loss of welfare of $300 per person in the Interim Core Scenario.

3.5 Scenario C: Phasing in the NCFT

Fully implementing a NCFT in one year creates a windfall gain for government in the sense that in the first year of implementation, tax revenues are collected from earnings for which the initial investment costs were not treated as a tax deduction. An alternative implementation strategy would be to begin by applying investment deductions in the initial year (these may be offset against other earnings, or carried forward in some way), and to gradually introduce the revenue side of the cash flow tax over several years, so that by the time full implementation is reached, most of the capital stock has been created through investments that have had the NCFT deduction applied.

An indicative additional simulation, Scenario C, shows that gradual implementation over 5 years leads to a large drop in GNI in the year of implementation, in which deductions are given but no revenue is collected. In the initial year, the drop in GNI is 1.3%, compared to a fall of 0.4% in the Interim Core Scenario. GNI quickly recovers, returning to base case by Year 5, and moving above the base case thereafter. By 2050, GNI is 0.3% above base case and welfare is $11 billion above base case. This is a turnaround of $22.5 billion relative to the Interim Core Scenario.

3.6 Scenario D: Tax cut for large businesses

Compared to the Core Final Scenario, a tax cut for the large businesses increases output or activity measures, including GDP, pre-tax real wage, investment and output-per-worker, due to the greater overall increase in the post-tax rate of return. The tax cut also reduces the tax gap between large and medium businesses, from 10 percentage points to 8 percentage points, meaning that the threshold effect has a less negative impact on productivity.

Despite the increase in activity, gains in domestic welfare measures are weaker than in the Core Final Scenario, although still positive. Foreign ownership tends to be higher in industries where the share of large businesses is higher, meaning that the revenue effects identified in Dixon and Nassios (2018) and Nassios et al (2025) are more pronounced. That is, the CIT cut leads to loss of revenue from foreign owners of capital that was installed before that tax cut was introduced. Under this scenario, revenue collected from the CIT is $14 billion less than in the Core Final Scenario, and to maintain a balanced budget, revenue collected from PIT needs to increase by almost $15 billion. Post-tax real wages are 0.52% above base, a weaker result than the gain of 0.65% in the Core Final Scenario. Similarly, while there are gains in real GNI, real private consumption, and welfare (both aggregate and per capita), these are weakened when the CIT rate is cut for companies with turnover above $1 billion.

4 Concluding remarks

This study presents updated and extended economy-wide modelling of company income tax reform in Australia, using the VURMTAXG model. Relative to Nassios *et al.* (2025), this study introduces three extensions: estimates of foreign ownership shares by industry and firm size (these were previously estimated by industry only); the implementation of a NCFT; and consideration of threshold effects of a staged CIT under monopolistic competition.

The differentiation of foreign ownership shares is found to make very little difference to the simulation of a CIT as modelled in the Interim Core Scenario. This is because the differentiation foreign ownership shares by industry already captures much of this nuance, with large firms tending to be concentrated in industries with high foreign ownership.

A Net Cash Flow Tax at the rate of 5% raises a significant amount of revenue, of which a large share comes from foreign investors. A NCFT has the potential to offset most of the revenue lost through cuts to the CIT rate, taking pressure off the personal income tax system while maintaining budget neutrality. As such, implementing a NCFT alongside cuts to the CIT rate reverses welfare losses that were found in the Core Interim Scenario where personal income taxes were used to neutralise cuts in the CIT rate.

Along with the stimulus to GDP created by the CIT, neutralising the lost CIT revenue via a NCFT leads to a rise in GNI, leading to positive outcomes for welfare ($17.9 billion), real private consumption (0.3%) and post-tax real wages (0.7%).

After accounting for threshold effects, which create productivity-reducing distortions, the overall results are still positive, with a welfare improvement of $14.8 billion, an increase in real private consumption of 0.2% and an increase in post-tax real wages of 0.65%.

These positive results allow scope for the NCFT to be phased in gradually rather than all in one go, with an extra simulation of a 5-year phase-in leading to long term gains of $11.3 billion in welfare and 0.2% in real private consumption.

The key lesson from these extended simulations is that a NCFT has the potential to play an important role in revenue generation, taking significant pressure off the personal income tax system and almost neutralising cuts to the CIT rate.

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Tables

Table 1: Tax cuts by firm turnover range.

	Turnover range	Current rate (%)	Proposed rate (%)	Tax Cut (%-point)
Small firms	0 - $50 million	25	20	5
Medium firms	$50 million - $1 billion	30	20	10
Large firms	> $1 billion	30	30	0

Table 2: Share of industry turnover by form size and industry average tax cut.

	Industry	**Share of industry turnover by firm size**			**Tax cut**
		Small	*Medium*	*Large*	*Industry average tax cut*
A	Agriculture, Forestry and Fishing	80.2%	13.0%	6.8%	5.31
B	Mining	3.0%	13.2%	83.8%	1.47
C	Manufacturing	37.8%	43.2%	19.1%	6.20
D	Electricity, Gas, Water and Waste Services	11.8%	24.7%	63.5%	3.06
E	Construction	64.8%	25.8%	9.4%	5.82
F	Wholesale Trade	32.1%	43.1%	24.8%	5.91
G	Retail Trade	50.5%	30.8%	18.7%	5.60
H	Accommodation and Food Services	81.5%	14.3%	4.2%	5.50
I	Transport, Postal and Warehousing	37.9%	29.7%	32.4%	4.86
J	Information Media and Telecommunications	24.0%	27.2%	48.8%	3.92
K	Financial and Insurance Services	8.6%	21.4%	70.0%	2.57
L	Rental, Hiring and Real Estate Services	70.1%	20.8%	9.1%	5.58
M	Professional, Scientific and Technical Services	63.7%	24.7%	11.6%	5.65
N	Administrative and Support Services	55.4%	35.5%	9.1%	6.32
O	Public Administration and Safety	10.1%	7.0%	82.9%	1.20
P	Education and Training	31.2%	9.8%	59.0%	2.54
Q	Healthcare and Social Assistance	74.6%	19.4%	6.0%	5.67
R	Arts and Recreation Services	57.1%	37.0%	5.9%	6.55
S	Other Services	86.7%	13.3%	0.0%	5.67

Table 3: Percentage of companies flagged as exhibiting significant share of foreign ownership (10%+), weighted by total income. (Source: BLADE data)

Division	Name	All income cohorts	1 - sub $50m	2 - sub $50m passive	3 - $50m to $1b	4 - over $1b
All	*All industries*	*36%*	*1%*	*21%*	*42%*	*51%*
A	Agriculture, Forestry and Fishing	21%	1%	15%	36%	36%
B	Mining	53%	2%	39%	62%	52%
C	Manufacturing	45%	1%	35%	48%	68%
D	Electricity, Gas, Water and Waste Services	51%	1%	36%	58%	55%
E	Construction	16%	0%	6%	17%	68%
F	Wholesale Trade	54%	2%	40%	50%	77%
G	Retail Trade	20%	1%	12%	23%	27%
H	Accommodation and Food Services	16%	1%	13%	38%	38%
I	Transport, Postal and Warehousing	39%	1%	19%	41%	59%
J	Information Media and Telecommunications	41%	5%	48%	45%	45%
K	Financial and Insurance Services	33%	1%	10%	36%	39%
L	Rental, Hiring and Real Estate Services	19%	1%	12%	37%	37%
M	Professional, Scientific and Technical Services	34%	2%	37%	54%	61%
N	Administrative and Support Services	23%	1%	18%	45%	45%
O	Public Administration and Safety	41%	2%	9%	75%	75%
P	Education and Training	13%	1%	30%	NA	NA
Q	Healthcare and Social Assistance	25%	0%	9%	48%	48%
R	Arts and Recreation Services	28%	4%	29%	NA	NA
S	Other Services + ATO use only	10%	0%	15%	29%	29%

Table 4: Share of industry turnover by firm size and ownership.

DIV.	Share of industry turnover by firm size and ownership						Overall foreign share	Foreign share used in interim report
	Small, foreign (a)	Medium, foreign (b)	Large, foreign (c)	Small, domestic (d)	Medium, domestic (e)	Large, domestic (f)	(g)	(h)
A	0.8%	4.7%	2.5%	79.4%	8.3%	4.4%	7.9%	5.7%
B	0.1%	8.2%	43.6%	3.0%	5.0%	40.2%	51.8%	90.1%
C	0.4%	20.7%	13.0%	37.4%	22.4%	6.1%	34.1%	92.7%
D	0.1%	14.3%	34.9%	11.7%	10.4%	28.6%	49.4%	11.2%
E	0.0%	4.4%	6.4%	64.8%	21.4%	3.0%	10.8%	50.8%
F	0.6%	21.5%	19.1%	31.5%	21.5%	5.7%	41.3%	74.6%
G	0.5%	7.1%	5.1%	50.0%	23.7%	13.7%	12.6%	74.6%
H	0.8%	5.4%	1.6%	80.7%	8.9%	2.6%	7.8%	23.5%
I	0.4%	12.2%	19.1%	37.5%	17.5%	13.3%	31.7%	4.3%
J	1.2%	12.3%	22.0%	22.8%	15.0%	26.9%	35.4%	22.4%
K	0.1%	7.7%	27.3%	8.5%	13.7%	42.7%	35.1%	36.2%
L	0.7%	7.7%	3.4%	69.4%	13.1%	5.8%	11.8%	37.4%
M	1.3%	13.3%	7.1%	62.4%	11.4%	4.5%	21.7%	30.6%
N	0.6%	16.0%	4.1%	54.8%	19.5%	5.0%	20.6%	48.3%
O	0.2%	5.2%	62.2%	9.9%	1.7%	20.7%	67.6%	0.0%
P	0.3%	0.0%	0.0%	30.9%	9.8%	59.0%	0.3%	2.7%
Q	0.0%	9.3%	2.9%	74.6%	10.1%	3.1%	12.2%	7.8%
R	2.3%	0.0%	0.0%	54.8%	37.0%	5.9%	2.3%	26.3%
S	0.0%	3.9%	0.0%	86.7%	9.5%	0.0%	3.9%	3.6%

Table 5: Adjusted share of industry turnover by firm size and ownership, and tax cuts.

DIV.	Share of turnover by industry size, foreign-owned				Share of turnover by industry size, domestically-owned				Original tax cut
	Small	*Medium*	*Large*	*Tax cut*	*Small*	*Medium*	*Large*	*Tax cut*	
A	10%	59%	31%	6.39	86%	9%	5%	5.21	5.31
B	0%	16%	84%	1.59	6%	10%	83%	1.35	1.47
C	1%	61%	38%	6.14	57%	34%	9%	6.24	6.20
D	0%	29%	71%	2.91	23%	20%	56%	3.20	3.06
E	0%	41%	59%	4.06	73%	24%	3%	6.03	5.82
F	2%	52%	46%	5.29	54%	37%	10%	6.35	5.91
G	4%	56%	40%	5.80	57%	27%	16%	5.57	5.60
H	10%	69%	20%	7.44	88%	10%	3%	5.34	5.50
I	1%	38%	60%	3.90	55%	26%	19%	5.31	4.86
J	3%	35%	62%	3.63	35%	23%	42%	4.08	3.92
K	0%	22%	78%	2.21	13%	21%	66%	2.77	2.57
L	6%	65%	29%	6.83	79%	15%	7%	5.42	5.58
M	6%	61%	33%	6.43	80%	14%	6%	5.43	5.65
N	3%	78%	20%	7.89	69%	25%	6%	5.92	6.32
O	-	-	-	-	31%	5%	64%	2.07	1.20
P	100%	0%	0%	5.00	31%	10%	59%	2.54	2.54
Q	0%	76%	24%	7.63	85%	11%	4%	5.39	5.67
R	100%	0%	0%	5.00	56%	38%	6%	6.59	6.55
S	0%	100%	0%	10.00	90%	10%	0%	5.49	5.67

Table 6: Rate of return on an investment under various taxation schemes.

Pre-tax	$ROR = -1 + \frac{\rho X}{Y}$
NCFT only	$ROR_{CFT,I} = (1 - T).ROR + T.RROR$
CIT only	$ROR_{CIT,I} = (1 - \tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right)$
NCFT and CIT, no deductions	$ROR_{CIT+CFT,I} = (1 - T - \tau).ROR + T.RROR - \tau.\left(1 - {}^{\rho}/_{L}\right)$
CIT first, NCFT second	$ROR_{CIT1+CFT2,I} = (1 - T).\left[(1 - \tau).ROR - \tau.\left(1 - {}^{\rho}/_{L}\right)\right] + T.RROR$

NCFT first, CIT second	$ROR_{CFT1+CIT2,I} = (1-\tau)(1-T).ROR + T.RROR - \tau.\left((1-T) - {}^{\rho}/_{L}\right)$

Table 7: Required minimum pre-tax earnings ratio for an investment to proceed under various taxation schemes.

Pre-tax	$\left(\frac{X}{Y}\right)^{*} = \frac{1}{\rho}(RROR+1)$
NCFT only	$\left(\frac{X}{Y}\right)^{*}_{CFT} = \left(\frac{X}{Y}\right)^{*}$
CIT only	$\left(\frac{X}{Y}\right)^{*}_{CIT} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right)$
NCFT and CIT, no deductions	$\left(\frac{X}{Y}\right)^{*}_{CIT+CFT} = \frac{1}{(1-T-\tau)}\left((1-T).\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right)$
CIT first, NCFT second	$\left(\frac{X}{Y}\right)^{*}_{CIT1+CFT2} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - {}^{\tau}/_{L}\right)$
NCFT first, CIT second	$\left(\frac{X}{Y}\right)^{*}_{CFT1+CIT2} = \frac{1}{(1-\tau)}\left(\left(\frac{X}{Y}\right)^{*} - \frac{{}^{\tau}/_{L}}{1-T}\right)$

Table 8: Effective NCFT rate for 5-year implementation

Year of implementation	**1**	**2**	**3**	**4**	**5**
Effective NCFT rate	-9.03	-5.53	-2.02	1.49	5.00

Table 9: Key long-run (2050) results, all scenarios.[9]

	Core Final Scenario	Interim Core Scenario	Scenario A **Interim Core + Foreign ownership shares by size**	Scenario B **Scenario A + NCFT**	Scenario C Core Final + NCFT phased in	Scenario D Core Final + 2% cut for large businesses
Real GNI	0.42	-0.31	-0.31	0.50	0.32	0.34
Real GDP	0.28	0.20	0.20	0.37	0.22	0.45
Real GDP (A$m, 2050)	12,394	9,046	9,018	16,325	9,883	20,057
Employment	0.09	-0.08	-0.08	0.09	0.07	0.08
Output-per-worker	0.19	0.28	0.29	0.27	0.16	0.37
Capital stocks (rental-weighted)	0.72	0.58	0.58	0.78	0.58	1.13
Real wage (post-tax)	0.65	-0.54	-0.54	0.70	0.50	0.52
Real wage (pre-tax)	0.28	0.60	0.59	0.30	0.25	0.45
Real investment (aggregate)	0.60	0.38	0.38	0.66	0.56	0.79
Real non-residential investment	0.74	0.60	0.59	0.80	0.71	1.02
Real non-residential investment (A$m, 2050)	6,266	5,117	5,042	6,781	5,981	8,651
Real private consumption	0.19	-0.51	-0.49	0.30	0.18	0.07
Exports	0.28	1.17	1.16	0.42	0.22	1.01
Imports	0.26	-0.24	-0.23	0.33	0.24	0.27
Terms of trade	-0.07	-0.29	-0.28	-0.10	-0.05	-0.25
Net foreign liabilities (% of GDP)	0.46%	3.05%	3.05%	0.24%	1.09%	1.68%
Real welfare response (A$m, 2050)	14,793	-11,193	-10,915	17,909	11,345	12,032
Real welfare per capita (A$ per person, 2050)	386	-292	-285	468	296.34	314.29

[9] Unless otherwise stated, results reported are cumulative percentage deviations from the base case in 2050.

Personal income tax revenue (A$m, 2050)	4,422	60,417	60,763	3,680	8,340	19,358
Corporate income tax revenue including CFT (A$m, 2050)	-3,528	-56,521	-57,070	-3,298	-7,560	-17,381
GST revenue (A$m, 2050)	142	-406	-392	305	-55	40
Federal excises and levies revenue (A$m, 2050)	-63	94	83	10	-165	54

Figures

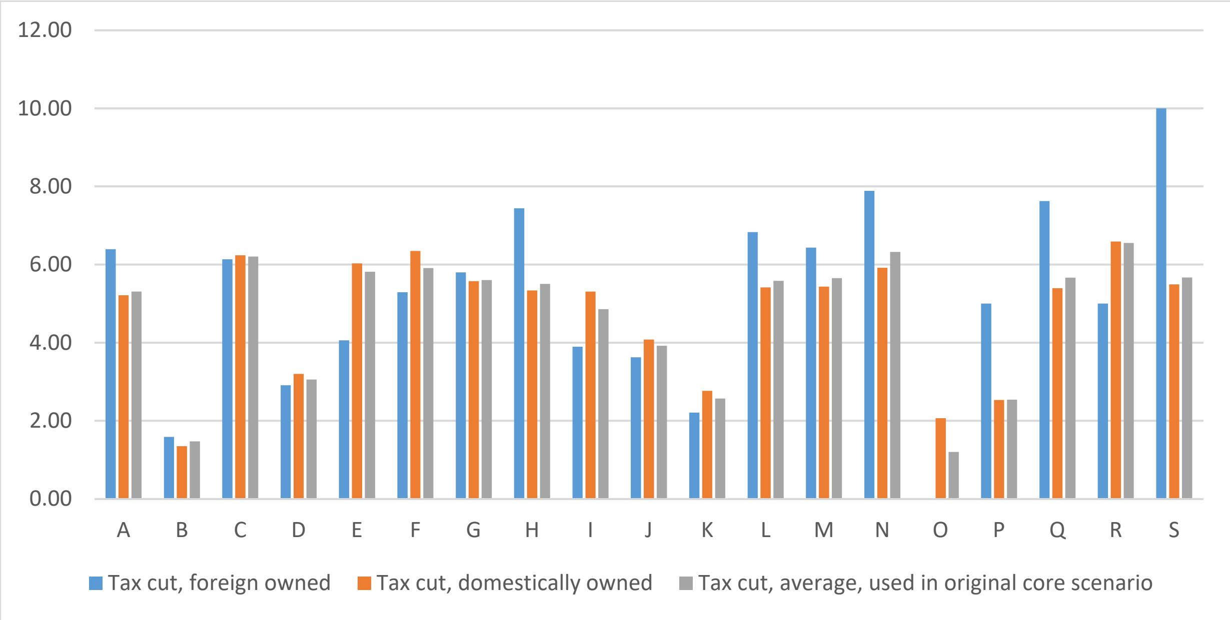

Figure 1: CIT cuts by industry and ownership

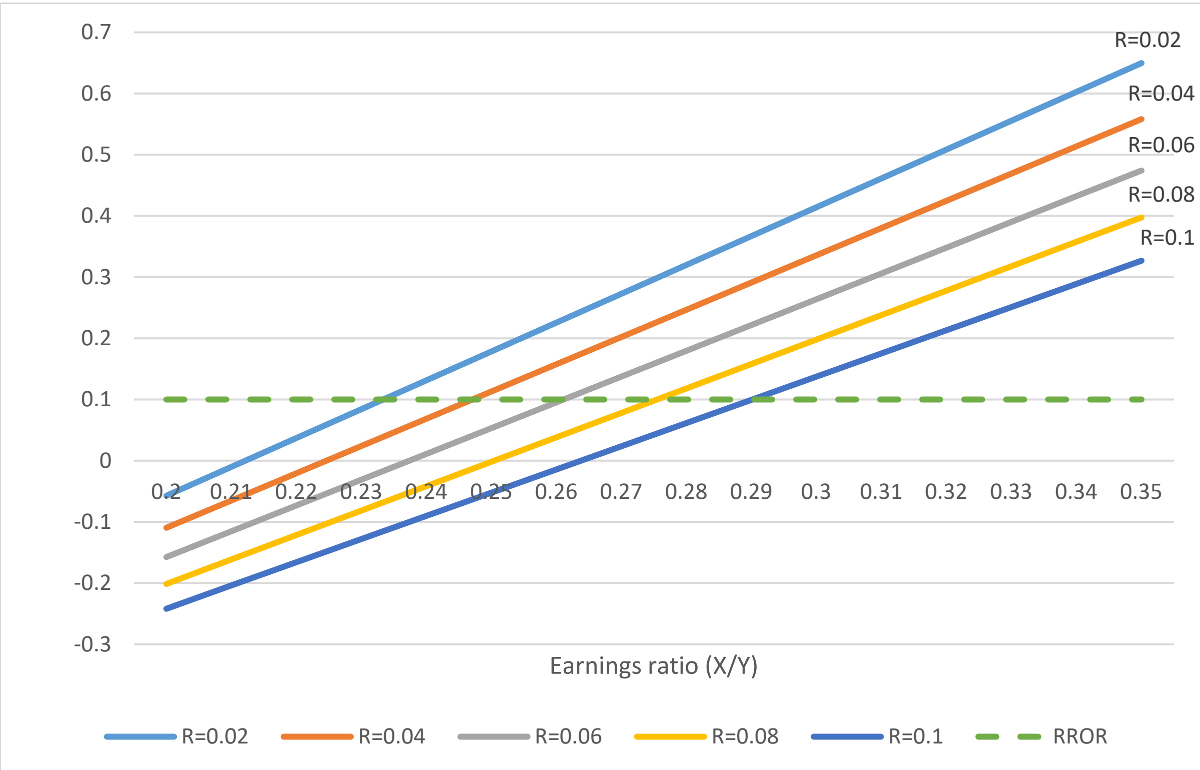

Figure 2: Rate of return for asset with lifetime of 5 years, for various discount rates (*R*) and earnings ratios.

Figure 3: Rate of return for asset with lifetime of 5 years, for various discount rates (*R*) and earnings ratios, with and without 10% NCFT.

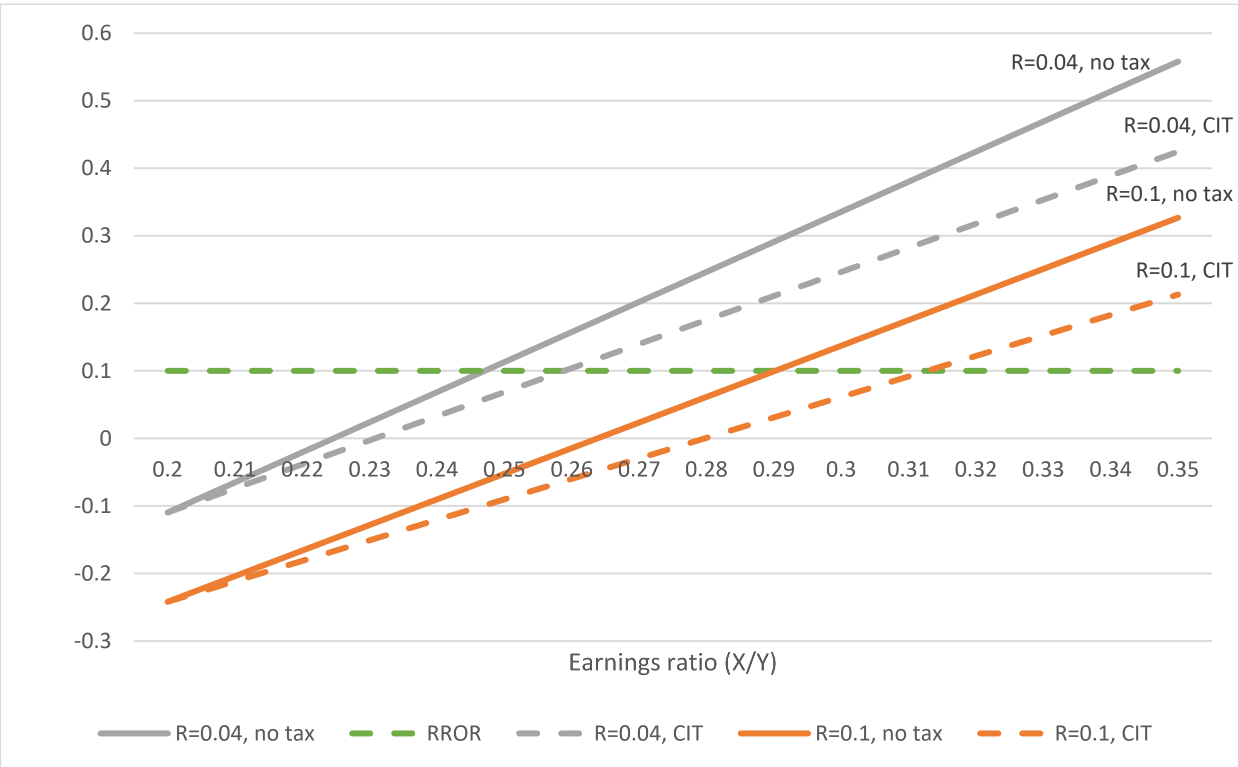

Figure 4: Rate of return for asset with lifetime of 5 years, for various discount rates (*R*) and earnings ratios, with and without 20% CIT

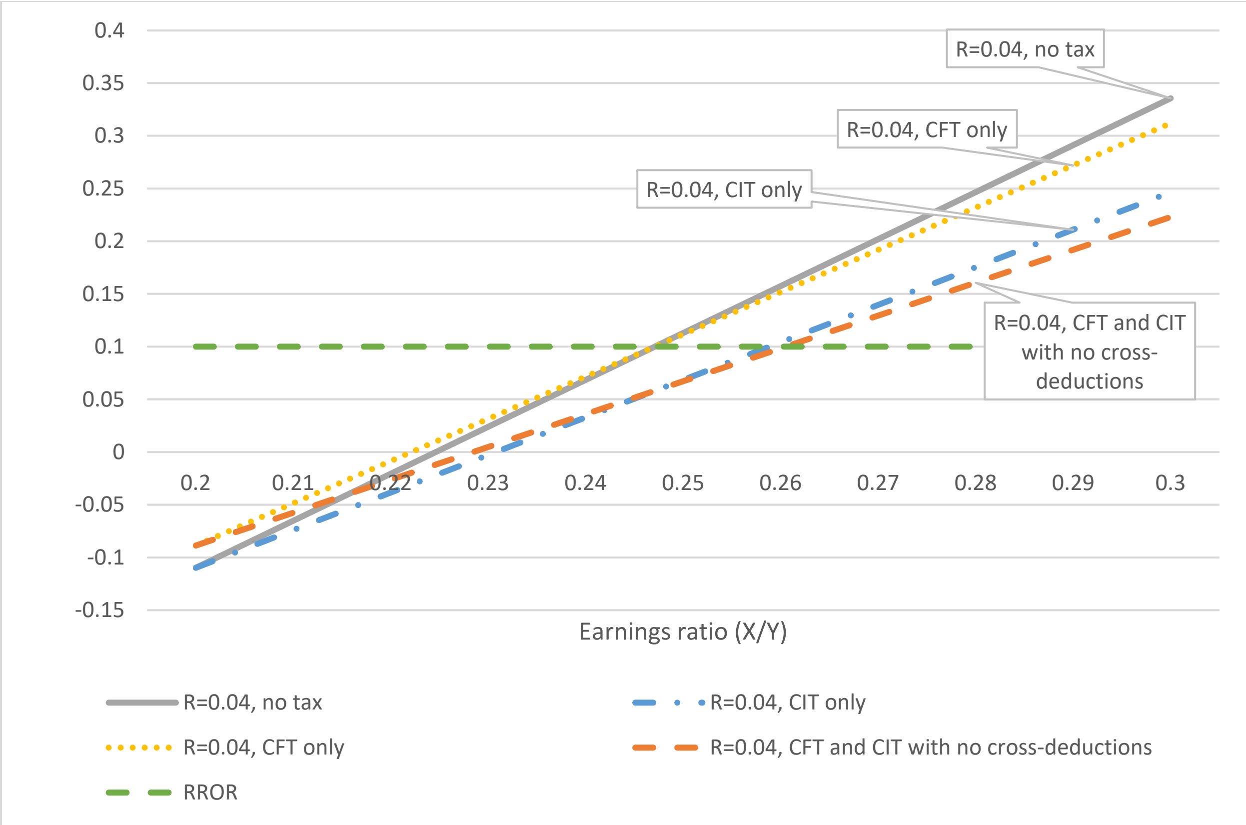

Figure 5: Rate of return for asset with lifetime of 5 years and discount rate of 4%, for various earnings ratio, with combinations of 20% CIT and 10% NCFT.

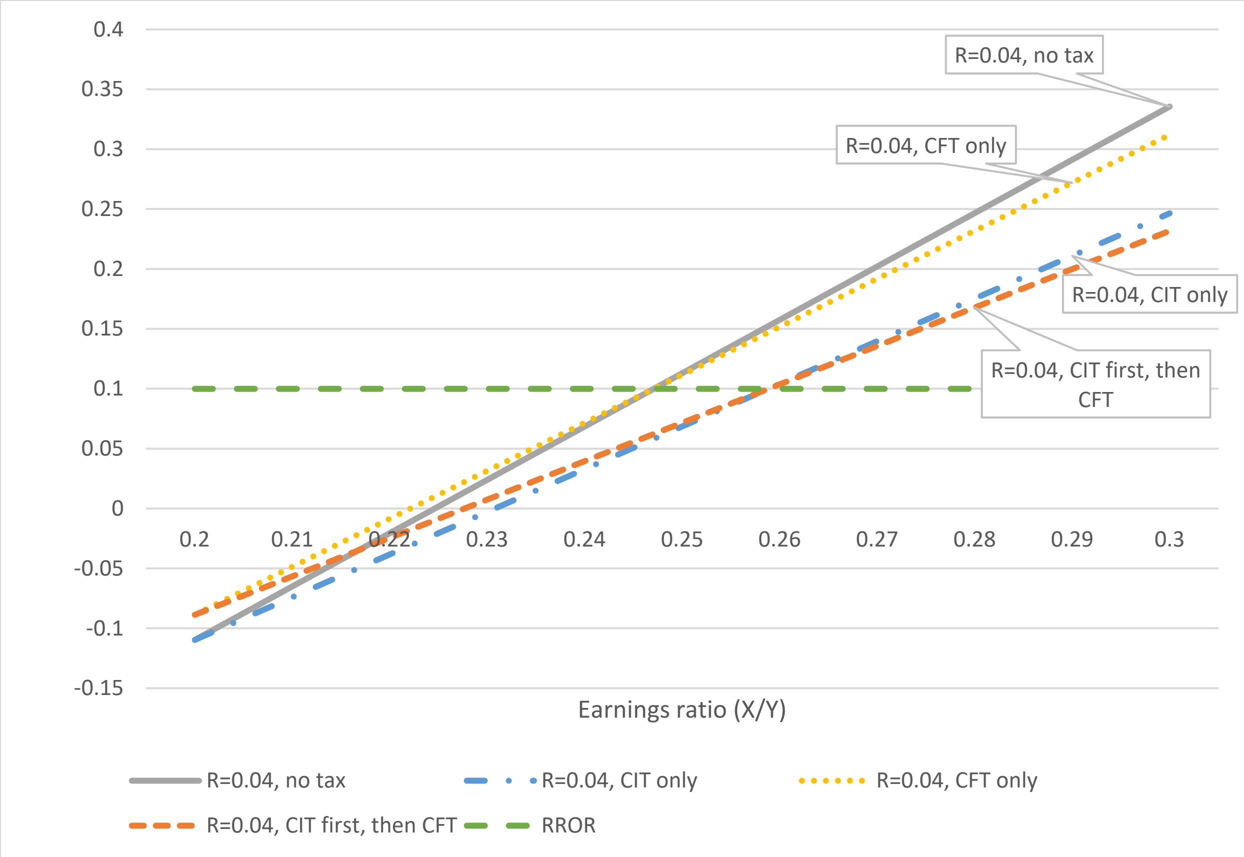

Figure 6: Rate of return for asset with lifetime of 5 years and discount rate of 4%, for various earnings ratios, with combinations of 20% CIT and 10% NCFT applied net of CIT.

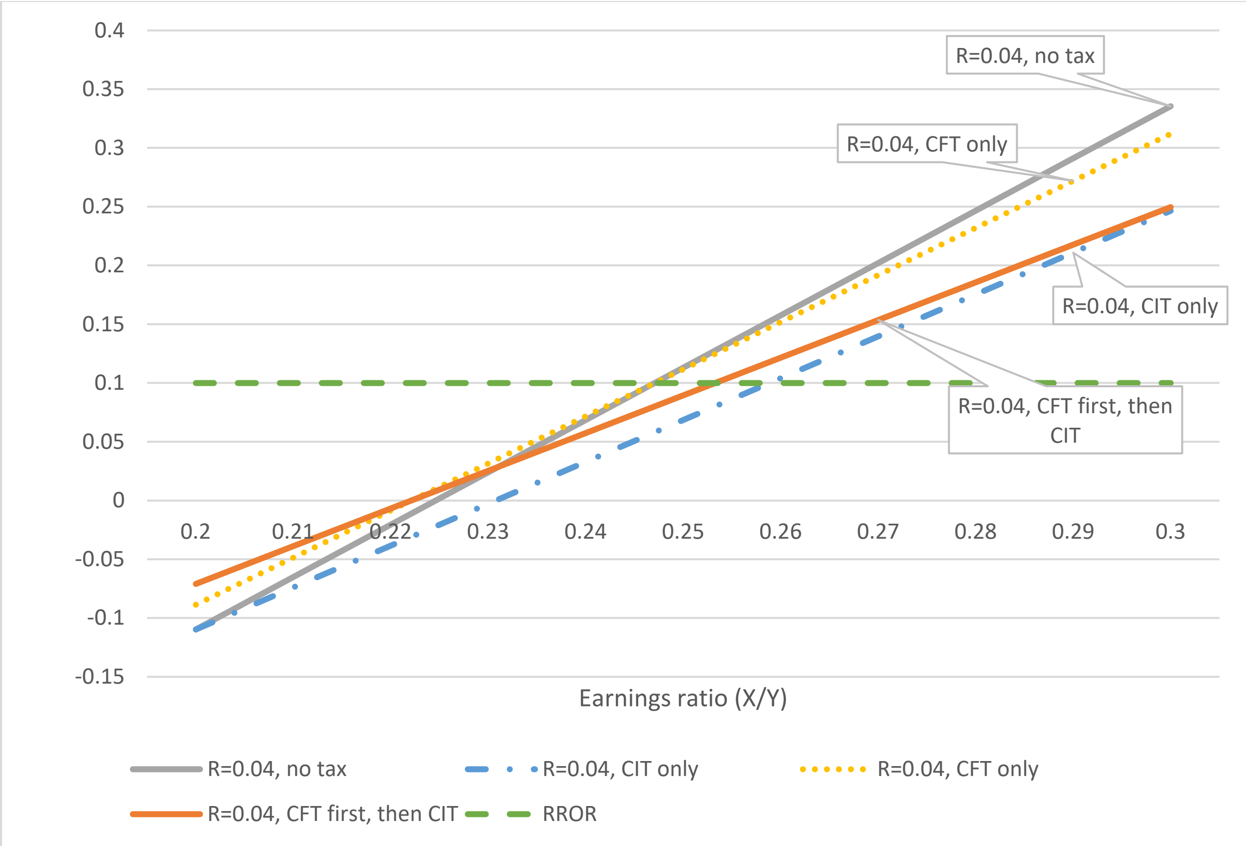

Figure 7: Rate of return for asset with lifetime of 5 years and discount rate of 4%, for various earnings ratios, with combinations of 20% CIT and 10% CIT applied net of NCFT.

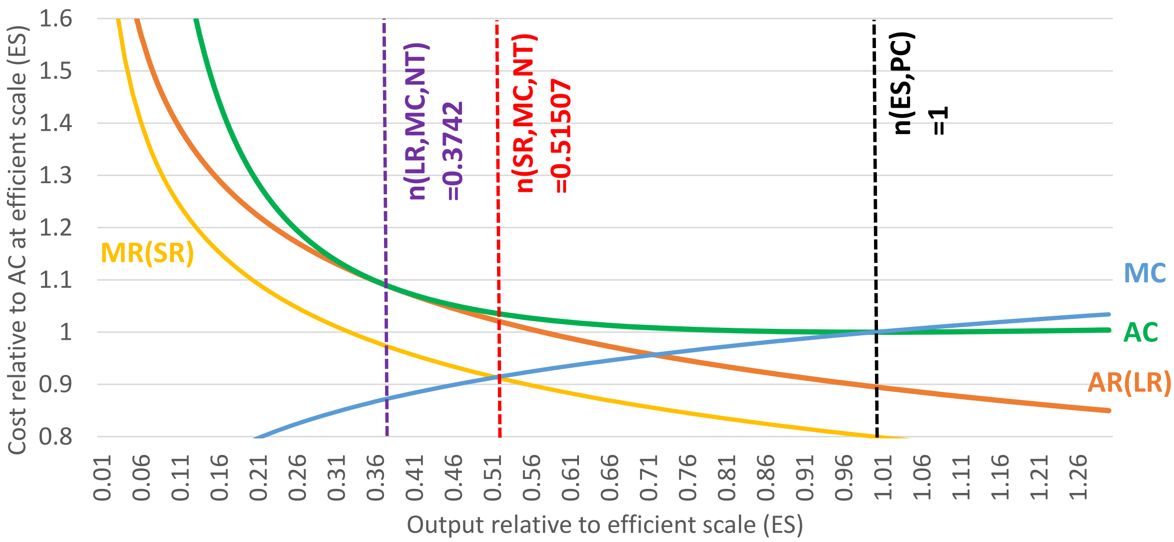

Figure 8: Cost and revenue cost curves along with market equilibria under monopolistic and perfect competition in the absence of taxes and thresholds.

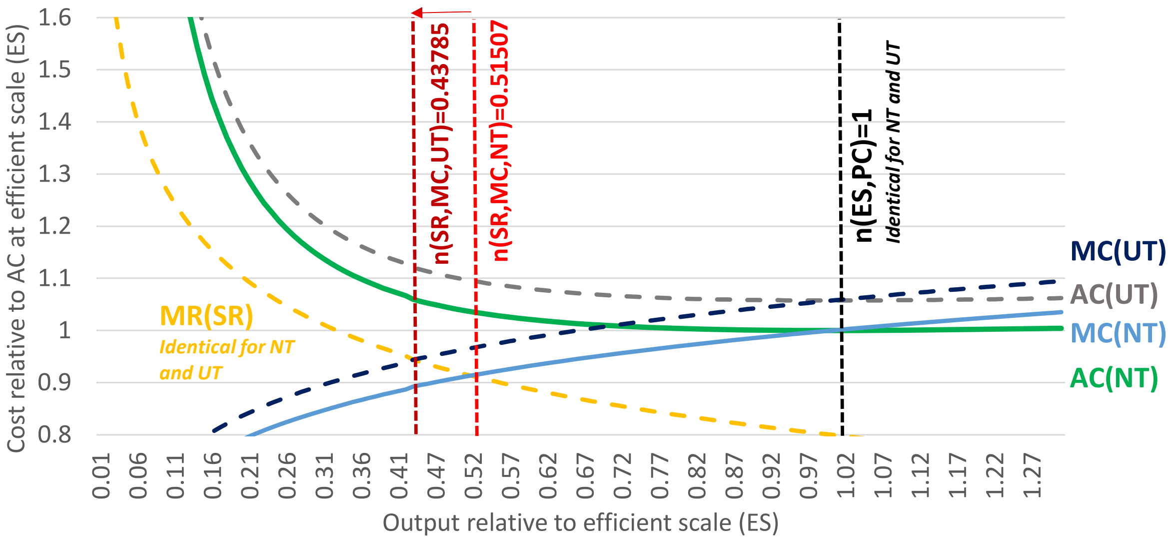

Figure 9: A comparison of the no tax and uniform tax short-run cost and revenue cost curves along with market equilibria under monopolistic and perfect competition, ignoring thresholds.

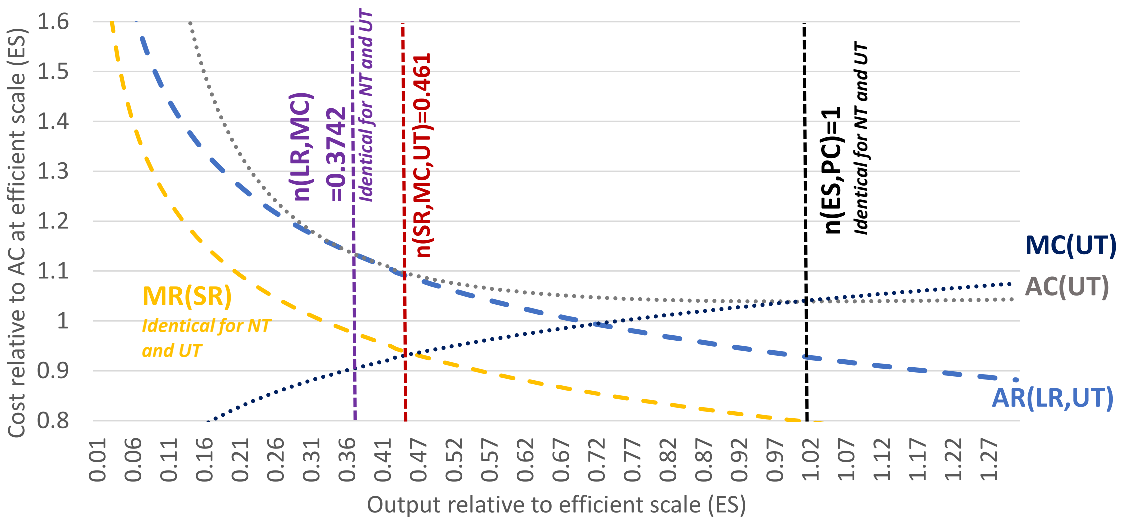

Figure 10: Cost and revenue cost curves along with market equilibria under monopolistic and perfect competition in the presence of a uniform corporate tax of 10% but no threshold.[10]

[10] The optimal production levels under perfect competition and monopolistic competition in the long-run are identical to the no-tax case in Figure 1, but costs and prices are higher.

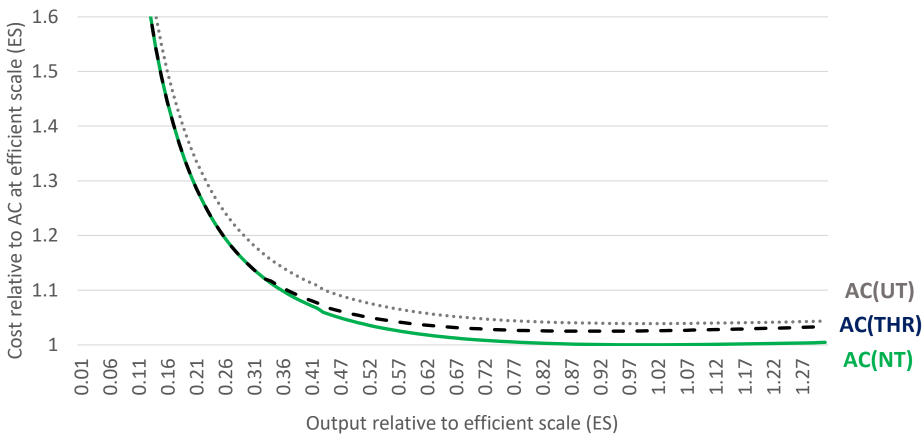

Figure 11: Average cost curves under no-tax, a uniform capital tax, and a capital tax with a threshold.[11]

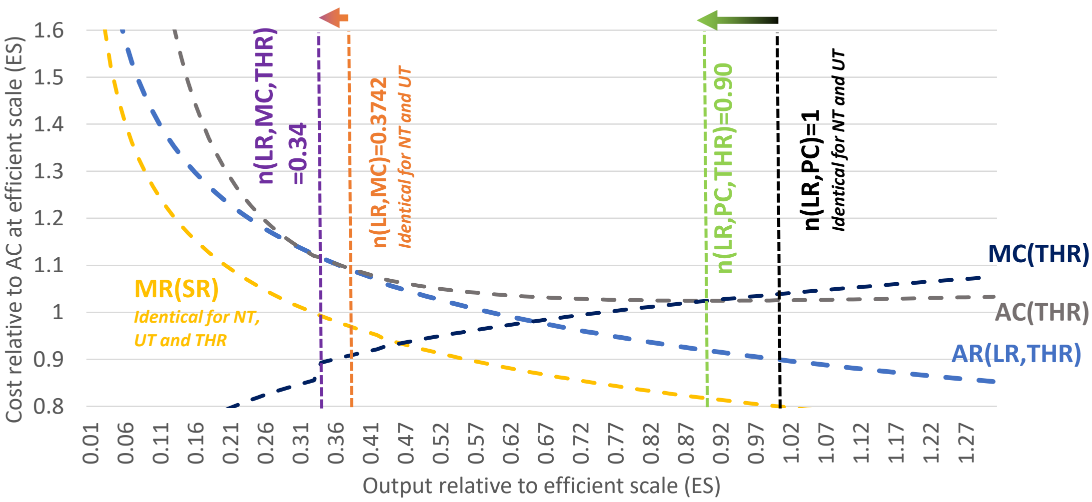

Figure 12: Cost and revenue cost curves along with market equilibria under monopolistic and perfect competition.[12]

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[11] The curves are drawn for a firm with turnover of A$3b, a capital tax of 10%, and a threshold of A$1b of turnover, which at a capital ratio of 40% translates to a threshold on capital income of A$0.4b.
[12] The curves are drawn for a firm with turnover of A$3b, a capital tax of 10%, and a threshold of A$1b of turnover, which at a capital ratio of 40% translates to a threshold on capital income of A$0.4b. The optimal

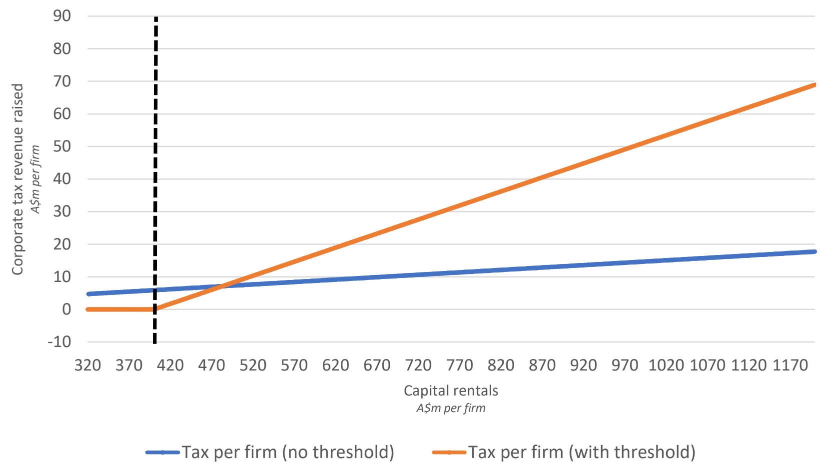

Figure 13: Tax revenue by firm capital rentals, for firms with capital rentals between A$320 million per annum to A$1.2 billion per annum.[13]

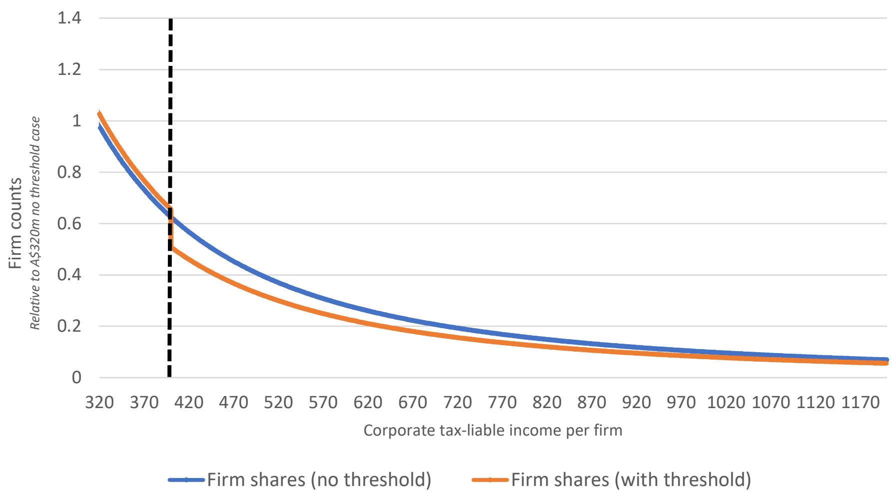

Figure 14: Firm counts relative to no-threshold counts at A$320 million (assigned a relative count of 1), for firms with capital rentals between A$320 million per annum to A$1.2 billion per annum.[14]

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production levels under perfect competition and monopolistic competition in the long-run differ compared to those in Figure 10 for a uniform tax, because the threshold alters the curvature of the average cost curve (which impacts optimal production under perfect competition), and the marginal revenue curve in the long-run.

[13] This figure is drawn assuming the capital rental share in their primary factor costs is 40%, that this share in unaltered under the counterfactual, that the turnover threshold for the corporate income tax surcharge is A$1 billion per firm, and that the initial corporate income tax surcharge is levied at a uniform rate of approximately 1.5% (see the blue line).

[14] This figure is drawn assuming the capital rental share in their primary factor costs is 40%, that this share in unaltered under the counterfactual, that the turnover threshold for the corporate income tax surcharge is A$1 billion per firm, and that the initial corporate income tax surcharge is levied at a uniform rate of approximately 1.5% (see the blue line).

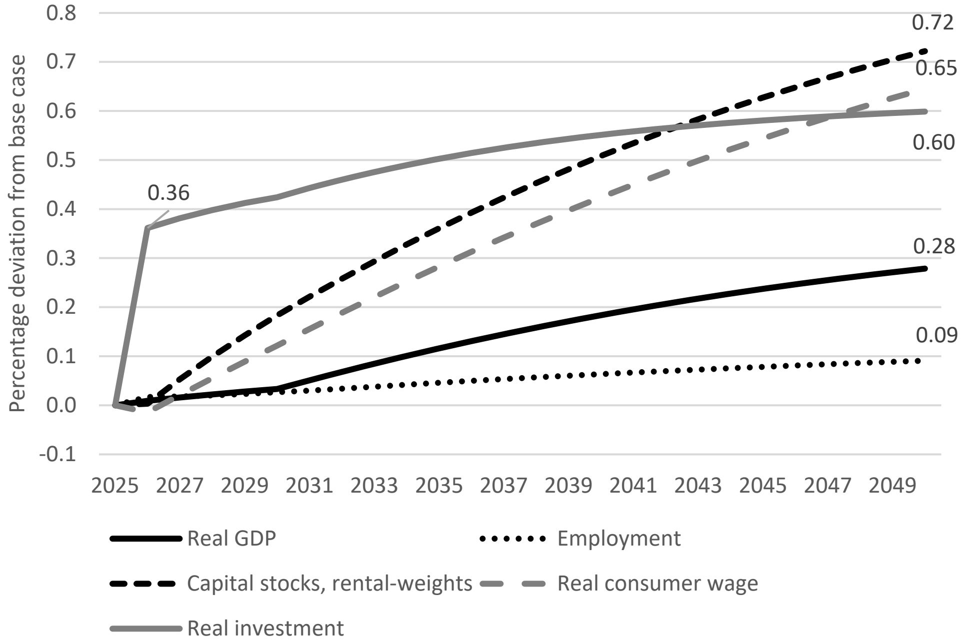

Figure 15: Final Core Scenario impacts on GDP, supply-side aggregates and investment. *The CIT cut causes investment to increase immediately, with the resulting increase in capital stock accumulating gradually*.

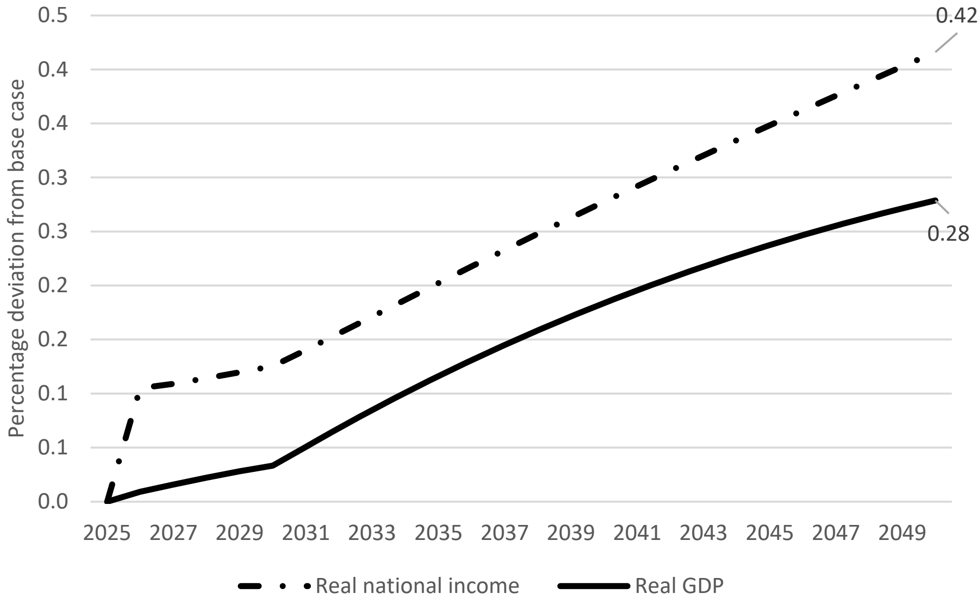

Figure 16: Final Core Scenario impacts on real Gross National Income and real GDP. *In contrast to the Interim Core Scenario, GNI increases relative to GDP, with an immediate step up in GNI due to increased NCFT collections from foreign. The initially slow increase in both measures is due to the negative impact of threshold effects, which are introduced gradually over 5 years*.

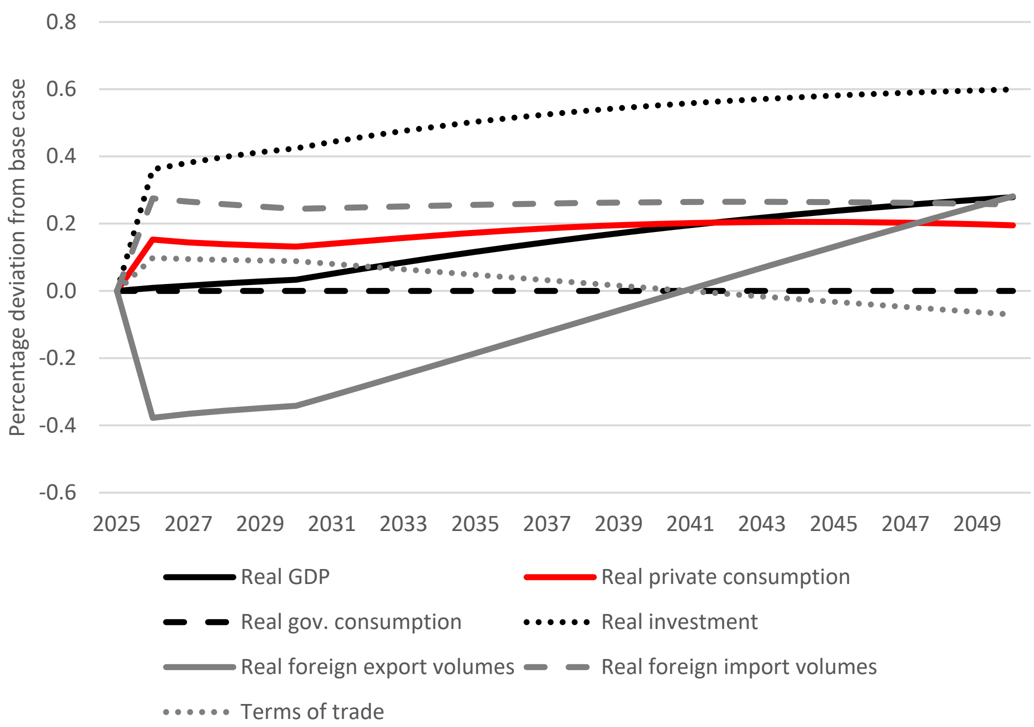

Figure 17: Final Core Scenario impacts on GDP expenditure aggregates. *Unlike the Interim Core Scenario, the impact on real private consumption is positive and initially exceeds the impact on GDP.*

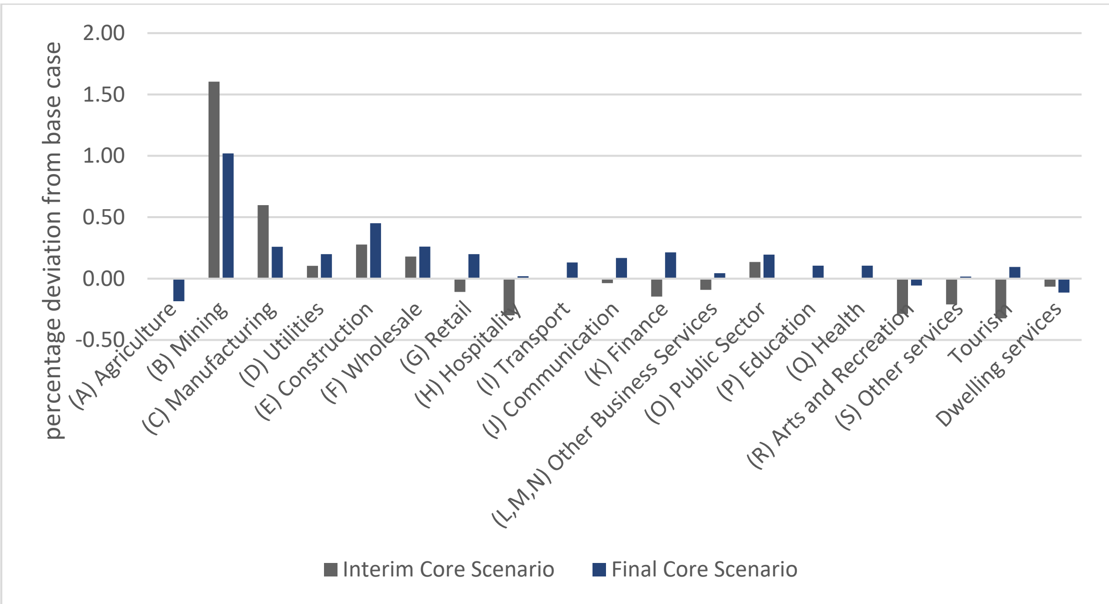

Figure 18: Final and Interim Core Scenario impacts on industry output, 2050. *Industry impacts are more evenly distributed in the Final Core Scenario, in line with the more even distribution of macro expenditure impacts.*