

# Modelling corporate tax reforms

**What shall we do with company tax?**  
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*Preliminary and not for quotation*

# Outline

- Introduction
- Modelling approach
- Consumer costs of the tax system
- Alternative rates of corporate tax
- Alternative bases for corporate tax
- Funding a 25 per cent corporate tax rate

# Introduction

- Successive reviews, supported by modelling, have recommended reducing the corporate tax rate to 25 per cent.
  - 2009 Henry review (KPMG Econtech with MM900)
  - 2012 BTWG (Independent Economics with IE CGE)
  - 2016 Tax Review (Chris Murphy with CGETAX)
- Under legislation, a 25 per cent rate for companies with annual turnover under \$50 million will be in place by 2026-27.
- There are three main questions for future reform:
  - What should be the rate?
  - What should be the base?
  - How should cuts be funded?
- This is a companion paper to Ingles and Stewart (2017)

# Modelling Approach: Studies

- Charles L. Ballard, John B. Shoven and John Whalley (1985), “General Equilibrium Computations of the Marginal Welfare Costs of Taxes in the United States”, *The American Economic Review*.
- KPMG Econtech (2010), “CGE Analysis of the Current Australian Tax System”.
  - MM900 model: distortions to work, investment and consumption choices
- Cao L., Hosking A., Kouparitsas M., Mullaly D., Rimmer X., Shi Q., Stark W., and Wende S. (2015), “Understanding the Efficiency and Incidence of Major Australian Taxes”, Treasury WP 2015-01.
  - IE CGE model: distortions to investment choices (de Mooij and Devereux, 2009)
- Murphy, C. (2016), “Efficiency of the Tax System: a marginal excess burden analysis”, ANU TTPI Working Paper, 4/2016.
  - CGETAX: distortions to work, investment, consumption & saving choices; oligopoly
- Tran, C. and Wende, S. (2017), “On the excess burden of taxation in an overlapping generations model”, ANU, mimeo.
  - OLG model: disincentives to work, investment and saving choices; dynamic

# Modelling Approach: Overview of CGETAx

## Purpose:

- Tax policy analysis

## Behaviour:

- Long run equilibrium
- Profit maximising industries (some competitive, some oligopolies)
- Utility maximising consumers
- Allowance for negative externalities (for modelling sin taxes)

## Dimensions:

- |                                          |     |
|------------------------------------------|-----|
| • Industries                             | 278 |
| • Labour types                           | 8   |
| • Capital types                          | 9   |
| • Rent types (land, minerals, oligopoly) | 3   |

# Modelling Approach: Key Elasticities

## Households (fully optimise):

- Elasticity of intertemporal substitution 0.25
- Labour supply elasticity (compensated) 0.4
- Elasticity of substitution between broad consumption categories 0.6
- Elasticity of substitution within broad consumption categories 0.6-2.4

## Businesses (fully optimise):

- Elasticity of substitution between capital and labour 0.7-0.9
- Elasticity of substitution between types of capital 0.3
- Elasticity of substitution between taxed and untaxed labour 3
- Elasticity of substitution between 8 occupational types of labour 3
- Elasticity of substitution between land and structures 0.5
- Elasticity of substitution between structures-land and mobility 0.3
- Elasticity of substitution between value added and intermediates 0.2
- Semi-elasticity of company income tax base wrt rate -0.73

# Consumer costs: measuring welfare

- Welfare costs measured by intertemporal version of equivalent variation
  - Maximum amount consumers would be prepared to pay to avoid a policy change
- Advantages compared to using GDP:
  - Takes into account that some income from domestic production goes to foreigners
  - Values consumer preferences over consumption mix
  - Values leisure time
  - Values consumption smoothing over time

# Consumer costs: OECD ranking

- Labour income taxes discourage work.
- GST not as bad: discourages work to the extent consumption is funded from wages, but not to the extent that it is funded from economic rents.
- Company tax worse: discourages work to the extent that it applies to normal returns to capital and also discourages investment.
- Why does company tax discourage work?
  - In an open economy foreign investors don't bear local company tax as they require the post-tax rate of return on capital available on world capital markets. That leaves labour to bear local company tax through a lower real wage, discouraging work.



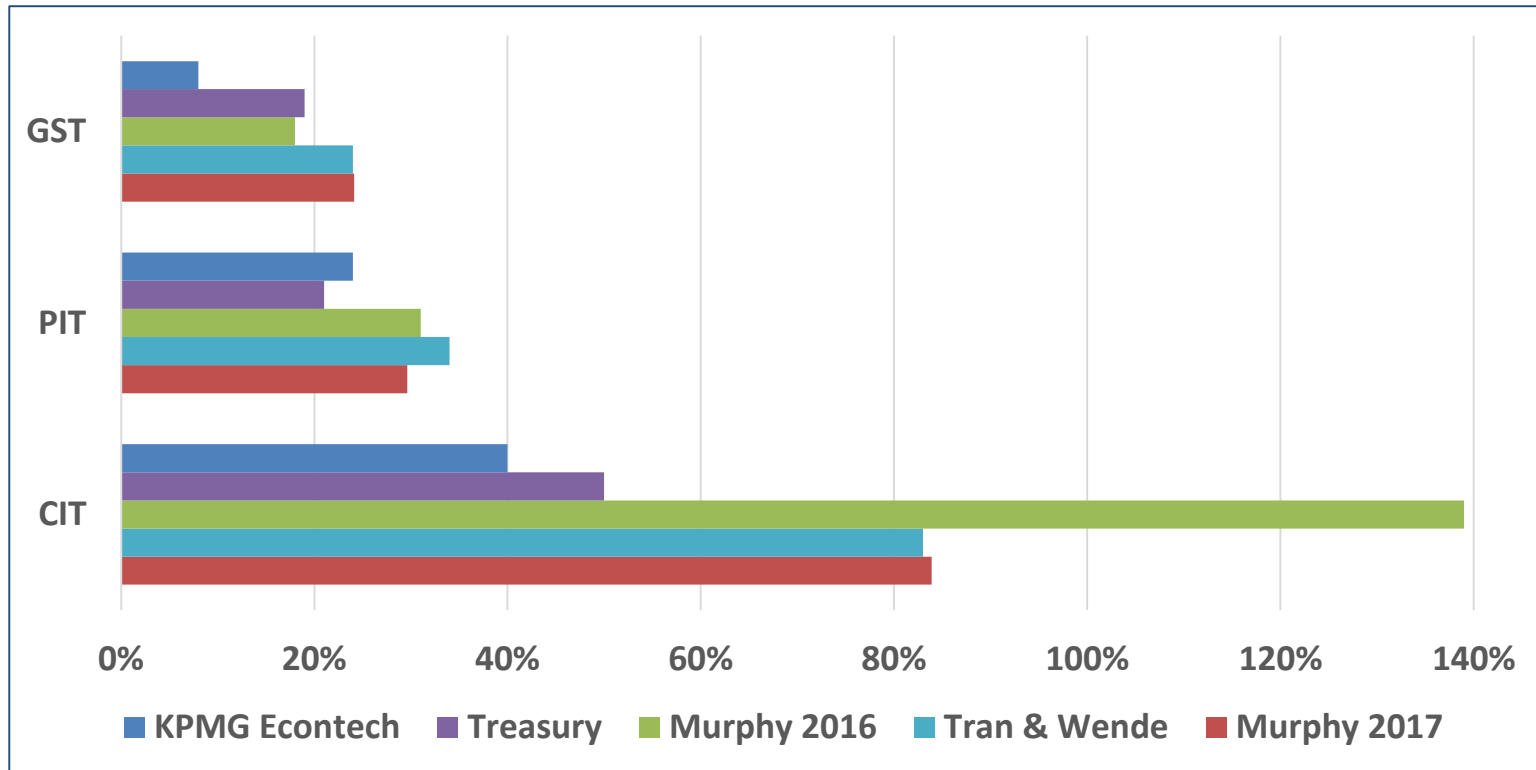
# Consumer costs: excess burden

- The average excess burden (AEB) of a tax is the cost to consumers over and above the amount of the tax, relative to the contribution to the government budget. This cost to consumers arises from the disincentive effects.
- The marginal excess burden (MEB) is the same idea, but refers to the last dollar of revenue raised by a tax.
- Consumer welfare is increased by relying less on taxes with high MEBs and more on taxes with low MEBs.

# Consumer Costs: MEBs and AEBs

	<b>MEB</b>	<b>AEB</b>
Personal Income Tax		21%
budget repair levy	64%	
tax surcharge	42%	
medicare levy	42%	
income levy	30%	
bracket creep	25%	
reduce franking credits	14%	
Corporate Income Tax	84%	21%
25% to 30% (if US rate is cut to 25% or less)	94%	
25% to 30%	68%	
20% to 25%	45%	
15% to 20%	28%	
GST		21%
raise rate	24%	
broaden base to fresh food	11%	
remove financial services concession	13%	

# Consumer costs: different studies



# Corporate Income Tax MEBs

## Adding to the MEB:

- labour supply disincentive from taxing normal returns to capital
- Capital demand disincentive from taxing normal returns to capital
- Higher statutory rate leads to shifting of accounting profits offshore
- Higher corporate rate increases franking credits, adding further to concessional tax treatment of saving

## Subtracting from MEB:

- Taxation of economic rents is efficient.
- US direct investment in Australia generally receives full tax credits in the US for company tax paid in Australia. However, this will no longer be true if Trump reduces US corporate tax rate from 35 per cent to, say, 25 per cent.

# Rates of corporate tax

bus tax scenario:	30 to 25	25 to 20	20 to 15
Consumer welfare (2015/16, \$bn)	3.0	2.3	1.6
Budget gain (\$bn)	-4.4	-5.1	-5.8
Marginal Excess Burden (%)	68%	45%	28%
Household Consumption (%)	0.51%	0.42%	0.34%
GDP (%)	0.80%	0.74%	0.69%
Business investment (%)	2.35%	2.20%	2.07%
Employment (%)	0.20%	0.19%	0.19%
Real after-tax wage (%)	0.80%	0.73%	0.67%

# Bases for corporate tax

bus tax scenario:	CBIT30	rent with fr	no franking	rent w/out fr
Consumer welfare (2015/16, \$bn)	-2.1	12.5	-1.5	10.9
Budget gain (\$bn)	5.8	-23.8	11.1	-13.1
Marginal Excess Burden (%)	36%	52%	14%	84%
Household Consumption (%)	-0.33%	2.19%	0.02%	2.21%
GDP (%)	-0.62%	4.46%	0.00%	4.46%
Business investment (%)	-1.85%	14.15%	0.00%	14.14%
Employment (%)	-0.17%	1.22%	0.00%	1.21%
Real after-tax wage (%)	-0.60%	4.31%	0.00%	4.32%

## Funding a 25 per cent rate

funding scenario:	lump sum	br creep	CBIT25	half fr	fin rent 8%	GST fresh
Consumer welfare (2015/16, \$bn)	3.0	1.9	1.6	2.2	3.5	3.2
Budget gain (\$bn)	0.0	0.1	0.6	0.9	-0.2	-0.2
Household Consumption (%)	0.51%	0.25%	0.27%	0.52%	0.56%	0.39%
GDP (%)	0.80%	0.58%	0.29%	0.80%	0.80%	0.72%
Business investment (%)	2.35%	2.14%	0.81%	2.35%	2.35%	2.18%
Employment (%)	0.20%	-0.04%	0.05%	0.19%	0.18%	0.04%
Real after-tax wage (%)	0.80%	0.11%	0.32%	0.80%	0.81%	0.37%

# Comments

- Modelling shows large benefit from reducing corporate tax rate down to 20 per cent, but not beyond.
- Modelling shows large benefit from removing dividend imputation in an open economy. This is before allowing for the further benefit of reducing home country bias in portfolios.
- Modelling understates benefits of CBIT: does not allow for benefit of removing distortion favouring debt over equity, and CBIT may be more effective in reducing profit shifting.
- Modelling shows larger benefit from moving to a rent tax (CFT, ACC or ACE) than cutting the rate, but that is a bigger change in policy regime and costly to the budget.