



FINAL REPORT

Analysis of capital gains tax changes

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Contents

Summary	5
1 Introduction	11
Current Capital Gains tax policy	11
The current policy debate and what this paper seeks to measure	12
Proposed policy changes	14
Illustrative impact of policy changes on individuals' tax bills	15
This paper	16
2 Literature review	18
Important insights from Henry tax review	18
Independent Economics: modelling of proposed changes to negative gearing	18
Analysis of recent policy proposals	19
Broader literature	20
3 The impact on housing of changes to capital gains taxation	22
The impacts on housing identified by commentators	22
A comprehensive market for housing and the full impacts	23
We should rethink how we think of investors	26
The time taken for the impacts of policy change to materialise	28
4 Conceptual framework and methodology we used to estimate our results	34
Overview of methodology	34
The nature of changes to capital gains tax	35
Calculations for designing the shocks	35
Summary: the policy shocks we model	37
The CIE REGIONS model	38
5 Results of the larger increase in capital gains tax	42
The 'larger increase in capital gains tax' policy	42
The total impacts of the policy	42
Grandfathering	48
6 Results of other policy changes	50
The 'smaller increase in capital gains tax' policy	50
The 'larger increase capital gains tax (housing only)' policy	53
The 'smaller increase in capital gains tax (housing only)' policy	56
References	59
A CIE REGIONS model	60

B Marginal excess burden of a tax **63**

BOXES, CHARTS AND TABLES

1	Market for housing services; including an increase in the cost of housing services, driven by an increase in the effective tax rate on capital gains	7
2	Total annual impacts of increasing the effective tax rate on capital gains, by policy change	8
1.1	Estimated turnover rates of dwellings by tenure type (2014-15)	15
1.2	Attached dwellings price growth, capital gains (from sale) and capital gains tax (under different assumptions) \$000	16
3.1	Marginal participants in housing market (who are making decisions now)	24
3.2	The three layers of the housing market and the impact of increasing the effective tax rate on capital gains	26
3.3	Data on households who rent	28
3.4	Median prices for units and apartments (\$)	32
3.5	Commencements of new units and apartments for private sector, divided by population change	33
4.1	Data on individuals' income, income tax and capital gains	36
4.2	Data on source of capital gains (share of total capital gains)	37
4.3	Scenarios considered and their direct impacts	37
4.4	Market for dwelling services, including the effect of increasing the effective tax rate on capital	41
5.1	Market for dwelling services, including the impact of the <i>larger increase in capital gains tax</i> policy	44
5.2	Total annual impact of the <i>larger increase in capital gains tax</i> policy	46
5.3	Dwellings being rented from private, individual investor-landlords, share of total dwellings in market	47
6.1	Total annual impact of <i>smaller increase in capital gains</i> policy	52
6.2	Total annual impact of the <i>larger increase in capital gains tax (housing only)</i> policy	55
6.3	Total annual impact of <i>smaller increase in capital gains tax</i> policy (housing only)	58
A.1	CIE-REGIONS industries/commodities and margin services	61
A.2	Federal and state taxes	62
B.1	Marginal excess burden of taxes imposed on housing services industry in CIE REGIONS model	64

Summary

The Housing Industry Association (HIA) has commissioned the CIE to investigate the economic implications of proposed changes to Capital Gains Tax Arrangements.

The impact of higher capital gains tax

Currently, there are various proposals to increase the effective tax rate on capital gains.

- **In the long-run, increasing the effective tax rate on capital gains is most likely to: increase housing costs across the board (this includes rents that tenants pay, as well as the prices first home owners pay to purchase property), reduce economic activity and reduce household consumption (our proxy for household welfare).**
- **Overall, total taxes collected in the economy (by both Federal and State Governments) are likely to be significantly lower as a result of the policy change. This is driven by lower taxes collected on income (other than capital gains), lower GST and lower property taxes.**
- **With significantly lower collections of property taxes and GST (amongst other taxes), total revenues available to the State Governments are likely to be substantially lower.**

These results can be understood by considering a complete picture of the housing market, which has **three** layers:

- Builders of dwellings (the residential construction industry);
- Owners of dwellings, who purchase dwellings from the residential construction industry (including owner-occupiers and investor-landlords); and
- Occupants of dwellings (including tenants, who rent off investors, and owner occupiers themselves)

Increasing the effective tax rate on capital gains will prompt some potential investor-landlords to withdraw from housing market, as the post-tax return on prospective property investments is lower as a result. As some potential owners of dwellings withdraw, the demand for dwellings supplied by residential builders falls. Residential builders respond to this signal by decreasing their supply of new dwellings, which means growth in the supply of dwellings available for occupation slows. Growth in demand to occupy these dwellings (by renters and owner-occupiers), which is mostly driven by the population (and, to a smaller extent, the size of the economy) slows only a little.

- **Slower growth in the supply of dwellings available for occupation (compared to growth in demand to occupy these dwellings) results in higher housing costs for all**

occupants. This means higher rents for tenants and higher purchase prices for owner-occupiers (including first home buyers). This is shown in Chart 1, below.

- Higher housing costs has an adverse impact on household consumption. This, combined with higher taxes on capital (generally), causes economic activity to contract.

Results from history

In 1985 the Hawke Government increased the effective tax rate on returns to capital in dwellings by introducing a generalised capital gains tax and making negative gearing less generous. The evidence suggests this policy change caused the supply of dwellings to decrease: dwelling prices rose, while dwelling commencements fell relative to population growth.¹

Modelling results for specific scenarios

We have used the CIE-REGIONS model to formally estimate the magnitude of the total impact of 4 different potential changes to capital gains tax arrangements. In each case, the effective tax rate on capital gains is increased by reducing the discount rate that is applied to realised capital gains before they are included in taxable income.

For example, if the government reduced the discount rate that is applied to capital gains by 50 per cent to 25 per cent, we estimate that the economy would be smaller each year by 0.2 per cent compared to the baseline (of no policy change). If this full effect of the policy was applied to today's economy, it would mean GDP is \$3.7 billion lower (nominal GDP was \$1655 billion in 2015-16).

- **Household consumption (a better indicator of Household welfare) is lower each year by 0.7 per cent compared to the baseline.**

The contraction in the economy means labour demand falls and real wages are lower each year by 0.7 per cent compared to baseline.

The sharpest impact of the policy change is in housing, where the tax increase on capital is highest. The withdrawal of potential investor-landlords (and therefore capital for residential dwellings) means that, in aggregate, housing costs for occupants are higher each year by 0.7 per cent compared to baseline (see Diagram 1). This is not even across occupants. Actual rents paid by tenants are estimated to rise by more (by 0.8 per cent compared to the baseline) because the tax take on capital implicit in rented dwellings has increased relative to the tax take on capital implicit in owner-occupied dwellings. Imputed rents paid by owner-occupiers are higher each year by 0.6 per cent compared to the baseline. In the long-run, the price that owner occupiers pay to buy a house moves in-line with the imputed rents they receive from the property. Therefore, we estimate that owner-occupiers (including first home buyers) will face dwelling purchase prices that are

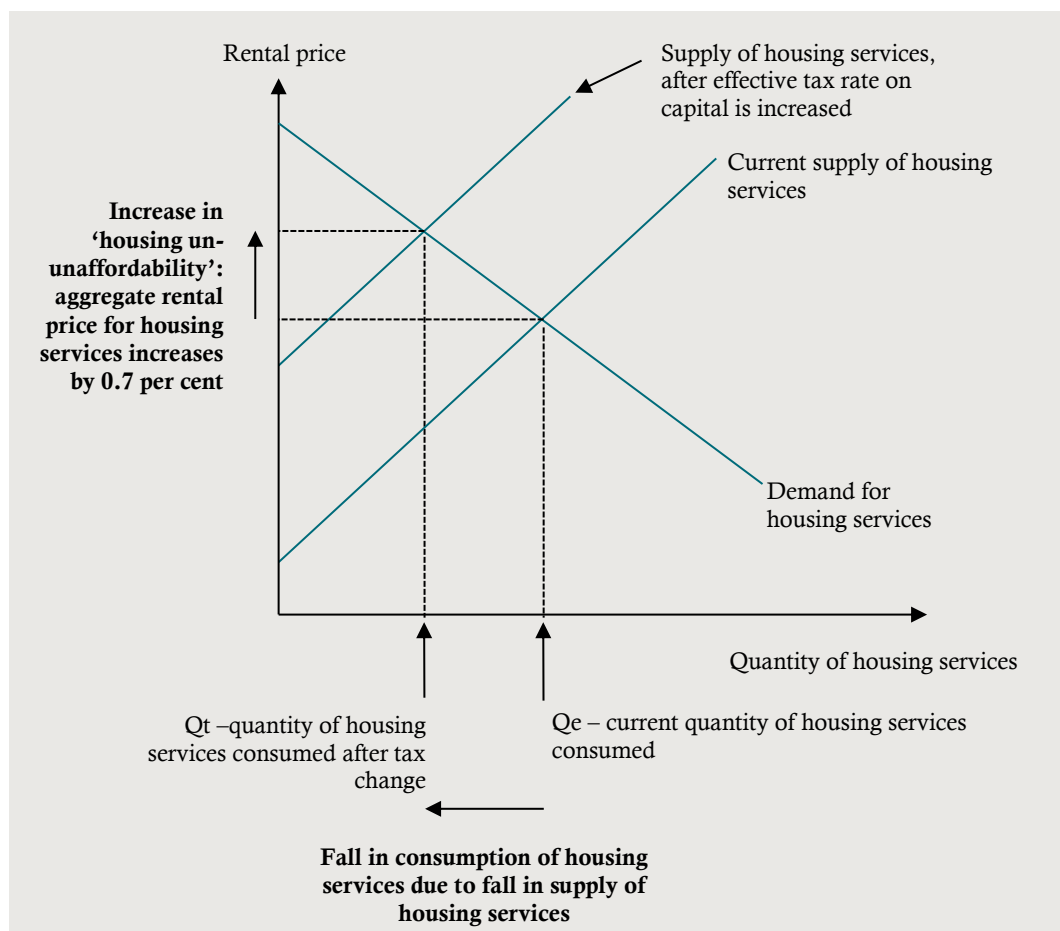
¹ Details of this are provided in chapter 3.

higher by 0.6 per cent compared to the baseline, when the full impacts of the policy materialise.

The short term, direct impact of increasing the effective tax rate on capital gains is that tax collections made by the Federal Government on capital gains are higher each year by around \$2.8 billion. But the contraction in the economy causes collections of other taxes to fall.

- Overall, revenue from taxes collected by the Federal government is higher each year by only \$483 million compared to baseline.
- Tax collections by the states are lower each year by around \$1 billion compared to the baseline. This is mostly driven by falls in property taxes due to the contraction in the housing industry. (This figure does not include distributions, including GST revenue, from the Federal Government).

1 Market for housing services; including an increase in the cost of housing services, driven by an increase in the effective tax rate on capital gains



Note: Housing 'services' are things occupants (individuals, families, etc.) derive from their housing: shelter, convenience and amenity. These services can be derived from both rental properties and owner-occupied properties. The 'rental price' is the cost to occupants of receiving dwelling services. In the case of renters, the rental price is literally rent (the rental rate). In the case of owner-occupiers, the rental price is the 'imputed rent' which is the opportunity cost they incur from residing in their dwelling (and not renting it out).

Note: This diagram shows the annual impact on the market for dwelling services of increasing the effective tax rate on capital gains by reducing the capital gains discount rate from 50 per cent to 25 per cent.

Source: The CIE

2 Total annual impacts of increasing the effective tax rate on capital gains, by policy change

		Larger increase in capital gains tax	Smaller increase in capital gains tax	Larger increase in capital gains tax (housing only)	Smaller increase in capital gains tax (housing only)
		<i>Discount rate is reduced from 50 per cent to 25 per cent</i>	<i>Discount rate is reduced from 50 per cent to 40 per cent</i>	<i>Discount rate is reduced from 50 per cent to 25 per cent for housing assets only</i>	<i>Discount rate is reduced from 50 per cent to 40 per cent for housing assets only</i>
Size and shape of the economy					
GDP	Per cent	-0.2	-0.1	-0.1	-0.05
Residential building activity	Per cent	-1.6	-0.6	-1.3	-0.5
Components of demand in economy					
Household consumption	Per cent	-0.7	-0.3	-0.5	-0.2
Consumption of dwelling services	Per cent	-1.7	-0.7	-1.4	-0.6
Total investment	Per cent	-0.5	-0.2	-0.3	-0.1
Investment in dwellings	Per cent	-1.6	-0.6	-1.3	-0.5
Labour demand					
Real wages	Per cent	-0.7	-0.3	-0.5	-0.2
Changes in price levels (real, i.e. relative to headline CPI)					
Price of dwelling services	Per cent	0.7	0.3	0.7	0.3
Rental properties	Per cent	0.8	0.3	0.9	0.4
Owner occupied properties	Per cent	0.6	0.2	0.7	0.3
Impact on taxes collected by Federal Government (annual)					
Total impact	\$m	483	190	569	227
Taxes on capital gains	\$m	2799	1120	2009	804
Taxes on other income	\$m	-1725	-692	-1055	-423
GST	\$m	-408	-164	-278	-112
Other taxes (net)	\$m	-183	-73	-107	-43
Impact on taxes collected by State Governments (aggregate, annual)					
Total impact	\$m	-1013	-406	-782	-313
Property taxes (e.g. stamp duty)	\$m	-768	-308	-628	-251
Payroll tax	\$m	-101	-41	-60	-24
Other taxes (net)	\$m	-144	-58	-94	-38

		Larger increase in capital gains tax	Smaller increase in capital gains tax	Larger increase in capital gains tax (housing only)	Smaller increase in capital gains tax (housing only)
		<i>Discount rate is reduced from 50 per cent to 25 per cent</i>	<i>Discount rate is reduced from 50 per cent to 40 per cent</i>	<i>Discount rate is reduced from 50 per cent to 25 per cent for housing assets only</i>	<i>Discount rate is reduced from 50 per cent to 40 per cent for housing assets only</i>
Impact on tax collections over 5-year forward estimates					
Federal taxes	\$m	2416	951	2846	1133
State taxes (aggregate)	\$m	-5064	-2030	-3909	-1565

Note: The policies result in higher effective tax rates on capital gains because the share of realised capital gains that must be included in taxable income increases. For example, in the 'larger increase in capital gains tax' scenario, reducing the discount rate from 50 per cent to 25 per cent means that an asset seller would have to include 75 per cent of realised capital gains in taxable income (up from 50 per cent).

Note: Under all scenarios, the only 'housing' assets that attract capital gains tax are investment properties (properties owned by investor-landlords, which are rented to tenants). 'Owner-occupied' properties do not attract capital gains tax.

Note: These results do not incorporate the impact of 'Grandfathering'. In chapter 5, where the results are presented in full, the impact of Grandfathering is discussed.

Source: The CIE REGIONS model

Important misconceptions in the current policy debate

The results in this report may strike some readers as curious, given that an increase in capital gains tax is often advocated as a policy that would tackle the 'housing affordability crisis'. There is an important misconception implicit in this argument which should be debunked.

Essentially, because investor-landlords appear at auctions as potential purchasers, many commentators think of them 'consumers' in the housing market, who compete against owner-occupiers (including first-home buyers). This is not correct. Consumers in the housing market are the occupants of dwellings, the individuals who (literally) consume the services of shelter, amenity and convenience from their places of residence.

In fact, investor-landlords form part of the mechanism that supplies dwellings. These individuals provide the capital that facilitates the creation of dwellings that tenants occupy. This is necessary, as tenants either cannot supply the capital for the dwelling they occupy, or prefer not to.

Some commentators implicitly assume that the supply of houses is essentially fixed, and the only question for policy is allocating this fixed supply of dwellings between investor-landlords and owner-occupiers. Under this assumption, more dwellings will be allocated to owner-occupiers if investor-landlords are taxed more heavily. This assumption is not correct, because investor-landlords form part of the supply of dwellings. Increasing taxes on them causes the supply of dwellings to reduce.

Another important misconception centres on the role of 'Grandfathering'. Grandfathering means that the effective increase in capital gains tax will only apply to investment properties that are purchased after the tax change is introduced. The actual

unintended consequences of ‘Grandfathering’ could be quite perverse: while ‘Grandfathering’ will certainly delay the benefits of the policy change (higher revenue for the Federal Government), it may not delay the costs of the policy (higher housing costs, lower economic activity, lower consumption, and lower tax collections for State Governments). This is because these changes are caused by the changes in behaviour of investors, builders, tenants, etc. that are prompted by the policy change. These behavioural changes will begin as soon as these individuals understand how the policy change has changed their incentives.

1 Introduction

The Housing Industry Association (HIA) has commissioned the CIE to investigate the economic implications of potential changes to Capital Gains Tax Arrangements.

Current Capital Gains tax policy

After an investor buys an asset, the ‘capital gain’ he/she earns from the asset is the growth in the price of the asset relative to the purchase price (if price growth is negative, the investor earns a ‘capital loss’).²

When the asset is sold, the investor ‘realises’ the capital gain (he/she receives funds for the capital gain).

In Australia, there is no separate ‘capital gains tax’. Rather, net realised capital gains are included in net personal taxable income. Where gross realised capital gains are the sale price less the purchase price less costs associated with selling the asset, net realised capital gains are calculated as follows.

Net realised capital gains

$$= \text{Gross realised capital gains} - \text{losses} - \text{capital gains discount} \\ - \text{small business concessions}$$

Capital gains discount = (Gross realised capital gains – losses) * discount rate

Losses include losses on assets made in the current year and in previous years. For individuals the discount rate is 50 per cent. Capital gains on owner-occupied housing (the ‘family home’) are not included in taxable income (capital gains tax does not apply). For superannuation funds, the discount rate is 33.33 per cent.³ The inclusion of net capital gains in net personal taxable income means the ‘tax rate’ on net capital gains is the seller’s marginal income tax rate.

This system of ‘discounting’ capital gains was introduced in 1999. It replaced a system of ‘indexing’ capital gains, where the cost base of capital gains was indexed with CPI inflation so that – in effect – the tax payer was only being taxed on his/her *real* capital gains. The change was made to simplify taxation arrangements.

² This discussion is developed from the ATO website:
<https://www.ato.gov.au/General/Capital-gains-tax/> (accessed June 2017)

³ For assets purchased before 11:45am on 21st September 1999, owners can still use indexing method to calculate net capital gain.

The current policy debate focuses only on the discount rate (currently 50 per cent) that is applied to individuals' realised capital gains.

The current policy debate and what this paper seeks to measure

No consensus on 'ideal' capital gains tax

Economic research into the impacts of taxation usually compares the benefits and costs of different taxes. Taxes are evaluated *relative* to one another. When only one tax is being considered, as is the case in this report, the researcher usually defines an 'ideal' version of the tax (which may not be possible to implement), explains how the actual version of the tax differs from this ideal, and then estimates and explains the impacts of the variation between the actual tax and the ideal tax.

We have taken a slightly different approach in this report, as there is no consensus on what makes an 'ideal' capital gains tax policy.

- Proponents of lower capital gains taxation argue that ideally, the component of capital gains that is consistent with the 'risk-free' interest rate should not be taxed (leaving investors indifferent between consuming today and saving for tomorrow).⁴ Further, capital gains taxation arrangements in Australia (where only realised gains are taxed) implicitly include a 'transaction tax'. Transaction taxes, including stamp duty, are generally argued to impose relatively large economic costs on the economy, because they de-incentivise the transfer of assets to owners who will get the most out of them. Finally, some researchers have found that the switch from indexing capital gains to discounting capital gains reduced the effective tax rate on capital gains and thus made Australia's taxation arrangements more 'internationally competitive'.⁵ (This result of course depends on asset price and general inflation).
- Proponents of higher capital gains taxation argue that, as capital gains tend to accrue to wealthier individuals, taxing capital gains at a high rate implicitly contributes to the redistribution of resources in the economy, which is the goal of progressive income taxation.⁶

There is little overlap between these arguments, which means there is no consensus on 'ideal' capital gains tax policy.

'Current problems' with capital gains tax

Equivalent to the fact that there is no consensus on what an 'ideal' capital gains tax would look like, many arguments in the debate on capital gains tax have very little to do with capital gains (*per se*)

⁴ Grattan Institute 2016, *Hot Property*, pp 11-12

⁵ Wyatt et al 2003, *Tax reform: an international comparison of the effectiveness of changes to Australia's capital gains tax*, *Journal of Australian Taxation* 6(1)

⁶ Grattan Institute 2016, *Hot Property*, pp 17-18

For example, some commentators argue that the discount on capital gains creates an incentive for investor-landlords that is perverse, because it results in first homebuyers being priced out of the market. This view is not accepted by all commentators, who argue that it is a combination of housing undersupply, population growth and lower interest rates that is driving higher residential property prices (including higher prices for first homebuyers). In terms of capital gains tax, owner-occupied property (including first homebuyers) is taxed more generously than investor-landlord property. Owner-occupiers do not pay capital gains tax (at all), while investors pay capital gains tax less the impact of the discount.

Some commentators also argue that reducing the capital gains discount is a better way of reducing the government's deficit than other strategies (including raising other taxes, or reducing expenditure). One argument for this is that it is a relatively 'fair' strategy, because capital gains tend to be earned by higher income tax payers (rather than lower income tax payers).

No 'broader tax reform'

Even if it proves impossible to agree on an 'ideal' capital gains tax, it is still possible to improve our policy options by broadening the scope of the argument. The best recent example of this in Australia is the Henry Tax Review, which argued that taxation arrangements for savings should be made more consistent across different asset classes, as part of broad taxation reform. However, current proposals for changes to capital gains tax arrangements are not part of broader arguments for taxation reform. In fact, advocates of changes to capital gains tax arrangements generally argue for isolated, piecemeal changes.

Previous research into capital gains tax

As explained in more detail in Chapter 2, previous pieces of research into the impacts of changing capital gains tax policy have not been comprehensive.

International policies

Comparing international tax regimes is very complicated. Overall, Grattan Institute's assessment is that Australia's taxation on capital gains is more concessional than other countries in the OECD.⁷

Conclusion: what this paper seeks to measure

Given these points, this research does not define an 'ideal' capital gains tax. Instead, noting that previous analysis in this space has been narrow, we use modelling and analysis to try to estimate the total impacts, described in Chapter 3, on the economy of changing from current capital gains tax arrangements to alternative capital gains tax

⁷ Grattan Institute 2016, *Hot Property*, pg 52

arrangements. This research thus provides policy makers with a more comprehensive information base with which to make their assessment of proposed policy changes.

Proposed policy changes

There are currently two advanced proposals to increase the effective tax rate on capital gains by reducing the capital gains discount rate.

Smaller increase in capital gains tax (by reducing the discount rate from 50 per cent to 40 per cent)

One recommendation (of many) in the Henry Tax Review is the introduction of a ‘discount for capital income’ of 40 per cent. If this recommendation were implemented (in isolation), the discount that is applied to capital gains would change from 50 per cent to 40 per cent. This would increase the effective tax rate on capital gains, as the asset seller would be obliged to include 60 per cent of realised capital gains in taxable income (up from 50 per cent).

We take this recommendation from the Henry Tax Review and use it (in isolation) as the basis of one policy scenario that we analyse in this report. We call this policy proposal : *smaller increase in capital gains tax*.

It is important to emphasise that the central thrust of the Henry Tax Review was comprehensive, broad ranging tax reform (not the introduction of single, isolated changes to tax policy). On housing affordability, the Review recommended tackling and removing restrictions on housing supply as a first step in dealing with housing affordability issues before introducing the ‘discount for capital income’. Further, the ‘discount for capital income’ is part of broader reforms that would reduce discrepancies in the way different asset classes are taxed. However, as the aim of this research is to understand the full impacts of increasing the effective tax rate on capital gains, we take this single recommendation and apply it in isolation.

A few key messages from the Henry Tax Review are discussed in Chapter 3.

Larger increase in capital gains tax (by reducing the discount rate from 50 per cent to 25 per cent)

A second proposal is to reduce the discount rate that is applied to capital gains from 50 per cent to 25 per cent. This would increase the effective tax rate on capital gains, as the asset seller would be obliged to include 75 per cent of realised capital gains in taxable income (up from 50 per cent).

We call this policy proposal: *larger increase in capital gains tax*.

This proposal is the current policy of the Australian Labor Party (ALP)⁸ and has also been separately proposed by the Grattan Institute.⁹

⁸ The ALP’s policy is discussed here: <http://www.alp.org.au/negativegearing>

Under the ALP proposal, the policy is not associated with reductions in taxes elsewhere – any extra tax revenue for the Federal Government would be used to fund expenditure (in fact, the policy would be introduced alongside a decrease in the tax shield for negative gearing).

The ALP propose to ‘Grandfather’ the introduction of this policy. This means the effective increase in the tax rate on capital gains would only apply to properties that are purchased after the policy is introduced. This means government revenue would only start to increase once properties are sold for the second time after the policy is introduced.

Illustrative impact of policy changes on individuals’ tax bills

Available data suggests that the turnover rate of investment properties is around 6 per cent, which is similar to the turnover rate of owner-occupied properties, and implies investor-landlord properties are held around 15.6 years on average (see Table 1.1).

1.1 Estimated turnover rates of dwellings by tenure type (2014-15)

	Total	Owner-occupied	Private rentals from individuals	Rented or occupied from government, church or cooperative	All other (residual)
Stock of dwellings (000)	9471	5239	1994	338	1900
Sales/transfers of dwellings (000)	506	277	128	0	101
Turnover rate	-	5%	6%	-	5%

Note: Data shown in this table have been derived from less detailed data, using a series of assumptions. The purpose of the data are not to derive precise estimates of the turnover rate by dwelling type; rather, it is to answer the question: do available data suggest the turnover rate amongst investors is similar or different to owner-occupiers? The available data suggest the turnover rate is similar. *Method on stock of dwellings* ABS Cat 6416 provides the number of dwellings in Aus. in 2014-15 (9471 thousand). This data is allocated across the property types using shares in 2016 Census.

Method on sales: ABS Cat 6416 provides total turnover (sales) of property in Australia in 2014-15 (506 thousand). ATO Tax data report 128 thousand capital gains ‘events’ by individuals of Australian real estate in 2014-15 (we take this to be the number of sales by individuals of investment properties). We assume turnover of properties owned by government, church groups, etc is zero. We allocate total sales less sales of investment properties (378 thousand) between owner-occupied and all other properties (using dwelling shares). We then calculate the turnover rates shown.

Source: ATO Tax data 2014-15; ABS Cat. 6416

For the purposes of providing an illustrative calculation on what the impact of proposed policy changes will be on individual tax bills, we assume a ‘representative’ investor-landlord owns an attached dwelling, as anecdotal evidence suggests this is what most investment properties are. The ABS provides data on the average sale (transfer) price of attached dwellings in different markets back to 2004. We assume an investor-landlord purchases his/her investment property in 2004, and sells it in 2016 (the end point of the data), generating a realised capital gain. The capital gains tax bill, under different assumptions for the marginal tax rate (35 per cent and 47 per cent¹⁰), and under different

⁹ Grattan Institute 2016, *Hot Property*

¹⁰ The average tax rate on realised capital gains is 35 per cent (see Chapter 4); the top marginal tax rate in Australia is 47 per cent, including the Medicare levy.

assumptions for the discount rate (the current 50 per cent rate and proposed rate of 25 per cent), is calculated in Table 1.2. We assume the investors have no losses to offset capital gains, and receive no small business concessions. Taking an unweighted average across cities:

- The capital gain is around 41 per cent of the sale price;
- If the marginal tax rate of the investor-landlord is 35 per cent, the capital gains tax paid is around 7 per cent of the sale price (if the discount rate is 50 per cent) or 11 per cent of the sale price (if the discount rate is 25 per cent); and
- If the marginal tax rate of the investor-landlord is 47 per cent, the capital gains tax paid is around 10 per cent of the sale price (if the discount rate is 50 per cent) or 14 per cent of the sale price (if the discount rate is 25 per cent).

1.2 Attached dwellings price growth, capital gains (from sale) and capital gains tax (under different assumptions) \$000

	2004 Purchase price	2016 Sale price	Capital gain realised	Capital gains tax paid (if marginal tax rate is 35 per cent)		Capital gains tax paid (if marginal tax rate is 47 per cent)	
				Discount rate is 50 per cent	Discount rate is 25 per cent	Discount rate is 50 per cent	Discount rate is 25 per cent
Sydney	383	696	314	55	82	74	111
Rest of NSW	265	360	95	17	25	22	34
Melbourne	277	498	221	39	58	52	78
Rest of Vic.	175	264	89	16	23	21	31
Brisbane	257	397	140	24	37	33	49
Rest of QLD	267	363	96	17	25	23	34
Adelaide	208	356	147	26	39	35	52
Rest of SA	92	194	102	18	27	24	36
Perth	217	424	207	36	54	49	73
Rest of WA	152	290	137	24	36	32	48
Hobart	195	296	101	18	26	24	35
Rest of Tas.	152	218	67	12	17	16	23
Darwin	157	419	262	46	69	62	92
Rest of NT	156	316	160	28	42	38	56
Canberra	291	429	138	24	36	33	49
<i>Percentage of sale price (unweighted average)</i>			<i>41 per cent</i>	<i>7 per cent</i>	<i>11 per cent</i>	<i>10 per cent</i>	<i>14 per cent</i>

Note: We assume no losses (to offset gains); capital gains tax paid equals capital gain realised, less discount (which equals the capital gains realised multiplied by discount rate), multiplied by the marginal tax rate. Note that these data are presented for illustrative purposes only. They are not the data that we use to form our shock the CIE REGIONS model for policy analysis. This is explained in Chapter 4.

Source: ABS Cat. No. 6416 The CIE

This paper

The remainder of this paper is arranged as follows.

- Chapter 2 provides a literature review.
- Chapter 3 describes conceptually how an increase the effective tax rate on capital gains would impact the housing market.
- Chapter 4 outlines the methodology of our analysis.
- Chapter 5 presents the first set of results: the total impacts of the *larger increase in capital gains tax* policy, where the discount on capital gains is reduced from 50 per cent to 25 per cent.
- Chapter 6 presents the total impacts of the other policy proposals studied.

2 Literature review

Important insights from Henry tax review

As noted, a key point from the Henry Tax Review is that Australia's tax system needs comprehensive, wide ranging reform. The Review made a number of specific recommendations that are relevant for this research:¹¹

- The first step in dealing with 'housing affordability issues' is to reform and remove barriers to the supply of land and dwellings;
- After land and dwelling supply has been reformed, make comprehensive change to tax arrangements for capital income:
 - The main goal of the changes is to improve the consistency of the way income from different assets is taxed (currently some asset classes are taxed lightly while others are taxed heavily); investment decisions should be made on the basis of genuine value, rather than taxation factors; and
 - The changes include applying a 40 per cent discount to all capital income. Under this proposal, the discount rate that applies to capital gains would fall from 50 per cent to 40 per cent.

Independent Economics: modelling of proposed changes to negative gearing

Independent Economics (2014) analysed a specific proposal from the Henry Tax Review: analyse the impact of the 40 per cent discount to net property income, as it applies to net rental income ('negative gearing'). Independent Economics analysed the economy wide impacts (including impacts on individual sectors of economy) using a 'general equilibrium model' of the economy. They modelled the policy change as an increase in the tax take from the dwelling services sector of \$1.4 billion.¹²

In Independent Economics' model, increasing the tax rate on dwelling services has a marginal excess burden of 23 per cent (this measures the 'relative efficiency' of the tax).¹³ Marginal excess burden (MEB) is defined as the change in deadweight loss for an additional dollar of tax revenue, and measures the distortion of a tax. It can be used to

¹¹ Australia's Future Tax System (Henry Tax Review) December 2009, Commonwealth of Australia, Volume 1, pg 62

¹² Independent Economics 2014, *Economic impacts of negative gearing on residential property*, June 2014, pg 25

¹³ Independent Economics 2014, *Economic impacts of negative gearing on residential property*, June 2014, pg 17

compare the relative efficiency of different tax reforms, as well as to compare the modelling property of different CGE models. It is explained further in Appendix B.

In Independent Economics' first policy scenario, taxation on dwelling services increases by \$1.4 billion and this revenue is used to fund a decrease in rate of personal income tax. This is essentially a 'tax mix switch': more property tax, less income tax. Within the Independent Economics model, labour income tax is marginally more efficient (it has a marginal excess burden of 22 per cent). So the policy scenario is essentially a switch from one tax to a slightly less efficient tax. Because of this, what Independent Economics call Household 'living standards' (an annual flow, akin to consumption) falls by \$21 million (per year).

As the Independent Economics research was conducted as a follow-on from the Henry Tax Review, it ran other policy scenarios. The main result here was the government can generate significant positive returns from eliminating inefficient taxes on property (like stamp duty) and increasing land supply.

Analysis of recent policy proposals

Previous pieces of research into the impacts of changing capital gains tax arrangements have been narrow in scope. For example, Wyatt et al (2003) found that changing from 'indexing' capital gains to 'discounting' capital gains (essentially the changes made by the Howard Government in 1999), along with other changes to personal income tax, decreased the effective tax rate on capital gains and therefore improved Australia's 'international competitiveness'.¹⁴ This result is dependent on prevailing rates of inflation in general prices and asset prices.

The Grattan Institute (2016) found that reducing the capital gains tax discount rate from 50 per cent to 25 per cent would raise around \$3.7 billion per year for the Federal Government. Grattan's expectation is that this policy (along with their proposal to curb negative gearing) would cause house prices to fall by around 2 per cent (as investor demand for property is reduced), would have little impact on rents, and that new housing construction could slow (though this effect will be small).¹⁵

Grattan provides little detail as to the assumptions and methodology they have used to estimate these results. However, we infer from the set of results presented and the commentary in the report¹⁶ that the analysis is limited in two important ways, as follows.

- Grattan's treatment of the direct effects is not complete; it seems they have not considered the full impact of the withdrawal of capital from the dwellings services industry. For example, while they note that the residential building industry may

¹⁴ Wyatt et al 2003

¹⁵ Grattan Institute 2016, *Hot Property*, pp 31, 33 38

¹⁶ For example: 'taxes on savings are more economically desirable than many other taxes because they don't have much effect on behaviour. People who can afford to save will tend to do so regardless of the tax rate' pg 11

slow, they conclude that dwelling prices will fall (in contrast with Diagram 1 and Diagram 4.4).

- Grattan has not considered the indirect effects of their proposed policy changes (e.g. the impact on the economy as a whole); in essence, they assume the size of the economy is fixed.

Broader literature

In terms of efforts in economic research to identify and measure the link between incentives to save and savings behaviour, Benge (2010) notes ‘the volume of work has been substantial, but, as lamented by authors, conclusive answers remain elusive.’¹⁷ There have been three broad approaches used, as follows.

- Non-structural models, involving aggregate levels of data, where saving and consumption are regressed against variables believed to drive them (for example, interest rates). Apart from non-convincing results, Bernheim (1999) points out these models are subject to the ‘Lucas Critique’. Authors rely on the assumption that there is an identifiable, stable relationship between (for example) savings and interest rates. Lucas pointed out that such a relationship may not exist because savings decisions (for example) are dependent on expectations, and expectations can change (and changes in the state of the economy are one driver of this).¹⁸
- Studies that try to identify the specific results of specific changes to tax policy (i.e. they look at ‘natural experiments’). Benge (2010) notes that while studies clearly show that incentives impact the *form* that savings take (i.e. people put their savings in the most tax advantageous vehicles), the studies have found much less evidence for the proposition that the *level* of savings increases (as a result of policies that essentially decrease the tax rate on savings via the creation of specific, tax-advantageous savings vehicles). In terms of identifying the link between tax policy and the level of savings, one problem noted by Benge is that the savings vehicles investigated generally have caps, which means they tend to (merely) receive existing pools of savings rather than generate marginal (or new) savings.
- Models derived from the ‘Life Cycle Hypothesis’. This approach assumes that the economy is populated by individuals who choose between consumption, savings (which facilitate future consumption) and borrowings to maximise their lifetime utility. From this approach one can derive structural equations and parameters which guide behaviour (for example, the intertemporal elasticity of substitution, discussed below). Researchers can then try to estimate the magnitude of the parameters, given observed data. Researchers have incorporated ‘expectations’ into the structural equations they derive from this approach.

¹⁷ Benge M. 2010, *The Impact of tax changes on national savings*, Inland Revenue, New Zealand Government, September 2010, pg 1

¹⁸ Bernheim B. D., 1999, *Taxation and saving*, pg 47

Overall, Bengt (2011) notes that ‘recent investigations have converged on using [models derived from] the Life Cycle Hypothesis’¹⁹

Is the Life Cycle Hypothesis model useful here?

The basis of models derived from Life Cycle Hypothesis (LCH) is the Euler equation. Jones (2009) notes that Euler (equation) models are partial equilibrium models because they assume interest rates and growth rates (and therefore, the size of the economy) are essentially fixed.²⁰ They seek to determine the direct impact on the savings decision of a representative individual due to a change in the after tax rate of return, holding all else constant, including (essentially) total income.

In this paper, we seek to measure the full response from capital in the economy over time, including first and second round impacts, to changes in capital gains taxation arrangements. In particular, we are interested in the response over time of industries that use capital, especially the housing industry. And we are interested in how size of the economy changes over time, driven by the policy changes. We seek to measure the impacts of the proposed policy changes *holistically*.

Overall, the LCH model does not provide us with a framework that allows us to measure the total impacts over time of changes to capital gains taxation arrangements. (For example, we cannot use the LCH model to measure the impact on the size of the economy, as the LCH model assumes the size of the economy is fixed). Therefore, as described in Chapter 5, we use the CGE model framework.

¹⁹ Bengt M. 2010, *The Impact of tax changes on national savings*, Inland Revenue, New Zealand Government, September 2010, pg 2

²⁰ Jones C. I., 2009, *Consumption*, Stanford GSB, pg 7

3 *The impact on housing of changes to capital gains taxation*

To understand the total impact of changing the effective tax rate on capital gains, we must identify and measure the direct impacts and indirect (or flow-on) impacts of the policy change. This chapter provides a full *conceptual* framework for understanding the impact on housing (specifically). We provide a more generalised framework and methodology in the next chapter.

The impacts on housing identified by commentators

Most commentators, when they discuss the impact on housing of increasing the effective tax rate on capital gains, provide a narrow analysis. This is because they only identify two (of many) impacts.

The first impact of the policy change is simply the increase in tax the government collects on capital gains. As shown in Table 4.1 (below), data from 2014-15 (the latest data) suggests the policy of reducing the discount rate on capital gains from 50 per cent to 25 per cent would have the direct impact of increasing the tax collected on investment properties by around \$2 billion per year, and on assets in other Australian industries by around \$0.8 billion per year.

Policy changes create other impacts when they cause the behaviour of individuals and companies to change, by changing the incentives of these parties. In housing, the impact of increasing the effective tax rate on capital gains that is identified by commentators is the most obvious one: potential investor-landlords can be expected to withdraw from the market, as prospective property investments become less profitable. Commentators argue that potential investor-landlords leaving the market will reduce dwelling purchase prices for potential owner-occupiers because they implicitly assume that the stock of dwellings that investor-landlords and owner-occupiers compete for is essentially fixed (i.e. if the number of dwellings is essentially fixed, and investor-landlords begin to leave the market, the remaining group – owner-occupiers – will enjoy lower prices). It is argued lower dwelling purchase prices are desirable because there is strong anecdotal evidence that first home buyers (an important subgroup of owner-occupiers) are finding it very difficult to enter the market.

As explained in the next section, this characterisation of the impacts of increasing the effective tax rate on capital gains is unlikely to be correct, because the housing market has more layers and participants than what is assumed by most commentators and, in particular, the number of dwellings is not fixed. As a result of these oversights, most commentators miss key indirect impacts of the proposed policy changes.

A comprehensive market for housing and the full impacts

To identify all the impacts of increasing the effective tax rate on capital gains, we need to identify all three layers of the market for housing. On top of purchasers of dwellings (investor-landlords and owner-occupiers) we add two additional layers to the framework, as follows.

- 1 The **residential construction industry**. This industry supplies the dwellings that investor-landlords and owner-occupiers purchase. This industry combines entrepreneurial skills, capital, labour and developed land and materials to produce and supply these dwellings. While participants in the industry have established businesses, ultimately, the skills, capital and labour and materials they use could be deployed in other industries. If residential builders choose to increase or decrease their supply of dwellings, the number of residential dwellings available for investor-landlords and owner-occupiers to purchase will increase or decrease (respectively).
- 2 The **occupiers of dwellings**. The occupiers of dwellings include tenants, who occupy the dwellings owned by investor-landlords and (of course) owner-occupiers themselves. An important point is that the number of people seeking to occupy a dwelling (either a rented dwelling or a dwelling they own) is fundamentally determined by the population. The income generated by the economy is also a factor. For this research, we assume the population is fixed (i.e. we assume that changes to capital gains tax arrangements do not impact the population). This means demand to occupy dwellings changes very little as a result of changes to capital gains tax.

Figure 3.2 (below) sets out the ‘housing market’, including its three layers.

The market participants that drive market outcomes

In this framework of residential builders, investor-landlords, owner-occupiers and tenants, we focus on the behaviour of the ‘marginal’ market participants (i.e. marginal residential builders, marginal investors, marginal owner-occupiers and marginal tenants). These are the individuals who are making decisions now, who are very responsive to changes in policy (and to their incentives more generally). It is the decisions of these individuals that drive market outcomes. In this project, we are particularly interested in how the behaviour of marginal investors responds to changes in capital gains tax policy, and the flow-on impacts of this (see Table 3.1, below).

Amongst investors, the ‘marginal investors’ are likely to be the new investors. These individuals probably own their own home (perhaps with a mortgage) and have generated enough capital to consider further investment. Their options include investing in shares, where one can expect a balance between annual income and capital gains, or property where (historically) more returns are generated from capital gains. If this marginal investor chooses to invest in property, this provides a positive signal to the residential building industry, and marginal residential builders increase their supply of dwellings as a result. As the availability of dwellings increases relative to population, the price occupants pay to occupy dwellings (the rent for tenants and the purchase price for owner-occupiers) is lower. If the marginal investor chooses to invest in shares (i.e. they provide

their capital to companies), this allows companies to invest and expand the productive capacity of Australia's industries.

The 'marginal investors' should be distinguished from the 'passive investors'. Passive investors are probably happier with their portfolio of investments which may be more mature, and they feel less inclination to respond to policy incentives as they change. Data in Chapter 1 (above) indicates that the average investor-landlord holds their property for 15-16 years, implying that individuals can be 'passive investors' for significant periods of time. This does not imply that the impacts of policy changes will be delayed or drawn out, because (as noted) the impact of policy changes are driven by the actions of marginal investors.

3.1 Marginal participants in housing market (who are making decisions now)

Type or level of participant	Comment on incentives
Marginal residential builder	In this research we are primarily interested in how they respond to changes in the behaviour of marginal investors. If marginal investors decide not to invest in property, marginal residential builders will not create new building projects, and not expand existing building projects.
Marginal investor	The key marginal participant in this research. This is likely to be a new investor, who is weighing up investing in property against investing in other types of assets. As they are at a 'decision point' they are very responsive to changes in incentives, including changes to capital gains tax and other government policies.
Marginal owner-occupier	We are interested in how they respond to marginal investors. Most likely this will be marginal tenants deciding to become marginal owner-occupiers as marginal investors withdraw from the market.
Marginal tenant	We are interested in how they respond to marginal investors. If marginal investors decide not to invest in property, marginal tenants will be forced to pay more rent than they were planning, become owner-occupiers or seek out other options like share houses and/or stay with their parents. Some marginal <i>private</i> tenants may be forced to add themselves to public housing waiting lists..

Note: Marginal market participants are individuals who are making decisions now, who are responsive to changes in incentives.

Source: The CIE

The impact of increasing the effective tax rate on capital gains

In this market, if the government increases the effective tax rate on investor-landlords (by increasing the effective tax rate on capital gains), the change has two key impacts:

- 1 Marginal, or potential, investor-landlords respond to this change in their incentives by withdrawing from the market. Prospective property investments are now less profitable than before the change, so some marginal investors will seek other, more profitable investment opportunities.
- 2 Marginal members of the residential construction industry respond to signals from dwelling purchasers. They see that there are now fewer potential dwelling purchasers (as some marginal investor-landlords have left) and respond by reducing or withdrawing their supply of dwellings.

Importantly, demand to occupy dwellings changes only a little. This is because demand to occupy dwellings is fundamentally determined by the size of the population, which is

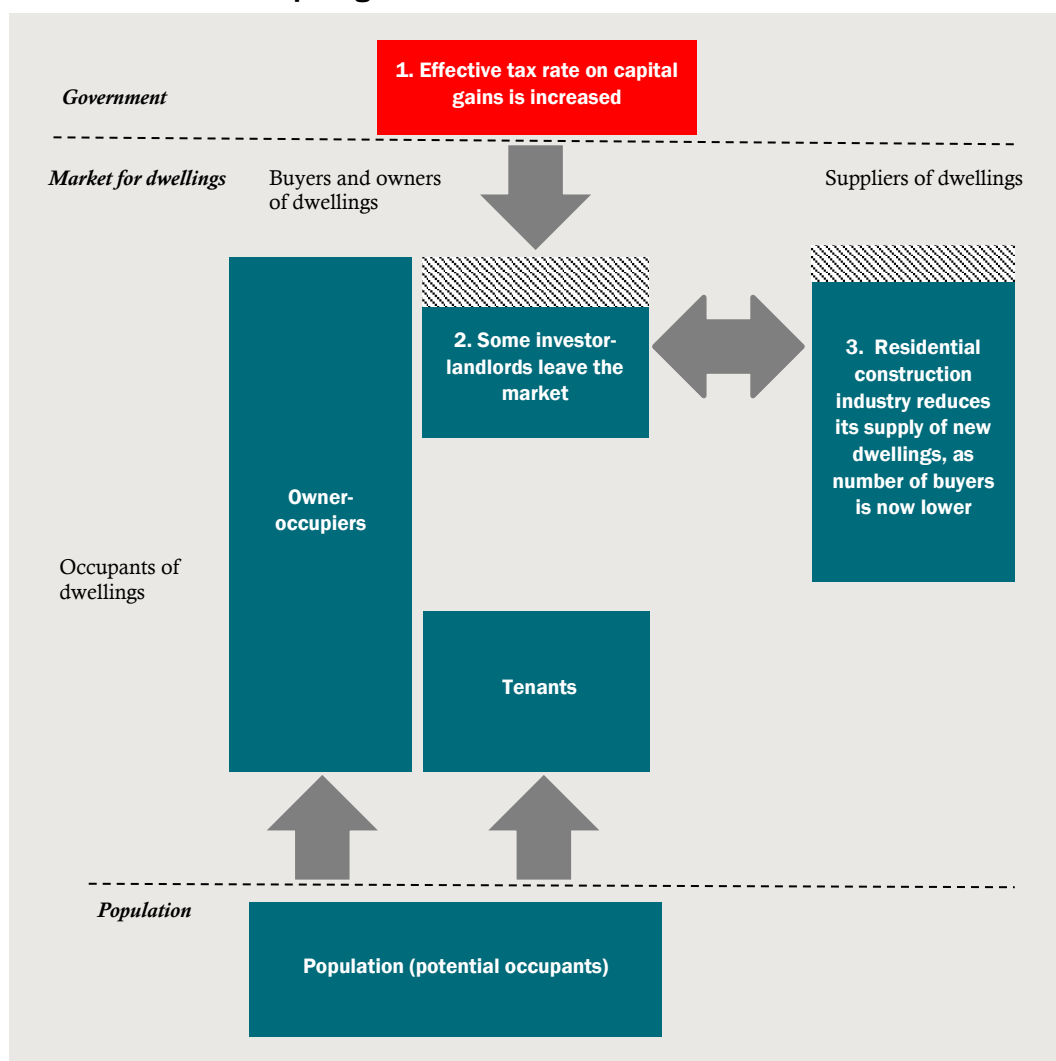
unchanged. A smaller factor that drives demand to occupy dwellings is the size of the economy, which is slightly smaller, due to the direct impact of the withdrawal of some marginal investors and residential builders.²¹

Overall, the creation of new dwellings, to be made available for occupation, slows relative to growth in demand to occupy new dwellings. This means that housing costs for all dwelling occupants increase. 'All dwelling occupants' is all of us: with fewer dwellings to go around, the rent that tenants pay increases and the purchase price that owner-occupiers pay increases too.

Within this overall picture of the housing market, there is a change in tenure type. With marginal investors withdrawing from the market, and fewer dwellings being provided for rent, some marginal tenants will switch and become owner occupiers. This change in pattern does not impact the direction of the overall result (higher housing costs for all, due to fewer houses being provided).

²¹ While the *level* of demand to occupy dwellings changes only a little, it is likely there will be changes in the mix of occupants, as some tenants (who rent for lifestyle reasons, and who are not budget constrained) will likely choose to become owner occupiers. This is because an increase in capital gains tax (as it is levied in Australia) implies the tax rate on capital in rented properties increases relative to tax rate on capital in owner-occupied properties, which implies the cost (to the occupant) of the former will increase *relative* to the cost (to the occupant) of the latter. In absolute terms, the cost to the occupant of both rented properties and owner-occupied properties increases.

3.2 The three layers of the housing market and the impact of increasing the effective tax rate on capital gains



Note: The number of occupants is also driven by the size of the economy, but this driver is smaller than population (the main driver). For tractability, the impact of the size of the economy has been excluded from the diagram.

Data source: The CIE

We should rethink how we think of investors

This expected outcome described above is at odds with the arguments of some commentators (who argue that capital gains tax should be increased to *alleviate* housing affordability problems). Fundamentally, some commentators misunderstand the role that investor-landlords play in the housing market. Because investor-landlords bid at auctions against owner-occupiers, some commentators think of them as ‘consumers’ within the housing market, who are in competition with owner-occupiers.

This understanding is not correct. Rather, investor-landlords should be thought of as the source of capital that allows residential builders to create dwellings for an important sub-group of dwelling occupants (tenants). In contrast to owner-occupiers, tenants do not

provide capital for their dwelling, they (literally) rent this capital off the investor-landlord. Tenants do not provide capital for their dwelling because they either cannot afford to or prefer not to. Fundamentally, as a source of capital, investors are part of the mechanism that *supplies* dwellings; they are not part of the mechanism that ‘demands’ dwellings.

Available evidence, shown in Table 3.3, suggests that within the rental market, private rentals are much more important in Australia than ‘social’ rentals compared to England and Wales.²² If (1) the supply of properties available for social rent is relatively unresponsive to demand and (2) the availability of private rental properties declines relative to demand because potential investor-landlords withdraw their capital in response to tax changes, the data in Table 3.3 (with the noted caveats) suggests this would create more problems in Australia than the UK, as the Australian rental market is more dependent on private rentals. In the 2017 Budget, the Federal government announced the creation of an affordable housing bond aggregator (the National Housing Finance and Investment Corporation). The goal of the aggregator is to ‘maximise the sustainable expansion of the affordable housing stock’ by providing lower cost financing for not-for-profit community housing providers (by raising money at lower rates than otherwise from the wholesale bond market). The government will provide \$4.8 million in capital to the aggregator. The policy is based on established schemes overseas, including in the UK.²³

In the extreme case, if investors-landlords did not participate in the market at all, no dwellings would be supplied to tenants (for rent) on a private basis.

²² Social rentals in Australia are rentals where the landlord is a state/territory housing authority or a cooperative/community/church group. In England and Wales they are defined as rentals where the landlord is a local authority, housing association, housing co-operative or charitable trust. It is important to make this comparison carefully, as definitions and policies may not match across countries. For example, the Government in both Australia and the UK provide rental assistance for some private renters. If the scope of this assistance is different in the two countries, it implies that simply comparing whether rentals are ‘private’ or ‘social’ does not exactly capture differences in the importance of private investor-landlords between the two markets.

²³ See discussion here: <https://www.ahuri.edu.au/policy/ahuri-briefs/bond-aggregator-model> (accessed 27/10/2017)

3.3 Data on households who rent

	Year of data	Households who rent, share of total households	Households who rent, by Landlord type (share of total households who rent)		
	Year		Private	Social	Other
Australia	2016	0.26	0.84	0.14	0.03
New Zealand	2011	0.29	0.83	0.17	0.00
England and Wales	2013	0.35	0.51	0.49	–

Note: Cross country comparisons should be made carefully, as the definitions may not exactly match across countries. In Australia, social rentals are defined as rentals from a state/territory housing authority plus rentals from a housing cooperative/community/church group. In New Zealand, social rentals are defined as rentals from Housing New Zealand plus rentals from a local authority or council. In UK, the data are taken straight from source, where it is defined as rentals from local authorities, housing associations, housing cooperatives and charitable trusts.

Source for Australian data: ABS Census 2016; CIE calculations

Source: for New Zealand data: Stats NZ, see: <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-housing/households-who-rent.aspx> (accessed 25/10/2017) and <http://www.stats.govt.nz/Census/2013-census/data-tables/total-by-topic.aspx> (accessed 25/10/2017)

Source for UK data: Office for National Statistics (via National Archives), see: <http://webarchive.nationalarchives.gov.uk/20160107120355/http://www.ons.gov.uk/ons/rel/census/2011-census/detailed-characteristics-on-housing-for-local-authorities-in-england-and-wales/short-story-on-detailed-characteristics.html> (accessed 25/10/2017)

As noted, the Henry Tax Review finds that investment properties (along with some other asset classes) receive more favourable tax treatment than others and that this should be curtailed, because investment funds should be allocated to projects with genuine value, rather than to projects that are merely tax favourable. As a high-level principle, this argument is correct. However, whether it is the deliberate intention of policy makers or not, current tax policy in Australia leads investors more towards investing in dwellings that are then made available for rent, rather than the alternative of providing capital to companies that produce goods and services. Given there is currently a “housing affordability” problem in Australia, increasing housing supply through providing incentives to housing investment is presumably desirable.

The time taken for the impacts of policy change to materialise

If the effective tax rate on capital gains is increased, tax collections for the Federal government on realised capital gains will start to increase as soon as this change is implemented. Other impacts of the policy will start to occur once marginal market participants begin to respond to changes in their incentives. If policies are well understood, and alternatives to current behaviour are readily accessible, it is quite possible that these behavioural changes could materialise relatively quickly.

If the increase in capital gains tax is ‘Grandfathered’ (i.e. if it is only applied to properties bought *after* the policy is introduced), the increase in tax collections by the Federal Government will be necessarily delayed (this is the specific goal of Grandfathering). However, this does not imply that other impacts of the policy the policy will be delayed. ‘Grandfathering’ does not preclude marginal market participants who understand how their incentives have changed from responding accordingly, when necessary.

Grandfathering does not prevent this response from arising well before Federal Government Tax collections begin to rise.

Finally, note that the order of responses from marginal market participants is not necessarily pre-determined. For example, if marginal residential builders understand the policy change better than marginal investor landlords, they could start withdrawing from the market before the latter group begins to withdraw, to minimise the impact of lower future demand on their business. Housing costs will start to rise for dwelling occupants when marginal residential builders begin to withdraw from the market.

Different speeds for different impacts, and temporary divergence

The outcome where an increase in the effective tax rate on capital gains causes dwelling costs to rise, because the creation of new dwellings slows relative to demand to occupy them, is the *long-run* outcome. It is the equilibrium outcome that occurs after all market participants have incorporated changes in their incentives into their behaviour. While policy makers should use the expected *long-run* outcomes of policies to judge whether, at a fundamental level, they are good policies or not, we cannot ignore the *short-run* outcomes of policies.

One possibility is that, in the *short-run*, marginal investor-landlords and marginal residential builders withdraw from the market at the same speed. This would imply that, in the *short-run*, the housing market linearly tracks towards its *long-run* outcome. This seems unlikely because the capital provided by marginal investor-landlords is probably more mobile than the supply of new dwellings by marginal residential builders. To some extent, marginal residential builders will include a cohort of existing builders who are considering an expansion to their business. These marginal builders, with some sunk costs, may be slower to act than other marginal players in the market.

Therefore, one outcome that seems plausible is where marginal investor-landlords withdraw from the market more than marginal residential builders. If this occurs, it implies that housing costs would diverge across occupants in the short-run, as follows.

- Housing costs for tenants (i.e. rents) will increase in the short-run, as marginal investor-landlords withdraw from the market. The withdrawal of marginal investor landlords means the provision and availability of rental properties will fail to keep up with demand for occupancy by tenants, and rents will increase.
- In contrast, if marginal investor-landlords are withdrawing from the market more quickly than residential builders, there may be more properties available for owner-occupiers to purchase in the short-run than would otherwise be the case. The result may be lower housing costs for owner-occupiers, in the form of lower purchase prices. This outcome can only be a short-run outcome. Eventually, housing costs for owner-occupiers will start to rise once marginal residential builders begin to leave the market. Housing costs can be expected to rise to a higher level than before the change, because the creation of new houses slows relative to demand to occupy them.

If we strip away the economic jargon, the 'long-run' impacts of a policy can be thought of as its 'full' impacts (where everybody understands the policy and has had a chance to

respond). The ‘short-run’ impacts of the policy are simply those that occur over time (in the near-term), as people begin to adjust their behaviour.

Where short-run outcomes may be more perverse

Predicting short-run outcomes after a policy change is extremely difficult, not least because short-run outcomes can vary across markets. In any individual market the short-run outcome will be influenced by whether there is an initial disequilibrium in the market, the relative speed at which individual parties adjust to the policy change and the outside options of parties (these factors may not be independent of one another). If the effective tax rate on capital in dwellings is increased, the most important factors in determining the short-run outcomes in a given market will be:

- whether there is an overbuild or underbuild of dwellings (driven by planning policy, population growth, etc.), at the time of the policy change;
- how quickly marginal investor-landlords leave the market compared to marginal residential builders; and
- the outside options of marginal tenants, in the face of higher rents: whether they are able to become owner-occupiers, whether they are able to move back in with their parents or enter share housing or public housing, or whether they will be obliged to pay higher rents.

Markets where there could be a divergence in housing costs for owner-occupiers and tenants in the short-term are markets where:

- marginal investor-landlords are relatively quick moving;
- marginal builders are relatively slow moving; and
- marginal tenants do not have outside options to renting in their current location or area (i.e. they do not have the means to become owner-occupiers, they do not live close to their parents, etc.)

In like this, the housing costs (i.e. purchase prices) of owner-occupiers could be *weaker* in the short-term, as marginal investor-landlords begin to withdraw from the market. However, the housing costs (i.e. rent) of marginal tenants would likely be *stronger* in the short-term, as the availability of rental properties begins to dry up.

Unfortunately, we do not have data that allows us to judge which markets could be characterised in this way beforehand (one piece of useful information would be job tenure or salary vs housing tenure type vs location, but this cross-tabulation is not available from the Census). However, it seems plausible that markets where this outcome could occur are suburbs with large numbers of tenants who earn low incomes but who do not qualify for public housing (if public housing is available), or who are students who live far from their parents. These types of tenants are the ones with few outside options, and would thus have to bear higher rents.

In contrast, markets where there may be a smoother transition to the ‘new normal’, where there is no short-term divergence in housing costs, will be markets where:

- marginal investors and marginal builders move together; and

- more tenants are able to become owner-occupiers.

These markets would likely include inner-city suburbs, where individuals who earn higher incomes rent dwellings close to their places of work. Here, the transition to the long-run equilibrium outcome could be quite smooth. As marginal investor-landlords withdraw from the market, marginal tenants will become owner-occupiers by purchasing dwellings (instead of renting them). This may mean that purchase prices may not fall as marginal investor-landlords withdraw, but rise with rents (meaning housing costs, across the board, track more evenly towards their long-run outcome). Prior to any change in capital gains tax arrangements, these markets would have a high concentration of tenants who rent as a lifestyle choice (rather than of necessity).

How long until the 'long-run'?

While *short-run* outcomes should be considered, it is important to reiterate that policy makers should focus on the long-run implications of a policy to judge whether, fundamentally, it is good policy or not. Further, short-run outcomes can be dominated by normal volatility in markets, driven by other factors. For example, if the Reserve Bank decided to shift interest rates significantly, the price movements that this would drive would dominate the price movements described above.

Therefore, it is more important to ask, how far away is the long-run? How long before investor-landlords and residential builders respond to changes in their incentives and withdraw from the market? Of course, we cannot answer these questions precisely. But available data suggests we are talking about 'years' rather than 'decades'.

In 1985 the Hawke Government increased the effective tax rate on returns to capital in dwellings:

- A generalised capital gains tax was introduced in 1985²⁴; and
- Residential negative gearing was changed to make it less generous in 1985; these changes were reversed and negative gearing was restored in 1987.²⁵

Firstly, while growth rates in dwelling prices eased in some markets in individual years between 1985 and 1987, dwelling prices broadly continued to grow (see Table 3.4). This suggests the withdrawal of investor-landlords was not necessarily sharper than the withdrawal of residential builders (as speculated above). Purchase prices for dwellings resumed their strong growth by the end of the 1980s.²⁶

²⁴ Grattan Institute 2016, *Hot Property*, pg 8

²⁵ Independent Economics 2014, *Economic Impacts of Negative Gearing for Residential Property*, pg 8

²⁶ Turnover rates in house sale markets would also give a sense of this, but the ABS do not publish turnover data this far back.

3.4 Median prices for units and apartments (\$)

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra
1984	67800	52500	58738	56238	37467	40200	-	59833
1985	70500	60000	55446	61600	40033	47750	-	72604
1986	72300	66750	60508	65400	44042	62100	-	84333
1987	86200	72250	61146	64200	48263	59908	-	76688
1988	118400	85000	68875	67000	57417	60896	-	84667
1989	138525	104500	85604	72900	75917	73833	-	91313

Source: Abelson and Chung undated, Table 3

Secondly, the Grattan Institute show that between 1985 and 1987 rental rates rose in Sydney and Perth, remained flat in Melbourne, fell slightly in Adelaide and fell significantly in Brisbane (where they were already falling).²⁷ HIA note that, at this time, rental vacancy rates were lower in Perth and Sydney than other cities.

Thirdly, the commencements of new units and apartments by the residential building industry, for the private sector, divided by the net change in population weakened noticeably in key Australian markets within 2 or 3 years of the tax policy being introduced. For example, in Sydney the ratio dropped from 0.12 in 1985 to 0.07 in 1987 (see Table 3.5).

Taken together, a fall in dwelling commencements relative to population growth, against rising dwelling purchase prices, implies there was a withdrawal of the supply of new dwellings in this period. The factor most likely driving this withdrawal of supply was a withdrawal of capital by marginal investor-landlords, who were responding to the increase in the effective tax-rate on capital gains. This explains why the policy was unwound in 1987, after only two years. Table 3.5 suggests housing supply recovered in most markets by the end of the 1980s.²⁸

²⁷ Grattan 2016, *Hot Property*, pg 33

²⁸ During this period interest rates changed, though their impact on housing market outcomes is unclear. According to historical RBA data on lending rates for housing loans, interest rates increased from (the financial year ending) 1985 to 1987, which may have contributed to the relative slow-down in housing commencements. Interest rates then fell in 1988 but rose in 1989 and 1990, when the housing market was improving.

3.5 Commencements of new units and apartments for private sector, divided by population change

Fin year	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
1984	0.12	0.12	0.13	0.15	0.11	0.07	0.12	0.10
1985	0.12	0.16	0.12	0.29	0.12	0.14	0.14	0.09
1986	0.10	0.13	0.09	0.22	0.09	0.20	0.08	0.09
1987	0.07	0.09	0.07	0.12	0.08	0.26	0.07	0.07
1988	0.08	0.07	0.12	0.09	0.09	0.32	0.39	0.10
1989	0.17	0.05	0.14	0.12	0.14	0.20	0.11	0.16
1990	0.19	0.03	0.11	0.21	0.13	0.11	0.07	0.15
1991	0.15	0.05	0.11	0.13	0.11	0.17	0.11	0.13

Note: Data on commencements of new dwellings are split into commencements of new houses and commencements of new 'other residential'; data shown here are 'other residential' (and labelled new units and apartments by the CIE).

Source: ABS Cat 8752, 3101; The CIE

4 *Conceptual framework and methodology we used to estimate our results*

As noted in Chapter 1, we are not trying to compare current and proposed capital gains tax policies to some idealised capital gains tax. Rather, we are simply trying to measure the total impact of moving from current policy on capital gains tax to proposed policies on capital gains tax, so that these proposed changes can be debated with greater insight.

The total impacts of a policy change include the direct impacts and flow-on impacts, as explained in Chapter 3. These impacts take time to come to fruition, as it takes time for individuals and companies to fully understand how their incentives have changed.

In Chapter 3 we showed that (in the case of housing) the full impacts of these tax policies begin to become visible within 2 or 3 years of the changes being made. Therefore, given that temporary impacts are difficult to estimate (and can be dwarfed by ordinary volatility in markets), and that it is the full impacts of policy that should be used to evaluate whether or not the policy is sensible, we simply try to measure the total impacts of the proposed policy changes. (That is, we try to measure the impacts of the policy change that will materialise after sufficient time has passed for the direct and indirect impacts to come to fruition).

Overview of methodology

Increasing the effective tax rate on capital gains causes a change in the incentives faced by individuals (acting as investors) and companies (who use capital). ‘Marginal investors’ and ‘marginal companies’ – individuals and companies who are making decisions now - will be very responsive to changes in government policy (and other incentives more generally). These responses, in aggregate, will drive a change in the economy.

The method established in the literature for analysing the impact of policy changes that cause economic incentives to change has three essential steps:

- 1 Understand the true nature of the proposed policy change;
- 2 Convert the policy changes into scenarios (or ‘shocks’) that impact the economy; and
- 3 Put these shocks into a Computable Generalised Equilibrium model, and use the model to estimate the total (direct and indirect) effects of the policy change.

CGE models are specifically designed to capture the total impacts of policies that alter the incentives and (therefore) the behaviour of individuals and companies.

The nature of changes to capital gains tax

The immediate impact of increasing the effective tax rate on capital gains is simply to increase the tax collected from individuals who realise gains by selling assets. However, as noted, we are focused on the full impact of these changes. This means we need to ask, at a more fundamental level: what is the nature of a tax increase on capital gains?

Aggregate economic growth is driven by growth in individual industries. Growth in individual industries is driven by entrepreneurs investing in new businesses and/or investing to expand existing businesses. An entrepreneur's decision to invest reflects the returns they expect to receive from their investment.

One component of an entrepreneur's return on investment is the capital gain they realise when they decide to sell the business or some of its assets. This is not to preclude the idea that some businesses (especially family businesses) can exist for long periods of time without significant assets ever actually being 'sold' (or without capital gains being realised). Rather, it is to make the general point that asset sales and the realisation of capital gains are a normal part of the total returns generated by an industry as it grows. This implies that increasing the effective tax rate on capital gains is really an increase in the tax rate levied on the *capital* used by industries to supply goods and services (such as dwellings).

Calculations for designing the shocks

The latest available data from the ATO are for the financial year 2014-15 and are as follows (see Table 4.1). In these data, the discount rate for capital gains tax is 50 per cent.²⁹

- Total reported income was \$802 billion.
- Net income, which is taxable income, was \$767 billion.
 - Within net income, net capital gain was \$17 billion.
 - The discount subtracted from gross capital gains less losses and offsets (to get net capital gain) was \$18 billion.
- Net tax paid (total ATO collection from individuals) was \$178 billion, implying the average tax rate on net income was 23 per cent.
- The average tax rate paid on capital gains is 35 per cent; this is higher than the average tax rate for total income, because capital gain asset holders tend to have higher incomes (and therefore higher marginal tax rates).

CIE calculations for the impact of changing the discount rate from 50 per cent to 25 per cent are as follows.

- The discount that is subtracted from gross capital gains falls from \$18 billion to \$9 billion (the rate falls from 50 per cent to 25 per cent; the base doesn't change).
- This implies net taxable income (net taxable capital gain) rises by \$9 billion.

²⁹ For context, ABS data for the financial year 2014-15 measures total nominal Gross Domestic Product (GDP) in the Australian Economy at \$1 607 billion.

- The amount of extra tax collected from this additional net income depends on the marginal tax rate of the asset sellers. We assume a marginal tax rate on additional net capital gains to be 35 per cent, consistent with average tax rate on net capital gains (this assumption captures the point that capital gains tend to accrue to higher income individuals).
- Overall, net tax collected by ATO from individuals increases by \$3 billion (\$9 billion multiplied by 35 per cent), as a result of the policy change.

4.1 Data on individuals' income, income tax and capital gains

	2012-13	2013-14	2014-15
ATO data from tax returns of individuals (reflects current policy: 50 per cent CG discount)			
Total reported income	772	801	802
Net income (excluding losses)	740	767	767
Net tax (paid on net income)	162	172	178
Net capital gain (component of net income)	11	15	17
Discount on capital gain (used to calc. net capital gain)	12	16	18
Average tax rate (net tax/net income)	22 per cent	22 per cent	23 per cent
Average tax rate for capital gains (tax paid on capital gains/net capital gains)			35 per cent
Tax returns of individuals, if discount on capital gains is changed from 50 per cent to 25 per cent (CIE calculation)			
Total reported income	772	801	802
Net income (excluding losses)	746	775	776
Net tax (paid on net income)	164	174	181
Net capital gain (component of net income)	17	23	26
Discount on capital gain (used to calc. net CG)	6	8	9
<i>Increase in tax paid due to change in CG policy</i>	2	3	3

Source: ATO; The CIE

This tax increase of \$3 billion is extracted from different industries. The ATO provide data on capital gains for individuals by source, as follows.

- Around 64 per cent of capital gains are made on the sale of assets of Australian real estate (investment properties of dwellings and land). Therefore, we assume reducing the discount rate on capital gains from 50 per cent to 25 per cent is equivalent to extracting an extra \$2 billion in additional tax from returns to capital invested in dwellings (\$3 billion in additional tax, multiplied by 64 per cent).
- Around 25 per cent of capital gains are made on the sale of shares listed on Australian stock exchanges. Therefore, we assume reducing the discount rate on capital gains from 50 per cent to 25 per cent is equivalent to extracting an extra \$0.8 billion in additional tax from returns to capital used in industries that provide goods and services (other from 'dwellings').
- Around 10 per cent of capital gains are made on other assets (including foreign assets and 'collectables'). Increasing the tax take on these gains will reduce individuals' disposable income, but the total impact on economic activity should be less, because

the capital stock of Australian industry is not impacted. For this research, we ignore this impact.

4.2 Data on source of capital gains (share of total capital gains)

	2012-13	2013-14	2014-15
ATO data on source of capital gains (share of total capital gains)			
Australian Real Estate	59%	60%	64%
Shares on Aus. stock exchange	29%	26%	25%
Foreign assets (i.e. overseas assets owned by Aus. Individuals)	12%	14%	10%
Other (e.g. collectables)	0%	0%	0%

Source: ATO; The CIE

Summary: the policy shocks we model

In the CIE-REGIONS model (the CGE model used in this analysis), the capital invested in dwellings is captured by the ‘dwelling services industry’ (this is explained in more detail below). Therefore, the above discussion (associated with Tables 4.1 and 4.2), implies we should treat increasing the effective tax rate on capital gains (by decreasing the discount rate from 50 per cent to 25 per cent) as an increase in the tax levied on returns to capital in the dwelling service industry services by \$2 billion and in all other industries (combined) by \$0.8 billion (for example).

In this analysis we use 5 scenarios, a baseline scenario that captures current policy settings and 4 policy scenarios that capture alternate policy settings for capital gains tax (see Table 4.3). The impacts of *changing* the effective tax rate on capital gains are presented in Chapter 5 and Chapter 6 as deviations in key variables relative to baseline.

4.3 Scenarios considered and their direct impacts

Scenario	Nature	Shocks implemented in CIE REGIONS model
Baseline	Existing policy settings: discount on capital gains is maintained at 50 per cent for all assets)	-
Larger increase in CGT	The effective tax rate on capital gains is increased by decreasing the discount rate on capital gains (that applies to all assets) from 50 per cent to 25 per cent	An extra \$2.0 billion in tax is levied on capital in the dwelling services industry An extra \$0.8 billion in tax is levied on capital across all other industries
Smaller increase in CGT	The discount rate on capital gains (that applies to all assets) is decreased from 50 per cent to 40 per cent	An extra \$0.8 billion in tax is levied on capital in the dwelling services industry An extra \$0.3 billion in tax is levied on capital across all other industries
Larger increase in CGT (housing only)	The discount rate on capital gains (for housing only) is decreased from 50 per cent to 25 per cent	An extra \$2.0 billion in tax is levied on capital in the dwelling supply industry

Scenario	Nature	Shocks implemented in CIE REGIONS model
Smaller increase in CGT (housing only)	The discount rate on capital gains (for housing only) is decreased from 50 per cent to 25 per cent	An extra \$0.8 billion in tax is levied on capital in the dwelling services industry

Source: The CIE

Government expenditure

As the goal of this paper is to estimate the total impact of increasing the effective tax rate on capital gains, in our modelling of each policy scenario, we assume the government keeps the funds it raises. We leave how the funds would be spent to others, as this would determine the net benefits of the overall policy. In our modelling of the *larger increase in CGT* policy (Chapter 5), we provide alternative results where this assumption is relaxed.

The CIE REGIONS model

The CIE-REGIONS model is a ‘Computable General Equilibrium’ (CGE) model and is thus an appropriate and effective way of measuring the total impacts (the direct and indirect impacts) of the policy scenarios we are trying to study. We implement the changes implied by each policy scenario (outlined in Table 4.3) as ‘shocks’ in the model, and the model provides us with estimates of the total impacts.

The CIE REGIONS model

The CIE-REGIONS model is a general equilibrium model of the Australian economy. It was developed by the Centre for International Economics (CIE) based on the publicly available MMRF-NRA model developed by the Centre of Policy Studies for the Productivity Commission.³⁰ It has been used by the CIE for a range of projects including:

- investigating the state tax reform for the Business Coalition for Tax Reform (CIE 2009);
- examining the taxes influencing the housing industry and the relationship between the construction industry and the wider economy for Housing Industry Association (HIA) (CIE 2011, 2012a); and
- and the impact of proposed options of accelerated depreciation reform (CIE 2012b).

In this study, we use a 53-sector version of the CIE-REGIONS model, of which there are three construction sectors: residential building construction, other construction and construction services. The residential building construction sector is separately identified from other construction activities.

Further Detail is provided in Appendix A.

³⁰ Productivity Commission 2006, *Potential Benefits of the National Reform Agenda*, Report to the Council of Australian Governments, available at <http://www.pc.gov.au/research/commissionresearch/nationalreformagenda>

The CIE REGIONS model is similar to Independent Economics' model

As described, we model the increase in the effective tax rate on capital gains as an increase in the tax rate on capital in the relevant industries.

Independent Economics, in its study of proposed changes to 'negative gearing' in 2014, used a similar approach (it modelled decreasing the tax shield created by 'negative gearing' as an increase in the tax rate on capital in the dwellings services industry). We note that in our model, increasing the tax rate on capital in the dwellings services industry has a 'marginal excess burden' of 22 per cent, which is similar to the result of Independent Economics (23 per cent, see Chapter 3). 'Marginal excess burden' has a technical meaning that is not essential for this report, and is explained in detail in Appendix B. The only relevant implication of this for the non-technical reader is that CIE REGIONS model is similar to the model used by Independent Economics (both are CGE models and have similar properties in modelling taxes on capital in the dwellings industry similarly).

The market for dwelling services

Here we describe the dwelling services sector in the CIE-REGIONS model, as it is the sector that undergoes the biggest shock (both in reality and in our modelling) if the effective tax rate on capital gains is increased.

In chapter 4 we described a conceptual model for the housing market with three layers: the suppliers of dwellings (residential construction), the buyers and owners of dwellings (investor-landlords and owner occupiers) and the occupiers of dwellings (tenants and owner-occupiers). In our model, the dwelling services sector captures interactions between dwelling owners (investor-landlords and owner-occupiers, acting as owners) and dwelling occupiers (tenants and owner-occupiers, acting as occupiers). The residential building industry provides inputs to the market (dwelling owners purchase the output of residential builders).

Dwelling 'services' are things occupants (individuals, couples, or families; etc., acting as renters or owner-occupiers) derive from their housing: shelter, convenience and amenity. The market for dwelling services has the following components.

- The demand curve represents occupants' willingness to pay for dwelling services. A principal driver of this level of demand is the formation of new households.
- The supply curve captures the cost to supply dwelling services. The majority of this cost is a capital cost (the cost of the capital that is used to obtain dwellings from the residential building industry). This is the capital that is taxed in our policy scenarios. There is virtually no labour implicit in the supply curve, and only a small amount of intermediate inputs are used (including finance costs). The price the residential building industry charges for the dwellings it provides reflects its own costs: the cost of developed land, the cost of labour, machinery, tools, and materials, etc.

The market for dwelling services that is implicit in the dwelling services sector in the CIE-REGIONS model is shown in Figure 4.4. The price occupants pay for dwelling services is the 'rental price'.

- This is an aggregate rental price that implicitly includes both rents paid by tenants and imputed rents paid by owner-occupiers. Therefore, the model does not explicitly distinguish between renting and owning. We make post model calculations to estimate the differing impacts on tenants and owner-occupiers.
- In the case of tenants in rented dwellings, 'rents' is literally the rent paid.
- In the case of owner-occupied dwellings, 'rents' is 'imputed rent' which is the opportunity cost faced by an owner-occupier from remaining in one's own home (this is usually the net rent they could earn from residing somewhere else and renting out their home to a tenant).
- Consumers of dwelling services (renters and owner-occupiers) are able to move between rental properties and owner-occupied properties. Apart from taxation arrangements, the costs of supplying these two types of properties are the same. Therefore, in the absence of changes to taxation arrangements, in the long-run, the rental price for rented properties and the imputed rental price for owner-occupied properties will move in-line with each other.
- In the long run, asset prices will reflect rental prices; therefore, long-run changes in rental prices are a proxy for long-run changes in asset prices

Illustrative example: impact of increasing the effective tax rate on capital gains

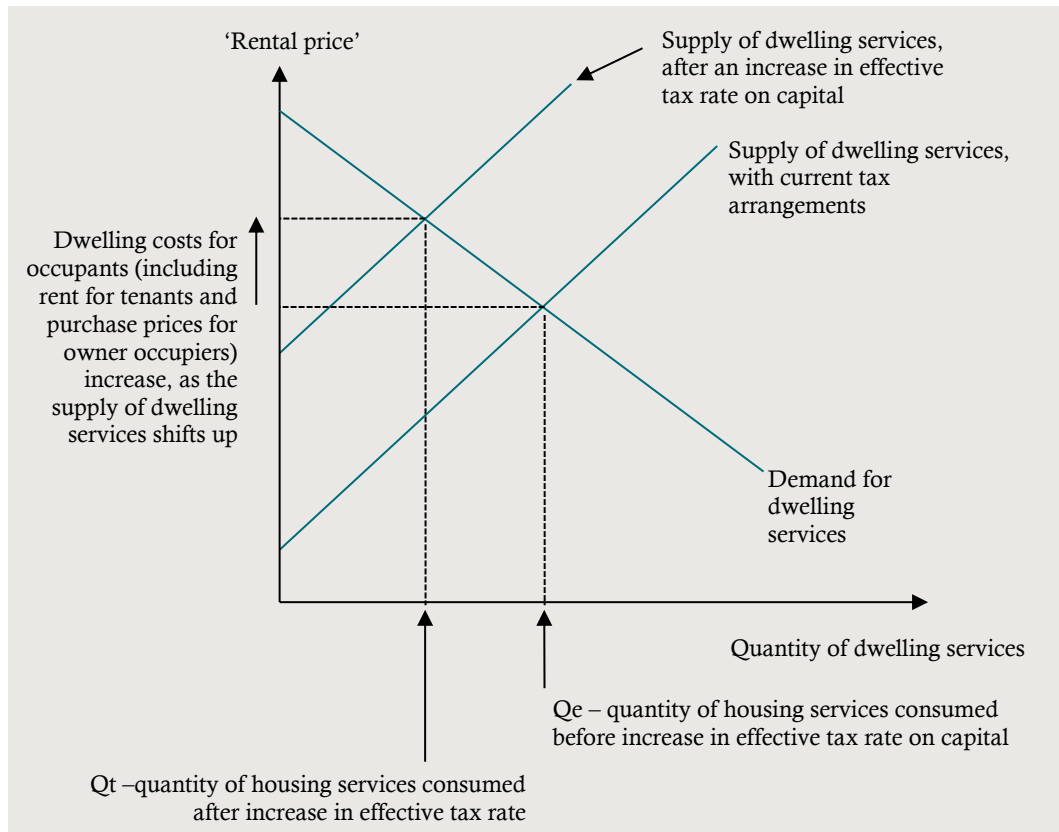
As described, increasing the effective tax rate on capital gains is conceptualised and modelled as an increase in the tax rate on capital used to supply dwelling services (i.e. the dwellings themselves). This policy change has the following impacts (see Chart 4.4).

- The policy change increases the lifetime tax paid on investment dwellings, which is a key component of total dwellings, which are used to supply dwelling services. Marginal investors respond to the policy change by withdrawing their capital from the market, and this causes the supply curve of housing services to move upwards.
- This upward shift in the supply curve causes the rental price for dwelling services (the cost that occupants pay to occupy dwellings, and receive dwelling services) to increase. It increases for both types of occupants. The rent paid by tenants increases (as landlords increase their rents to offset the larger amount of tax they must now pay). The imputed rents paid by owner-occupiers also increase (because their opportunity cost of staying in their house – the rent they could earn from renting it out) increases.
- Overall, the price for housing services (the 'rental price' in Diagram 4.4) increases and 'housing unaffordability' increases (put another way: the problem of housing affordability deteriorates).

One flow-on impact of this is that the supply of new dwellings from the residential construction industry (to dwelling owners) decreases, because there are now fewer capital owners willing to purchase new dwellings. Further, capital owners may wish to purchase smaller, or lower quality, dwellings. Overall, residential builders will have less need for land, and the price of land will fall. This fall in the price of land does not represent an improvement in housing affordability. (The extent to which owner-occupiers could take up some of this spare land is already included in the net effects, described above).

Ultimately, people want houses, not land. Housing (achieved by renting or by owning), and housing affordability is only improved by building more houses. Lower land values will negatively impact the revenue of local governments.

4.4 Market for dwelling services, including the effect of increasing the effective tax rate on capital



Note: Housing 'services' are things occupants (individuals, families, etc.) derive from their housing: shelter, convenience and amenity. These services can be derived from both rental properties and owner-occupied properties. The 'rental price' is the cost to occupants of receiving dwelling services. In the case of renters, the rental price is literally rent (the rental rate). In the case of owner-occupiers, the rental price is the 'imputed rent' which is the opportunity cost they incur from residing in their dwelling (and not renting it out).

Source: The CIE

5 *Results of the larger increase in capital gains tax*

This chapter presents estimates of the *long-run* total impact of increasing the effective tax rate on capital gains, by reducing the discount rate from 50 per cent to 25 per cent (the *larger increase in capital gains tax* policy). ‘Grandfathering’ potential changes to capital gains tax arrangements is not explicitly included in the results, but is discussed separately.

The ‘larger increase in capital gains tax’ policy

If the discount rate on capital gains is reduced from 50 per cent to 25 per cent, the tax levied by the Federal Government on returns to capital in the industry that supplies dwelling services increases by \$2 billion, and the tax levied on returns to capital in other industries increases by \$0.8 billion (collectively).

We assume this tax revenue is not returned to the economy, rather, it is kept by the government. Implicitly, we leave the decision over how the additional revenue is spent to others (i.e. whether it is used to cut taxes, or to fund spending currently funded with the deficit, etc.). This is because how the funds are spent will determine the net benefits of the policy. We relax this assumption (and present alternate results for this) in the analysis presented below.

The total impacts of the policy

We discuss the effects on the residential housing market first, and then on the broader economy.

Impacts on the housing market

This increase in tax levied on returns to capital causes marginal investors to withdraw capital from each industry. This withdrawal of capital causes the supply curve in each industry to shift upwards. This shift in the supply curve causes a reduction in activity (i.e. the same number of consumers are forced to compete for less output) and higher prices.

This impact is most significant in the dwelling services industry, where the tax increase on capital is the highest. Compared to the baseline scenario (where capital gains tax arrangements are not changed) the cost to occupants of dwelling services is higher each year by 0.7 per cent. This is illustrated in Figure 5.1.

While dwelling services costs have increased in aggregate by this amount, investor-landlords are forced to increase the rents they charge their tenants by more, because the

effective tax rate on the capital they use to provide rental properties has increased relative to the tax rate levied on owner-occupiers (who don't pay capital gains tax). Our post model calculation suggest the following.

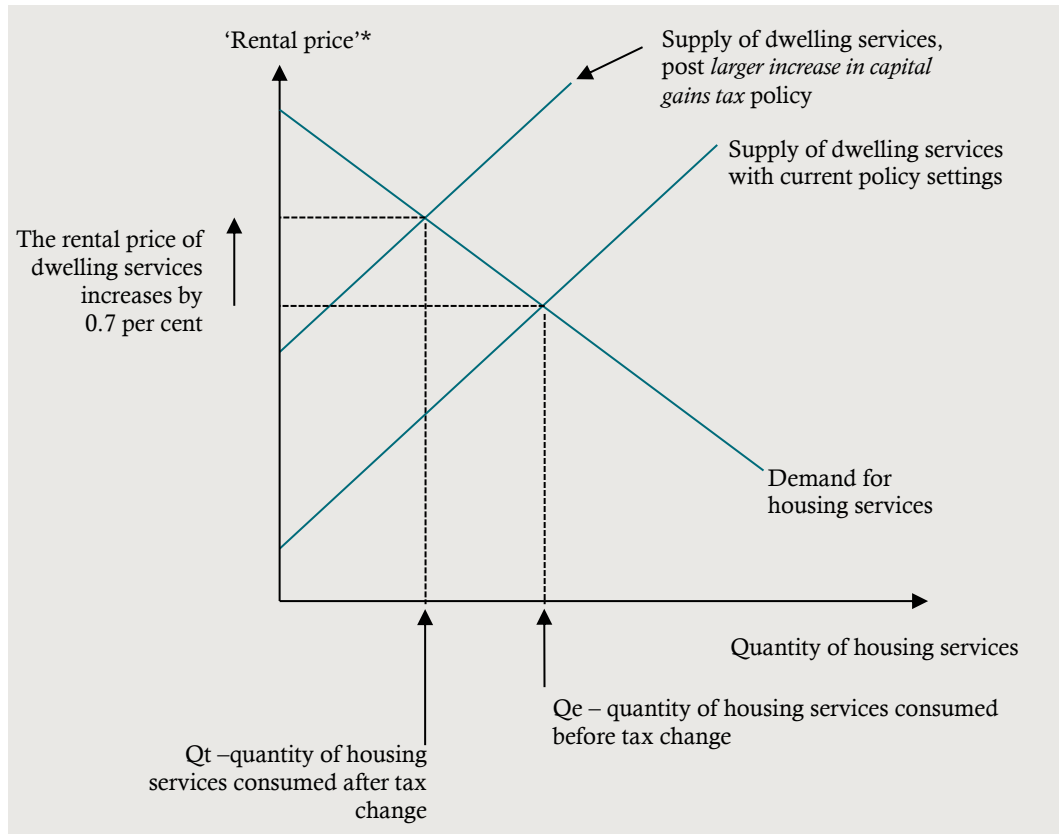
- The rent that tenants pay to investor-landlords is estimated to be higher each year by 0.8 per cent compared to the baseline.
- The imputed rental price that owner occupiers pay (the opportunity cost of living in their own house) is higher each year by 0.6 per cent compared to the baseline. In the long-run, asset prices should move in-line with imputed rental prices (as the return to asset owners is the imputed rental price). Therefore, our estimates suggest that, as a result of the *larger increase in capital gains tax* policy, the level of dwelling purchase prices is higher by 0.6 per cent compared to the baseline.

Associated with the aggregate 0.7 per cent increase in the price of dwelling services, there is a 1.7 per cent fall in the quantity of dwellings services consumed. This fall in dwelling services consumed could be understood as (for example) marginal tenants leaving their own homes and moving back in with their parents. Compared to the baseline, residential construction activity is lower each year by 1.6 per cent, because the *larger increase in capital gains tax* policy causes demand for the industry's output (new dwellings) to be lower each year.

In 2016, the residential building industry completed 209 942 new dwelling units for the private sector.³¹ If the full impact of the *larger increase in capital gains tax* policy was applied to 2016, our estimates suggest the residential building industry would have completed around 3 423 fewer new dwelling units for the private sector.

³¹ ABS Cat. 8752

5.1 Market for dwelling services, including the impact of the *larger increase in capital gains tax policy*



Note: Housing 'services' are things occupants (individuals, families, etc.) derive from their housing: shelter, convenience and amenity. These services can be derived from both rental properties and owner-occupied properties. The 'rental price' is the cost to occupants of receiving dwelling services. In the case of renters, the rental price is literally rent (the rental rate). In the case of owner-occupiers, the rental price is the 'imputed rent' which is the opportunity cost they incur from residing in their dwelling (and not renting it out).

Note: This diagram shows the annual impact on the market for dwelling services of increasing the effective tax rate on capital gains by reducing the capital gains discount rate from 50 per cent to 25 per cent.

Source: The CIE

Total economic activity and components

Overall, the total impact of increasing the effective tax rate on capital gains by reducing the discount rate from 50 per cent to 25 per cent is that GDP is lower each year by 0.2 per cent compared to the baseline. If this fall was applied to today's economy, the lost GDP in current prices would be \$3.7 billion (GDP measured in current prices was \$1 655 billion in 2015-16).³²

The aggregate fall in economic activity compared to the baseline is concentrated in domestic demand (consumption and investment) because the government increases the tax it collects and retains the revenue. Household consumption is lower each year by 0.7 per cent compared to the baseline. Consumption takes a relatively large hit because the higher tax on capital means both (1) a reduction in disposable income and (2) higher prices (as the supply curves of goods and services shift upwards). Total investment is

³² ABS Cat 5206

lower each year by 0.5 per cent compared to the baseline. Ultimately, taxing capital in each industry causes a relatively sharp contraction in investment.

Labour demand and wages

In this type of long-run analysis, it is normal to assume that population, preferences around participation and (therefore) the supply of labour are unchanged, as the policy is not designed to impact these things. No change in the supply of labour means, in the long run, no change in the level of employment (the number of jobs remains the same).

However, if GDP is lower by 0.2 per cent each year as a result of the policy change, labour demand is also lower each year. This fall in demand for labour drives real wages lower by 0.7 per cent each year compared to the baseline.

Average fulltime earnings for adults were around \$1 584 per week in 2016.³³ Our modelling suggests that if the impact of increasing the effective tax rate on capital gains was applied in 2016, average fulltime earnings for adults would have been reduced by \$11.30 per week.

Government revenue

As explained, the *larger increase in capital gains tax* policy means that Federal Government revenue collected from tax on capital gains is larger by around \$2.8 billion each year compared to the baseline (\$2 billion each year from capital gains in dwellings; \$0.8 billion each year from capital gains in other industries). However, the contraction in the economy causes revenue raised from other taxes to fall (tax on income other than capital gains is lower by around \$1.7 billion, while GST collections are lower by around \$400 million). Overall, taxes collected by the Federal Government are higher each year by only \$483 million compared to the baseline. (For comparison, the Federal Government underlying cash deficit was \$36.7 billion in 2016-17, though this includes transfers to the States).³⁴

Government budgets are usually based on forecasts and projections that span a five-year timeframe (called the 'forward estimates'). Assuming the net improvement in tax collections is constant over years, the increase in taxes collected by the Federal Government is \$2 2416 million over the forward estimates.

Because the property market (in particular) and the economy (generally) contract as a result of the *larger increase in capital gains tax* policy, taxes collected by State Governments are lower. Total state government tax collections are lower by around \$1 103 million each year compared to the baseline. This includes a fall in property tax collections (including stamp duty) of \$768 million compared to baseline, and a fall in payroll tax of

³³ ABS Cat 6302

³⁴ Treasury 2017, *Budget Papers 1*, p 1-7

\$101 million compared to baseline. Over the forward estimates, tax collections are estimated to be lower by around \$5 billion.³⁵

It is difficult to translate these estimated impacts on *tax collections* into precise estimates of impacts on *government budgets* because of complicated transfers between the Federal Government and State Governments (and because we have not modelled how expenditure changes). However, it is very clear that the budgets of State Governments would come under severe pressure if the Federal government implemented the *larger increase in capital gains tax* policy, because of the impact on: State collected property taxes (for example, stamp duty), other State collected taxes and the Federally collected GST (which is distributed to the states via the Commonwealth Grants commission).

5.2 Total annual impact of the larger increase in capital gains tax policy

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Size and shape of the economy		
GDP	Per cent	-0.2
Residential building activity	Per cent	-1.6
Components of demand in economy		
Household consumption	Per cent	-0.7
Consumption of dwelling services	Per cent	-1.7
Total investment	Per cent	-0.5
Investment in dwellings	Per cent	-1.6
Labour demand		
Real wages	Per cent	-0.7
Changes in price levels (real, i.e. relative to headline CPI)		
Price of dwelling services	Per cent	0.7
Rental properties	Per cent	0.8
Owner occupied properties	Per cent	0.6
Impact on taxes collected by the Federal Government		
Total impact	\$m	483
Taxes on capital gains	\$m	2799
Taxes on other income	\$m	-1725
GST	\$m	-408
Other taxes (net)	\$n	-183

³⁵ As a sense check, we have also run a scenario where the Federal Government returns the net \$483 million increase in the taxes it collects each year to individuals, via a cut in the consumption tax in the CIE-REGIONS model (this tax is a broad based GST tax; the GST in Australia is narrower than a theoretical consumption tax, because it only applies to selected goods). Broadly, the results are similar. Compared to baseline: GDP is lower each year by 0.2 per cent, household consumption is lower each year by 0.5 per cent, real wages are lower each year by 0.4 per cent, the aggregate cost of dwelling services is higher each year by 1.0 per cent, and the bottom line of the State Governments is worse off each year by \$838 million.

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Impact on taxes collected by State Governments		
Total impact	\$m	-1013
Property taxes (e.g. stamp duty)	\$m	-768
Payroll tax	\$m	-101
Other taxes (net)	\$m	-144
Impact on tax collections over forward estimates		
Federal taxes	\$m	2416
State taxes (aggregate)	\$m	-5064

Note: This table shows the annual impacts of increasing the effective tax rate on capital gains by reducing the capital gains discount rate from 50 per cent to 25 per cent. The effective tax rate increases because the asset seller is obliged to include 75 per cent of realised capital gains in taxable income (up from 50 per cent). This is the proposed policy: *larger increase in capital gains*.

Source: The CIE REGIONS model

Impacts by market

The key results of the policy change: the rise in dwelling costs (caused by a withdrawal of capital from marginal investor landlords), the contraction in economic activity, etc., will be largest in markets where investor-landlords are a relatively important part of the housing market. As shown in Table 5.3, these markets are Brisbane, Sydney, Melbourne and Darwin.

5.3 Dwellings being rented from private, individual investor-landlords, share of total dwellings in market

	Dwellings being rented from private, individual investor-landlords, share of total dwellings
Greater Brisbane	26%
Greater Darwin	26%
Greater Sydney	25%
Greater Melbourne	23%
Rest of QLD	22%
Australian Capital Territory	21%
Greater Perth	19%
Greater Adelaide	19%
Rest of NSW	18%
Greater Hobart	18%
Rest of Vic.	16%
Rest of Tas.	15%
Rest of WA	14%
Rest of SA	13%

Dwellings being rented from private, individual investor-landlords, share of total dwellings

Rest of NT	10%
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Note: According to the 2016 Census there were around 9.924 million dwellings in Australia. These data can be broken down by 'tenure type' (owned outright, owned with a mortgage, rented, etc.). Data on dwellings that are rented can be broken down by 'landlord type'. Data on rentals from 'private, individual investor-landlords' (shown in the Table) are the sum of rentals from real estate agents, from person not in same household parent/other relative, and from person not in same household - other.

Note: Note that ABS data sources do not exactly align. According to the ABS Cat. 6416 (the data source for Table 1.1) the number of dwellings in Australia in the Sep Quarter of 2016 was 9763 thousand; this slightly different from the reported census number 9924 thousand (Aug-Sep 2016)

Source: ABS 2016 Census

Grandfathering

If the *larger increase in capital gains tax* policy was introduced and 'Grandfathered', it means the lower capital gains discount rate would only apply to properties bought by investors *after* the policy was introduced. This means Federal Government tax collections on capital gains will only start to increase, as a result of the policy, once investment properties start being sold for the *second* time after the policy is introduced. Proponents of 'Grandfathering' usually argue that it makes tax increases more 'fair' (i.e. it is deemed 'unfair' to change tax arrangements on investment properties that have already been bought).

Because 'Grandfathering' is complex it has not been incorporated into the modelling results above (i.e. the results above assume the tax changes apply to all investment properties, as soon as the policy is introduced). However, it is worth noting that 'Grandfathering' tax changes may exacerbate the net costs of the policy for two reasons.

'Grandfathering' is potentially perverse

While 'fairness' in tax policy is desirable (depending on how it is interpreted and implemented), 'Grandfathering' changes to capital gains tax may have quite perverse consequences.

It is certainly the case that 'Grandfathering' will delay increases in Federal Government tax collections. This is the specific purpose of 'Grandfathering'. (If the policy change is Grandfathered, our modelling results can be interpreted as showing that once the full effects of the policy – including 'Grandfathering' – have washed through, and a new equilibrium is reached, the taxes collected by the Federal Government are higher each year by \$483 million).

However, while Grandfathering will delay the lift in tax collections for the Federal government, the negative aspects of the policy (including higher housing costs, lower economic activity, lower consumption, lower wages, lower State Government revenue collections, etc.) may *not* be delayed. This is because these negative impacts flow from changes in behaviour that are caused by the policy change (a withdrawal of capital by marginal investors, a withdrawal of supply of new dwellings by marginal builders, etc.). This behavioural response will begin as soon as marginal investors and marginal builders

understand how their incentives have changed with the policy change, whether it is Grandfathered or not.

For example, entrepreneurs and workers who are considering entering the residential construction industry under current capital gains tax arrangements, may decide not to enter the industry if the *larger increase in capital gains tax* policy is introduced and Grandfathered. This is because, despite the Grandfathering, they understand that the policy will cause the industry to contract over time. In this way, we could get a contraction in residential building activity (and higher housing costs for tenants and owner-occupiers) well before the *larger increase in capital gains tax* policy begins to raise money for the Federal government.

‘Grandfathering’ does not solve the fundamental weaknesses of the policy

Increasing the effective tax rate on capital, but ‘Grandfathering’ the policy, does not alter the fact the government has increased the effective tax rate on capital. Whether the policy is ‘grandfathered’ or not, the expected impact of the policy is lower investment in housing. Lower investment in housing means higher housing costs for all occupants.

6 *Results of other policy changes*

Here we present *long-run*, total impacts of the 3 additional policy scenarios. Readers that followed the explanation in Chapter 5 will not find it necessary to read the explanations in this chapter (rather, they should look at the results in the tables).

The ‘smaller increase in capital gains tax’ policy

If the effective tax rate on capital gains is increased by reducing the discount rate on capital gains from 50 per cent to 40 per cent, the tax levied by the Federal Government on returns to capital in the industry that supplies dwelling services increases by \$0.8 billion, and the tax levied on returns to capital in other industries increases by \$0.3 billion (collectively).

We assume this tax revenue is not returned to the economy, rather, it is kept by the government. Implicitly, we leave the decision over how the additional revenue is spent to others (i.e. whether it is used to cut taxes, or to fund spending currently funded with the deficit, etc.). This is because how the funds are spent will determine the net benefits of the policy.

Impacts on the residential housing market

This increase in the tax levied on returns to capital causes marginal investors to withdraw capital from each industry. This withdrawal of capital causes the supply curve in each industry to shift upwards. This shift in the supply curve causes activity to fall and higher prices, because the same number of consumers are forced to compete for less output, compared to the baseline of no policy change.

This impact is most significant in the dwelling services industry, where the tax increase on capital is the highest. Compared to the baseline scenario (where capital gains tax arrangements are not changed) the cost to occupants of dwelling services is higher each year by 0.3 per cent. (This is equivalent to the effect illustrated in Figure 5.1, above).

While dwelling services costs have increased in aggregate by this amount, investor-landlords are forced to increase the rents they charge their tenants by more, because the effective tax rate on the capital they use to provide rental properties has increased relative to the tax rate levied on owner-occupiers (who don’t pay capital gains tax). Our post model calculation suggests the following.

- The rent that tenants pay to investor-landlords is estimated to be higher each year by 0.3 per cent compared to the baseline.

- The imputed rental price that owner occupiers pay (the opportunity cost of living in their own house) is higher each year by 0.2 per cent compared to the baseline. In the long-run, asset prices should move in-line with rental prices (as the return to asset owners is the rental price). Therefore, compared to baseline, the *smaller increase in capital gains tax* policy causes the level of dwelling purchase prices to be higher by 0.2 per cent.

Associated with the aggregate 0.3 per cent increase in the price of dwelling services, the quantity of dwellings services consumed is lower each year by 0.7 per cent compared to baseline. Residential construction activity is lower each year by 0.6 per cent as a result of the *smaller increase in capital gains tax* policy (compared to baseline), because demand for the industry's output is lower.

If the full impact of *smaller increase in capital gains tax* policy was applied to 2016, our estimates suggest the residential building industry would provide about 1 364 fewer new dwelling units to the private sector.

Macroeconomic impacts

The aggregate fall in economic activity compared to the baseline is concentrated in domestic demand (consumption and investment) because the Federal Government raises tax and retains the revenue.

Total economic activity and components

Overall, total effect of increasing the effective tax rate on capital gains (by reducing the discount rate from 50 per cent to 40 per cent) is that GDP is lower each year by 0.1 per cent compared to the baseline. If this fall was applied to today's economy the lost GDP in current prices would be \$1.5 billion.

Household consumption is lower each year by 0.3 per cent compared to the baseline. This fall is larger than in other macro measures (investment, GDP, etc.) because rising tax means lower disposable income. Total investment is lower by 0.2 per cent each year compared to baseline. Ultimately, taxing capital in each industry causes a relatively sharp contraction in investment.

Labour demand and wages

Because overall economic activity is lower due to the policy change, demand for labour is lower. This fall in demand for labour drives wages down by 0.3 per cent each year compared to the baseline under the full employment assumption. This is equivalent to \$4.50 less income per week for an average full time worker in 2016.

Government revenue

The *smaller increase in capital gains tax* policy means Federal Government tax collected on capital gains is higher by around \$1.1 billion each year compared to the baseline. However, the contraction in the economy causes revenue raised from other taxes (taxes

on income other than capital gains, GST, etc.) to fall. Overall, taxes collected by the Federal government are higher each year by only \$190 million compared to the baseline. The total net increase is \$951 million over the 5-year forward estimates compared to baseline.

Because the property market (in particular) and the economy (generally) contracts as a result of the policy change, taxes collected by State Governments are lower as a result of the policy change. Across all states, total tax collections are lower each year by around \$406 million compared to baseline. (The biggest driver is property taxes, including stamp duties, which is lower each year by \$308 million). Over the forward estimates, taxes collected by the State Governments area estimated to be lower by around \$2 billion.

As noted in Chapter 5, it is difficult to convert estimates of the impacts on tax collections to estimates of the impacts on government budgets because of complicated transfers between Federal and State Governments. However, the clear implication of the results presented in Table 6.1 is that the budgets of State Governments would come under substantial pressure if the Federal Government implemented the *smaller increase in capital gains tax* policy because of the impact on State collected property taxes (for example, stamp duty), other State collected taxes and the Federally collected GST (which is distributed to the States via the Commonwealth Grants Commission).

6.1 Total annual impact of *smaller increase in capital gains* policy

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Size and shape of the economy		
GDP	Per cent	-0.1
Residential building activity	Per cent	-0.6
Components of demand in economy		
Household consumption	Per cent	-0.3
Consumption of dwelling services	Per cent	-0.7
Total investment	Per cent	-0.2
Investment in dwellings	Per cent	-0.6
Labour demand		
Real wages	Per cent	-0.3
Changes in price levels (real, i.e. relative to headline CPI)		
Price of dwelling services	Per cent	0.3
Rental properties	Per cent	0.3
Owner occupied properties	Per cent	0.2
Impact on taxes collected by the Federal Government (annual)		
Total impact	\$m	190
Taxes on capital gains	\$m	1120
Taxes on other income	\$m	-692
GST	\$m	-164
Other taxes (net)	\$m	-73

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Impact on taxes collected by State Governments (aggregate, annual)		
Total impact	\$m	-406
Property taxes (e.g. stamp duty)	\$m	-308
Payroll tax	\$m	-41
Other taxes (net)	\$m	-58
Net impact on tax revenues over forward estimates		
Federal taxes	\$m	951
State taxes (aggregate)	\$m	-2030

Note: This table shows the annual impacts of increasing the effective tax rate on capital gains by reducing the capital gains discount rate from 50 per cent to 40 per cent. The effective tax rate increases because the asset seller is obliged to include 60 per cent of realised capital gains in taxable income (up from 50 per cent). This is the proposed policy: *smaller increase in capital gains*.

Source: The CIE REGIONS model

The ‘larger increase capital gains tax (housing only)’ policy

Capital gains tax policy has been discussed in the context of housing policy. Therefore, a plausible policy scenario is that government decides to increase the effective tax rate on capital gains for dwelling assets only. In this section, we estimate the total impact of reducing the capital gains discount rate, from 50 per cent to 25 per cent, for dwelling assets only.

This means that the tax levied by the Federal Government on returns to capital in dwelling services industry increases by \$2 billion. It is assumed that the government retains the revenue.

Residential market impacts

This increase in tax levied on returns to capital causes the cost of dwelling services to occupants to be higher each year by 0.7 per cent compared to the baseline, as illustrated in Figure 5.1.

While dwelling services costs have increased in aggregate by this amount, investor-landlords are forced to increase the rents they charge their tenants by more, because the effective tax rate on the capital they use to provide rental properties has increased (relative to the tax rate levied on owner-occupiers, who don’t pay capital gains tax). Our post model calculation suggests the following.

- The rent that tenants pay to investor-landlords is estimated to be higher each year by 0.9 per cent compared to the baseline.
- The imputed rental price that owner occupiers pay (the opportunity cost of living in their own house) is higher each year by 0.7 per cent compared to the baseline. In the long-run, asset prices should move in-line with rental prices (as the return to asset owners is the rental price). Therefore, compared to the baseline, the level of dwelling purchase prices is higher by 0.7 per cent.

Price rises are slightly higher in this scenario (*larger increase in capital gains tax, housing only*) than in Chapter 6 (*larger increase in capital gains tax*) because the slightly smaller contraction in the economy (GDP) means price rises are slightly higher.

Associated with the aggregate 0.7 per cent increase in the cost of dwelling services, the quantity of dwellings services consumed is lower each year by 1.4 per cent compared to the baseline. Residential construction is lower each year by 1.3 per cent compared to baseline, which is equivalent to about 2 771 fewer new dwelling units being completed each year, if this impact is applied to the 2016 data (compared to baseline).³⁶

Macroeconomic impacts

Total economic activity and components

Overall, the total effect of increasing the effective tax rate on capital gains in housing (by reducing the discount rate from 50 per cent to 25 per cent) means GDP is lower each year by 0.1 per cent compared to the baseline. If this fall was applied to today's economy the lost GDP in current prices would be \$1.9 billion.

Household consumption is lower each year by 0.5 per cent compared to the baseline. This fall is larger than in other macro measures (investment, GDP, etc.) because households' disposable income is reduced by the rise in tax, and the cost to households of their dwellings increases sharply. Total investment falls by 0.3 per cent.

Labour demand and wages

Lower overall economic activity means lower labour demand. This fall in demand for labour drives real wages down by 0.5 per cent each year compared to the baseline, equivalent to a fall in earnings per week of \$7.20 for the average fulltime worker.

Government revenue

Federal Government revenue collected from taxes on capital gains increases by around \$2 billion each year, but the contraction in the economy causes revenue raised from other taxes (taxes on other forms of income, GST, etc.) to fall. Overall, the taxes collected by the Federal Government increase each year by only \$569 million compared to baseline. The increase is \$2 846 million over the 5-year forward estimates.

Because the property market (in particular) and the economy (generally) contract, taxes collected by the State Governments are negatively impacted as a result of the policy change. Across all states, the (aggregate) tax revenue is estimated to be lower by \$782 million each year compared to baseline. (The biggest component of this is

³⁶ The contraction in dwelling investment (illustrated here with a fall in number of completed dwellings) is smaller in the *larger increase in capital gains tax, housing only* policy compared to the *larger increase in capital gains tax* policy because of the smaller contraction in the economy overall (and the less negative impact this has on incomes generally).

property taxes, including stamp duties, which are lower each year by \$628 million). Over the forward estimates, State Government tax collections are lower by \$3.9 billion.

The clear implication of the results presented in Table 6.2 is that the budgets of State Governments would come under severe pressure if the Federal Government implemented the *larger increase in capital gains tax policy (housing only)* because of the impact on State collected property taxes (for example, stamp duty), other State collected taxes and the Federally collected GST (which is distributed to the States via the Commonwealth Grants Commission).

6.2 Total annual impact of the larger increase in capital gains tax (housing only) policy

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Size and shape of the economy		
GDP	Per cent	-0.1
Residential building activity	Per cent	-1.3
Components of demand in economy		
Household consumption	Per cent	-0.5
Consumption of dwelling services	Per cent	-1.4
Total investment	Per cent	-0.3
Investment in dwellings	Per cent	-1.3
Labour demand		
Real wages	Per cent	-0.5
Changes in price levels (real, i.e. relative to headline CPI)		
Price of dwelling services	Per cent	0.7
Rental properties	Per cent	0.9
Owner occupied properties	Per cent	0.7
Impact on taxes collected by the Federal Government (annual)		
Total impact	\$m	569
Taxes on capital gains	\$m	2009
Taxes on other income	\$m	-1055
GST	\$m	-278
Other taxes (net)	\$m	-107
Impact on taxes collected by the State Governments (aggregate, annual)		
Total impact	\$m	-782
Property taxes (e.g. stamp duty)	\$m	-628
Payroll tax	\$m	-60
Other taxes (net)	\$m	-94

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Impact tax collections over forward estimates		
Federal taxes	\$m	2846
State taxes (aggregate)	\$m	-3909

Note: This table shows the annual impacts of increasing the effective tax rate on capital gains made (on housing assets only) by reducing the capital gains discount rate from 50 per cent to 25 per cent (on housing assets only). The effective tax rate increases because the asset seller is obliged to include 75 per cent of realised capital gains (on housing assets only) in taxable income (up from 50 per cent). This is the proposed policy: *larger increase in capital gains (housing only)*.

Source: The CIE-REGIONS model

The 'smaller increase in capital gains tax (housing only)' policy

In this section, we estimate the total impact of reducing the capital gains discount rate, from 50 per cent to 40 per cent, for dwelling assets only.

As a result of this change, the tax levied by the Federal Government on returns to capital in dwelling services industry increases by \$0.8 billion. It is assumed that the raised tax revenues are retained by the government.

Residential market impacts

As illustrated in Figure 5.1, this increase in tax levied on returns to capital causes marginal investors to withdraw capital from the dwelling services industry, causing the supply curve in the industry to shift upwards. This shift in the supply curve causes reduced activity and higher prices. Compared to the baseline scenario (where capital gains tax arrangements are not changed) the cost of dwelling services to occupants is higher each year by 0.3 per cent.

While dwelling services costs have increased in aggregate by this amount, investor-landlords are forced to increase the rents they charge their tenants by more, because the effective tax rate on the capital they use to provide rental properties has increased relative to the tax rate levied on owner-occupiers (who don't pay capital gains tax). Our post model calculation suggests the following.

- The rent that tenants pay to investor-landlords is estimated to be higher each year by 0.4 per cent compared to the baseline.
- The imputed rental price that owner occupiers pay (the opportunity of living in their own house) is higher each year by 0.3 per cent compared to the baseline. In the long-run, asset prices should move in-line with rental prices (as the return to asset owners is the rental price). Therefore, the level of dwelling purchase prices are higher than the baseline level of by 0.3 per cent.

Associated with the aggregate 0.3 per cent increase in the cost of dwelling services, the quantity of dwellings services consumed is lower each year by 0.6 per cent. Residential construction activity is lower each year by 0.5 per cent as a result of this policy change, because demand for the industry's output is lower. This lower activity in residential

construction is equivalent to about 1 105 fewer new dwellings completed for the private sector each year (calculated using 2016 data).³⁷

Macroeconomic impacts

Total economic activity and components

Overall, the total effect of this policy change means GDP is lower each year by 0.05 per cent compared to the baseline. If this fall was applied to today's economy the lost GDP in current prices would be \$0.8 billion.

Household consumption is lower each year by 0.2 per cent compared to the baseline. Ultimately, taxing capital in the dwelling services industry causes a 0.1 per cent contraction in total investment.

Labour demand and wages

Under the long-run full employment assumption, real wages are 0.2 per cent lower each year compared to the baseline due to lower economic activity and thus lower demand for labour. This fall in real wage is equivalent to a fall in earnings of about \$2.90 per week for an average fulltime worker.

Government revenue

The policy changes directly increase Federal Government revenue collected from taxes on capital gains by around \$800 million each year. However, the contraction in the economy causes revenue raised from Federally collected taxes (other income taxes, GST, etc.) to fall. Overall, the tax collections by the Federal Government increase each year by only \$227 million compared to baseline. The increase is \$1 133 million over the five year forward estimates.

Because the property market (in particular) and the economy (generally) contracts, tax collections by State Governments decrease as a result of the policy change. Across all state budgets, tax collections are lower each year by around \$313 million. (The biggest driver is property taxes, including stamp duties, which is lower each year by \$251 million). Over the forward estimates, State Government tax revenues are lower by \$1 565 million.

The clear implication of the results presented in Table 6.3 is that the budgets of State Governments would come under substantial pressure if the Federal Government implemented the *smaller increase in capital gains tax policy (housing only)* because of the impact on State collected property taxes (for example, stamp duty), other State collected

³⁷ The contraction in dwelling investment (illustrated here with a fall in number of completed dwellings) is smaller in the *smaller increase in capital gains tax, housing only* policy compared to the *smaller increase in capital gains tax* policy because of the smaller contraction in the economy overall (and the less negative impact this has only incomes generally).

taxes and the Federally collected GST (which is distributed to the States via the Commonwealth Grants Commission).

6.3 Total annual impact of *smaller increase in capital gains tax policy (housing only)*

	Units	Annual deviation compared to baseline (where tax arrangements are not changed)
Size and shape of the economy		
GDP	Per cent	-0.05
Residential building activity	Per cent	-0.5
Components of demand in economy		
Household consumption	Per cent	-0.2
Consumption of dwelling services	Per cent	-0.6
Total investment	Per cent	-0.1
Investment in dwellings	Per cent	-0.5
Labour demand		
Real wages	Per cent	-0.2
Changes in price levels (real, i.e. relative to headline CPI)		
Price of dwelling services	Per cent	0.3
Rental properties	Per cent	0.4
Owner occupied properties	Per cent	0.3
Impact on tax collections by Federal Government (annual)		
Total impact	\$m	227
Taxes on capital gains	\$m	804
Taxes on other income	\$m	-423
GST	\$m	-112
Other taxes (net)	\$m	-43
Impact on tax collections by State Governments (aggregate, annual)		
Total impact	\$m	-313
Property taxes (e.g. stamp duty)	\$m	-251
Payroll tax	\$m	-24
Other taxes (net)	\$m	-38
Impact on tax collections over forward estimates		
Federal taxes	\$m	1133
State taxes (aggregate)	\$m	-1565

Note: This table shows the annual impacts of increasing the effective tax rate on capital gains made (on housing assets only) by reducing the capital gains discount rate from 50 per cent to 40 per cent (on housing assets only). The effective tax rate increases because the asset seller is obliged to include 60 per cent of realised capital gains (on housing assets only) in taxable income (up from 50 per cent). This is the proposed policy: *smaller increase in capital gains (housing only)*.

Source: The CIE-REGIONS model

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A CIE REGIONS model

CIE-REGIONS model is a general equilibrium model of the Australian economy. It was developed by the Centre for International Economics based on the publicly available MMRF-NRA model developed by the Centre of Policy Studies for the Productivity Commission.³⁸

Some of the key aspects that make this model especially suited for this task are that it:

- uses the latest input-output table
- provides a detailed account of industry activity, investment, imports, exports, changes in prices, employment, household spending and savings and many other factors;
 - this version of the CIE-REGION model identifies 53 industries and commodities (table A.1)
- accounts for Australia's six states and two territories as distinct regions
 - accounts for differing economic fundamentals in the states and territories
 - state and territory results can be further disaggregated down to statistical division (SD) level
- includes specific details about the budgetary revenues and expenditures of each of the eight state and territory governments and the Australian Government (the government finances in CIE-REGIONS align as closely as practicable to the ABS government finance data)
 - specifically accounts for major taxes including land taxes, payroll taxes, stamp duties and others at the state level, as well as income taxes, tariffs, excise, the GST and other taxes at the federal level (table A.2).
 - traces out the impact of transfers between governments
- can be run in a static or dynamic mode. The dynamic version allows analysis to trace impacts over time as the economy adjusts, being particularly useful over the medium to longer terms.

The CIE has used CIE-REGIONS to analyse the impacts of a wide range of policy issues, including state tax reform, proposed reform options on accelerated depreciation, energy policy and climate change policy measures, international trade agreements, government R&D policy, local infrastructure development, and industrial development strategies, as well as projections of agriculture, mining and energy industries and greenhouse gas emissions.

³⁸ Productivity Commission 2006, *Potential Benefits of the National Reform Agenda*, Report to the Council of Australian Governments, available at <http://www.pc.gov.au/research/commissionresearch/nationalreformagenda>

A.1 CIE-REGIONS industries/commodities and margin services

Industries/commodities			
1	Sheep and cattle	28	Residential building construction
2	Grains	29	Other construction
3	Other animal	30	Construction services
4	Other agriculture	31	Trade
5	Forestry	32	Accommodation and food services
6	Fishing	33	Road freight transport
7	Coal	34	Road passenger transport
8	Oil	35	Rail freight transport
9	Gas	36	Rail passenger transport
10	Metal ores	37	Transport services
11	Other mining	38	Water transport
12	Meat products	39	Air freight transport
13	Other food manufacturing	40	Air passenger transport
14	Textiles, clothing and footwear	41	Communication services
15	Wood products	42	Finance
16	Paper products	43	Dwellings
17	Printing and publishing	44	Business services
18	Petroleum products	45	Scientific and technical services
19	Chemicals	46	Government administration and defence
20	Non-metal construction materials	47	Education
21	Basic metals	48	Hospitals
22	Metal products	49	Medical and other health care services
23	Transport equipment	50	Community care services
24	Professional and scientific equipment	51	Cultural services
25	Electronic equipment	52	Recreational services
26	Other manufacturing	53	Other services
27	Utilities		
Margin services			
	Utilities (part of commodity 27)		Transport services (part of commodity 37)
	Trade (part of commodity 31)		Water transport (part of commodity 38)
	Accommodation and food services (part of commodity 32)		Air freight transport (part of commodity 39)
	Road freight transport (part of commodity 33)		Finance (part of commodity 42)
	Rail freight transport (part of commodity 35)		

Source: CIE-REGIONS database.

A.2 Federal and state taxes

Federal taxes	State, territory and local government taxes
Good and service tax (GST)	Payroll tax
Sales taxes	Land tax
Excises and levies	Municipal rates
Labour income tax	Fire surcharges
Company income tax	Stamp duties on
Non-residents income tax	- insurance
Import duties	- financials
Export taxes	- motor vehicle
	- residential property
	- non-residential property
	- non-residential non-real estate

Source: CIE-REGIONS database.

B Marginal excess burden of a tax

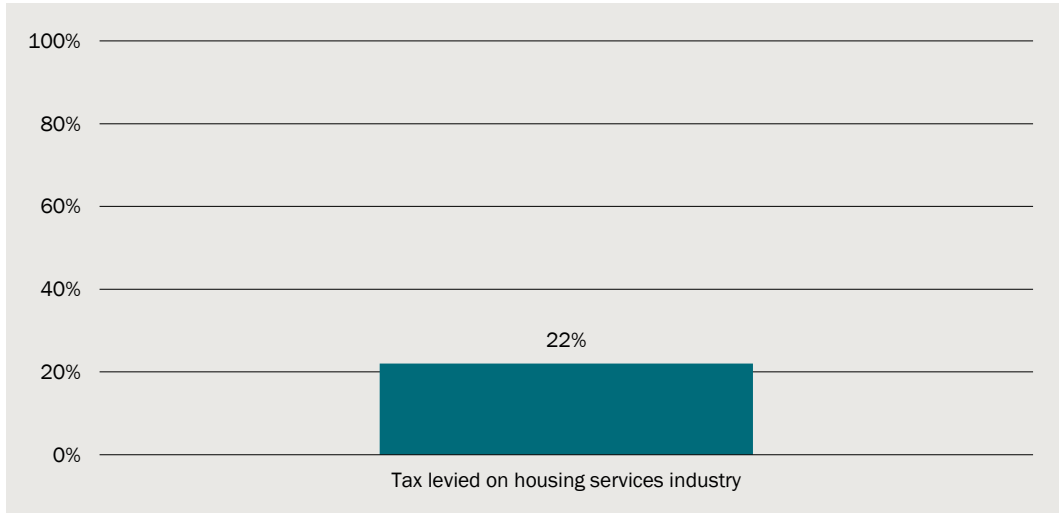
The following steps set out how the Marginal excess burden calculations are made.

- Before any change in tax policy, we assume that individuals and companies behave rationally and that (given existing tax policy) they allocate scarce resources to their most productive use.
- The tax rate of the relevant tax is then increased; this:
 - alters the incentives faced by individuals and companies in the economy (this change in incentives represents a new distortion imposed on the economy by the government); and
 - increases the revenue raised by the tax.
- The increase in government revenue generated by the higher tax rate is returned to Households in a lump sum payment; this achieves two things:
 - It means the net extraction of funds from the economy by government is zero; and
 - The lump sum payment to Households is non-distorting (it does not change the incentives they face, it merely increases the level of their income); therefore, returning the revenue raised to Households via a lump sum means the only new distortion on the economy is the distortion created by the initial change in tax rates.
- As a result, relative to the initial case, we have a picture of the economy where the only change is the change in incentives driven by the increase in the tax rate.
 - This change in incentives causes the behaviour of companies and individuals to change.
 - this change in behaviour causes the economy to depart from its initial state (where scarce resources are allocated to their most productive use) to some other state (where scarce resources are no longer allocated to their most productive use).
 - Because resources are no longer allocated to their most productive use, the size of the economy decreases, which causes Household consumption (and other important variables, like GDP, investment, etc) to fall.
 - Economists prefer to focus on Household consumption because, of all the key macroeconomic variables, it is probably the best proxy for ‘household welfare’.
- The Marginal excess burden of the tax is the loss of household consumption (caused by the distortion created by increasing the tax) divided by increase in the revenue for the government (created by increasing the tax, before the revenue is returned via a lump sum).

Using the CIE REGIONS model we estimate increasing the tax on the supply of housing services has an excess burden of around 22 per cent This is a similar result to

Independent Economics in 2014 (23 per cent), which means the models are setup in a broadly similar way.

B.1 Marginal excess burden of taxes imposed on housing services industry in CIE REGIONS model



Data source: The CIE