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**Analysis of changes to negative
gearing and capital gains taxation**

Prepared for the Property Council of Australia

Deloitte
Access **Economics**

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Glossary

Acronym	Full name
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ALP	Australian Labor Party
ATO	Australian Tax Office
CDE	Constant Differences of Elasticities
CES	Constant Elasticity of Substitution
CGE	Computable General Equilibrium
CGT	Capital Gains Tax
CPI	Consumer Price Index
CRESH	Constant Ratios of Elasticities Substitution, Homothetic
DAE-RGEM	Deloitte Access Economics Regional Equilibrium Model
FHB	First home buyer
FTE	Full time equivalent
FY	Financial Year
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GNP	Gross National Product
GST	Goods and Services Tax
NG85	Negative Gearing changes in 1985
NPV	Net Present Value
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
RBA	Reserve Bank of Australia
SA	South Australia
SA4	Statistical Area Level 4
Tas	Tasmania
TTT	Timely, temporary and targeted
VIC	Victoria
VMR	Variable mortgage rate
WA	Western Australia

Analysis of changes to negative gearing and capital gains taxation

Key Points

- This report analyses the likely impact of the policies on negative gearing and capital gains tax proposed by the Australian Labor Party as part of the 2019 Federal election on house prices and rents, housing construction, investor incentives, and on the broader economy.
  - The report also considers a scenario in which capital gains tax is unchanged but negative gearing is limited to new housing.
- While there have been other studies in this area, this report models the precise proposal put forward by the ALP, drawing on detailed econometric modelling to do so.
- The ALP noted that its policies aimed to:
  - Improve the Australian Government's Budget position by broadening its revenue base and enhancing the fairness of Australia's tax and transfer system;
  - Discourage demand side pressures from home property investors to the benefit of potential owner-occupiers by improving housing affordability; and
  - Generate investment in new houses, alleviating affordability pressures and creating jobs.
- This report examines the likely impact of these changes by drawing on previous studies and on economic theory to develop a detailed property market model.
- The key findings of this analysis are:
  - Such policies would increase the costs of holding property for investors and, in some cases, for owner-occupiers too. That would generate a mix of downward pressure on prices and upward pressure on rents, with the price shift bigger than the rental shift.
  - Rents would have increased, but these impacts would be modest and evolve over time, with rents projected to be higher by 0.5% by 2030 under these policies.
  - Housing prices would have fallen by 4.6% relative to the levels they would have been in the absence of the policy (and up to around 8% in Sydney and Melbourne, given the greater concentration of investors and reliance on negative gearing in these markets).
  - Given negative gearing would have still been available for new housing, the projected price falls for new housing are slightly smaller. Price falls were projected to be greater for apartments and townhouses, as well as for areas with a greater concentration of investors.
  - These projected price impacts would have eased housing affordability, but not notably. By 2030 the share of home owners would have risen by 2½ percentage points. In the main the policies would not have moved long term renters into home buyers – they would have sped up the path for those already otherwise on the way to ownership.
  - Construction of new housing would be lower by 4.1% (versus no policy changes), with a more modest 1.3% decline if only changes to negative gearing were introduced.
  - The reduction in construction would be greater in Sydney and Melbourne, and among apartment and townhouse housing.
  - The policy would also have had some limited economy-wide effects. In a little over a decade from now Australia's economy would be $1.5 billion (0.1%) smaller than otherwise. Construction sector jobs would be a little smaller, offset by job gains in other sectors.
- The transition may have posed greater challenges than the long run impacts of these policies – partly due to the falls in house prices nationally (particularly in Sydney and Melbourne) over the last 18 months, and partly because that weak market backdrop could have amplified impacts on investor sentiment and construction activity in the short term. That highlights the importance of considering potential options to smooth the transition.

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Executive summary

In recent years, housing affordability has become a key policy concern for Australian governments. This has been prompted in part by rapid growth in capital city house prices between 2012 and 2017, particularly in Sydney and Melbourne, but also by a fall in rates of home ownership for younger households. The share of households aged 25 to 34 who own their own home fell from 56% to 44% between 1991 and 2016, while homeownership rates among those aged 35 to 44 fell from 74% to 62% over the same period.

One potential policy that has been proposed to improve housing affordability is changes to negative gearing and capital gains tax arrangements for investors. The Australian Labor Party (ALP) proposed a series of changes to these measures as part of their 2016 and 2019 election campaigns. These included:

- Limiting negative gearing to new housing.
- Reducing the Capital Gains Tax (CGT) discount from 50% to 25% for assets held longer than twelve months.

Investments made prior to the implementation date would not be directly affected by the proposed changes.

The proposed changes were stated as being motivated by a desire to improve housing affordability and support housing construction.[1] Current tax concessions for investors are seen as helping to keep some first home buyers out of the housing market. The changes are also motivated by a desire to ensure the sustainability of the Commonwealth Budget while managing competing spending priorities.[2] These proposed policy changes to CGT and negative gearing are referred to subsequently in this report as 'the ALP policy scenario'.

The Property Council of Australia has commissioned Deloitte Access Economics to assess the likely impact of the ALP policy scenario on: incentives for investors; house prices; rental prices; housing supply; and the broader economy. Deloitte Access Economics has also been asked to examine an alternative policy scenario under which negative gearing is limited to new housing but no change is made to the existing 50% CGT discount ('the negative gearing only scenario') as well as issues concerning the transition to a new regime under current market conditions. This report sets out the findings of this analysis.

Negative gearing, capital gains tax and the broader tax system

While the focus of this report is to estimate the impact of the policy scenarios on the housing market, changes to negative gearing and CGT should ideally be considered based on the principles of good tax design.

Negative gearing provides recourse for investors who make a loss on their investment to recoup part of this loss as a tax deduction against other taxable income (such as wages). As Deloitte noted in the *2015 Mythbusting Tax Reform* report, the "ability to deduct expenses incurred in earning revenue is an accepted principle of our tax system…It's the same principle that lets a chef deduct the cost of their uniform against their wages."

CGT is levied on growth in asset values. Providing a discount on taxation of capital gains is generally seen as an appropriate way to account for the impact of inflation. Indeed, the current

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[1] See Labor's Plan for Housing Affordability and Jobs:
https://d3n8a8pro7vhmx.cloudfront.net/australianlaborparty/pages/7646/attachments/original/1492731074/170421_ALP_Housing_Affordability_Package_-_Fact_Sheet_FINAL.pdf?1492731074 accessed 5 July 2019.
[2] See https://web.archive.org/web/20190305105528/https://www.alp.org.au/negativegearing accessed 5 July 2019.

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CGT discount was introduced in 1999 to replace the complexity associated with adjusting for inflation. Some economists also argue in favour of discounting the marginal rate of taxation on investment income to encourage savings and investment in the economy. It is beyond the scope of this report to assess the optimal rate of capital gains tax, but such considerations, along with how the taxation of property compares to other investments are important considerations in evaluating the appropriateness of these policy changes.

Insights from economic theory and previous research

The proposed changes to CGT and negative gearing would lower the expected after-tax return for investors in property, as well as other affected assets such as shares. This would lead to a reallocation of investments towards assets which are relatively unaffected by the policy such as superannuation, term deposits and bonds and owner-occupied housing.

Economic theory can be used to help understand the likely impact of these changes on the property market. Based on the model set out in Poterba (1984), an increase in housing taxation increases the cost of an investment for a given price, referred to as the *user cost* of housing. As user cost increases, investors are no longer willing to pay as high a price for property as they otherwise would have, leading to downward pressure on house prices or upward pressure on rents over time. By comparison, the user cost for owner-occupiers is not directly affected by the ALP policy scenario.[3] As prices fall and rents increase, the share of owner-occupiers rises marginally as some renters now find it financially beneficial to become owner-occupiers. In practice, this may see renters become owner-occupiers at an earlier age than they otherwise would have.

The relative impact on prices and rents will depend on the elasticity of supply and demand. Downward pressure on prices as a result of reduced investor demand will lead to declines in housing starts as lower prices reduce the return on new construction, particularly for land purchased prior to the policy change. While there is no definitive data on the share of new properties purchased by investors, survey findings suggests that investors are likely to account for around 30% of purchasers of newly constructed properties. This suggests that changes to the after-tax rate of return for investors in new property is likely to impact demand for newly constructed properties and thus housing construction activity. Importantly, it should be noted that the ALP policy scenario involves differential tax treatment of new and existing property, with the change in user costs for new property being smaller than for existing property, which needs to be taken into account in modelling the policy scenarios.

A number of Australian studies have considered how changes to the CGT discount and negative gearing might impact the property market but most have not considered the specific policy scenario considered here or undertaken empirical analysis. Most existing studies have found that such changes are likely to have a relatively modest impact on prices and rents. Cho, Li and Uren (2017) estimate a price fall of 2.4% and a 1.7% rise in rents from the removal of negative gearing, while the Grattan Institute (2016) estimates that removing negative gearing and reducing the CGT discount to 25% will lower prices by 1% to 2.2%. However, existing studies have largely tended to focus on longer term effects. There has been little research on assessing short-run impacts where expectations and behavioural changes can be important.

Approach to modelling the impact of changes to CGT and negative gearing

The approach in this report builds on previous studies by specifically modelling the proposed policy scenario drawing on a long time series of macroeconomic and property market data to estimate how changes to investor costs are likely to flow through to prices, rents and housing starts for both new and existing properties. An overview of the approach is shown in Figure i below.

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[3] However, user costs for prospective owner-occupiers will change if capital growth expectations change.

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Figure i Overview of the modelling approach
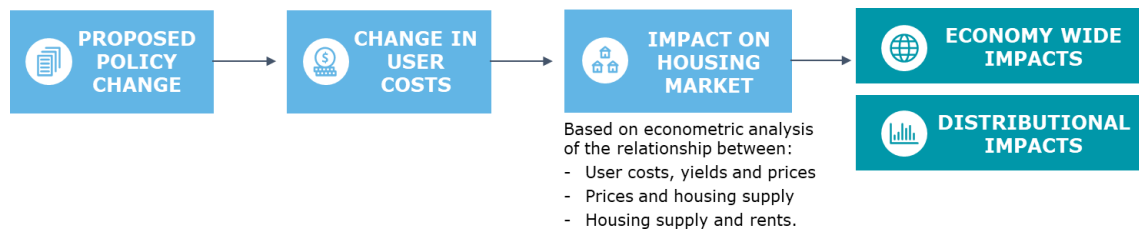
Source: Deloitte Access Economics

The proposed policy change is converted into a change in average user costs for both investors and owner-occupiers. The impact of this on the housing market is then estimated drawing on econometric analysis of the key relationships. The final stage involves assessing the impact of the ALP policy scenario on the wider economy using the Deloitte Access Economics Regional General Equilibrium Model (DAE-RGEM) and assessing the associated distributional impacts.

While this approach extends the existing literature in a range of ways it nonetheless provides limited guidance on the likely short dynamics of the policy change and how it might impact market sentiment. The nature of the influences at play in the short term make economic models less amendable to their simulation and estimation.

Results of the analysis

The results of the econometric analysis indicate that a 1% increase in user costs leads to a 0.8% fall in prices and a 0.1% increase in rents after 10 years. That is, consistent with economic theory, an increase in user costs results in a combination of lower house prices and higher rents, with the split between price and rent effects dominated by lower house prices.

Lower house prices in turn lead to a reduction in new housing commencements. A sustained 1% fall in house prices (which can be thought of as a measure of market demand) yields a similar decrease in housing starts in the long run. However, given that housing completions each year only account for 2% of total housing stock, the impact on housing stock is gradual. A 1% decline in house prices leads to a 0.12% fall in housing stock over 10 years.[4]

Table i presents the projected impact of the ALP policy scenario and the negative gearing only scenario. The ALP policy scenario is expected to increase aggregate user costs by 5.5% for established housing and 4.3% for new housing. The smaller effect on new housing reflects the fact that negative gearing is still available for investors who purchase new housing.

The impact of the policy on user costs is calculated as a weighted average of the impact on user costs for investors and owner-occupiers based on their respective shares of the stock of dwellings in a region. As the policy does not substantially impact owner-occupiers (except to the extent that future investors purchasing a property that owner-occupiers bought new cannot access negative gearing), the weighted average increase in user costs is smaller than that for investors. In particular, average investor user costs will increase by between 9% and 16% for existing properties and 10% for new properties under the ALP policy scenario.

The impact of the policy scenarios on user costs in turn drives the impact on dwelling prices in the model. That is, although the policy has a significant impact on investors, potential price falls are partly offset by demand from owner-occupiers, who are considerably less affected by the changes.

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[4] This finding is in line with other recent Australian studies. Saunders and Tulip (2019) estimate a supply elasticity of 0.07. Ong et al (2017) similarly estimate an elasticity of 0.05 to 0.09 for houses.

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Table i Projected impact for Australia relative to the baseline

	ALP policy scenario	Negative gearing only scenario
Aggregate user cost for established housing	5.5%	2.6%
Aggregate user cost for new housing	4.3%	1.3%
Dwelling prices in 2030, established housing	-4.6%	-2.3%
Dwelling prices in 2030, newly constructed housing	-3.6%	-1.1%
Rents, 2030	0.5%	0.1%
Dwelling commencements, 2030	-4.1%	-1.3%
Dwelling stock, 2030	-0.4%	-0.1%

Source: Deloitte Access Economics

This increase in aggregate user costs is projected to reduce prices for established dwellings by 4.6% relative to what they would have otherwise been by 2030. The corresponding figure for new dwellings is 3.6%. To put these estimates into context, house prices rose by 44% nationally between January 2012 and October 2018 – and considerably more in Sydney and Melbourne.

In the negative gearing only scenario, the estimated impact on user costs is smaller given that there are no changes to the CGT discount. There is still a small increase in user costs for new housing even though negative gearing remains available. This occurs because when an investor (or owner-occupier) seeks to sell a new property it is treated as an existing property, and subsequent investors will not be able to benefit from negative gearing which reduces the initial owner's expected capital gain when they sell. However, initial investors are still willing to pay a small price premium for these properties relative to existing properties, reflecting the value of negative gearing during the initial ownership period.

The projected decline in dwelling prices is broadly consistent with what has been found in the previous Australian literature, albeit slightly higher than that estimated by the Grattan Institute (2016) who model a scenario which is similar to the ALP policy scenario for existing properties (without grandfathering).

The decline in prices for new property in turn results in a decline in dwelling commencements which is estimated to be 4.1% below baseline in 2030. The decline in commencements each year reduces the stock of dwellings over time, but only slowly given that – as noted above - completions on average represent around 2% of existing dwelling stock. The stock of dwellings is estimated to be 0.4% lower by 2030 as a result of the policy.

In addition to an impact on the *quantity* of dwellings constructed, some of the impact could also be felt through a reduction in the *quality* of dwellings constructed either in terms of size or quality of fittings as developers adjust their cost base in response to the decline in market prices. The policy could also affect the incentive for additions and alterations of existing property. In the longer term to the extent that price falls are absorbed into the value of land, the impact on the incentive for new construction is likely to moderate – although developers who own land will be impacted through a decline in the value of their current land holdings.

The impact on rents is projected to be relatively modest, reflecting a modest reduction in the stock of dwellings. While the policy is expected to reduce the share of property purchased by investors, a corollary of this is that some of the property which would otherwise have been purchased by investors is now purchased by new owner-occupiers. As investors exit the market in favour of new owner-occupiers the relative balance between demand and supply in the rental market remains

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unchanged with both demand and supply falling by the same amount. The upward pressure on rents comes solely from the impact of the ALP policy scenario on the stock of dwellings (relative to expected growth in the working age population).

The projected impacts vary considerably by **property type**. Given the greater concentration of investors in the apartment market, the impact on new apartment prices by 2030 under the ALP policy scenario is estimated to be 5.6% compared to 2.9% for houses. Moreover, as apartment commencements are more responsive to changes in price, it is estimated that the ALP policy scenario will result in a 6.8% decline in apartment starts by 2030 compared to 3.4% for houses.

The modelling also estimated the impact for each of the eight Greater Capital City Statistical Areas and rest of the state. The ALP policy scenario is projected to have the greatest effects on the Greater Melbourne and Greater Sydney property markets. In 2030, existing dwelling prices are estimated to be around 8% lower relative to the baseline. New commencements will be lower by an estimated 7%, while rents are project to be around 1% higher. These cities are affected disproportionately as they have 1) a higher share of investors (relative to owner-occupiers); 2) lower rental yields leading to greater reliance on negative gearing by investors; and 3) a higher share of apartments.

Chart i shows the impact of the ALP policy scenario on existing dwelling prices and new commencements by region.

Chart i Long term price and commencement effects by region, ALP policy scenario

Source: Deloitte Access Economics

Current market conditions and transition impacts

Conditions in Australia's housing markets have weakened after a sustained period of appreciating **dwelling prices** centred on Australia's east coast. The downturn in prices has been most pronounced in Sydney and Melbourne, with prices falling more than 10% from their peaks as credit conditions for domestic borrowers have tightened and housing supply has increased. The impact of tighter credit conditions has been most acute for potential investors. This has seen a sharp drop off in approvals in recent quarters as developers adjust to weaker market conditions with annual approvals dropping from over 240,000 at their peak to below 200,000. As a result, housing construction activity is expected to contract throughout 2019 and into 2020. This

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backdrop highlights the importance of understanding the short run dynamics of the policy scenario.

Historically, prices have adjusted gradually to changes in user costs, reflecting a degree of momentum in housing prices. Thus, while the modelling presented in this report is likely to provide a reasonable picture of how prices adjust to changes in user costs in the long run, it may not fully capture potential short run dynamics, particularly if the ALP policy scenario had a large adverse effect on investor sentiment. While responses to changes in fundamentals like prices and returns can be modelled with reasonable levels of rigour and confidence, economic modelling is far less well equipped to model changes emanating from factors like perception, fear and uncertainty.

History is at least partially instructive. While it is not possible to model these transition effects with any precision, behaviour around the time of the introduction of previous major tax changes and economic shocks can provide a potential guide to market dynamics. Chart ii shows the potential impact on existing dwelling prices under the base case and the short term trajectory of prices in our model under four different scenarios:

1. Four quarters before and after the introduction of the GST
2. Four quarters after the Global Financial Crisis (GFC)
3. Four quarters after the removal of negative gearing in 1985 (labelled NG85)
4. Four quarters after the introduction of the vendor tax in NSW in 2004 (labelled VT).[5]

After the first four quarters, price dynamics in all four scenarios follow the base case model.

Chart ii Potential transition dynamics; existing dwelling prices
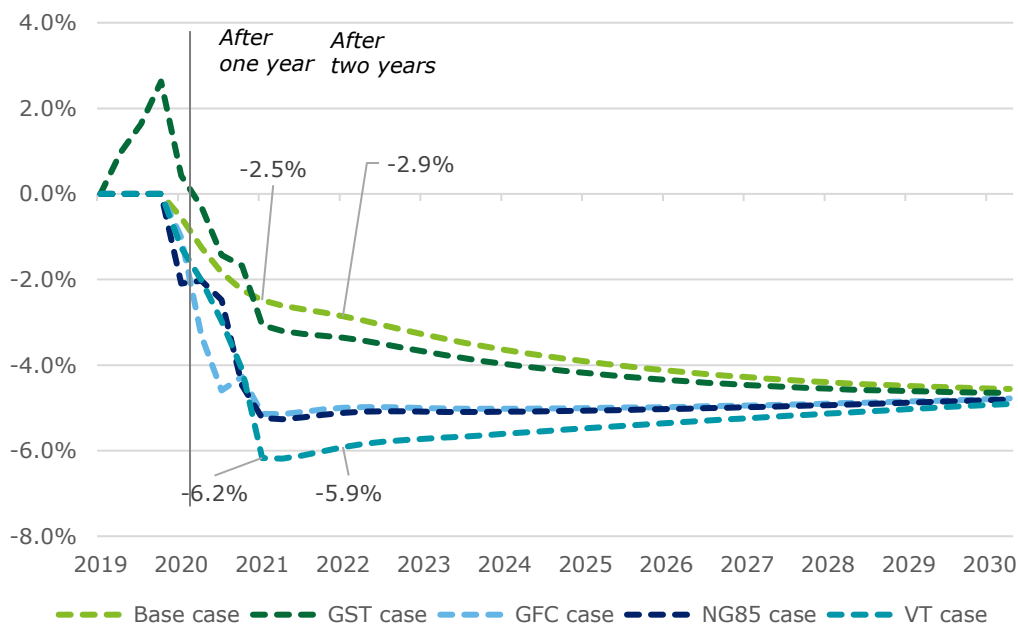
Source: Deloitte Access Economics

While prices were bid up prior to the GST to avoid the additional impost on new housing (which could also happen in the policy scenarios here) in all four scenarios the initial price correction was more pronounced than the base case, falling by up to 6.2% in the first year.

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[5] In this scenario, the price dynamic reflects the trajectory of prices in NSW relative to other states and territories which did not introduce a vendor tax at the time.

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It is not clear what transition path would be most likely under the ALP policy scenario. Given the significant house price declines in Sydney and Melbourne over the last 18 months, investor sentiment could respond negatively resulting in a relatively steep transition, further exacerbating existing price falls. There is some evidence that these sort of effects could occur.[6] On the other hand, some of the price effects of the ALP policy scenario could have been priced in ahead of its introduction. Recent regulatory restraints on investor lending also mean that many investors may already be on the sidelines currently.

On the balance of probabilities, Deloitte Access Economics expects the transition path is likely to be more rapid than the base case and more likely to resemble past tax reforms and market responses to economic shocks such as the GFC. However, the number of potential factors at play makes definitive conclusions difficult to reach.

Economy wide effects

The ALP policy scenario involved increasing taxes (or reducing tax expenditures in the case of CGT) on investments in dwellings and other assets. The economic impact of a tax on investment in dwellings will depend on the degree to which its incidence falls on the value of land relative to physical capital. Taxes on land are relatively efficient as land is an immobile tax base. However, increasing taxes on capital involves a greater efficiency loss as it induces investors to reallocate capital to different investments or potentially overseas.

The impact of the ALP policy scenario on the broader economy can be explored in a Computable General Equilibrium model such as DAE-RGEM by increasing taxation of returns to capital in the dwelling sector. While some of the labour and capital employed in the construction sector does move to other sectors or industries, the modelling finds that, in aggregate, the policy results in a contraction in economic output.

In the central case, it is assumed that half of the incidence of the tax falls on the value of land. This results in a decline in Australia's GDP by 2031 of $1.5 billion a year (or 0.07% of GDP in that year). Consistent with the decline in commencements, the decline in full time equivalent employees (FTEs) in the construction sector averages 7,800 over the period to 2031. Aggregate employment grows initially as capital moves out of the dwelling sector to other sectors of the economy and the decline in the return to capital leads businesses to substitute from capital to labour. However, in the long run aggregate employment falls marginally.

Importantly, the results are sensitive to the extent to which the incidence falls on land relative to capital and assumptions about how the resulting revenue is used by the Australian Government. In a scenario where all of the incidence falls on capital rather than land, Australia's GDP projected to be $3.6 billion smaller in 2031 (or 0.17% of GDP in that year). The central case also assumes that additional revenue is used to finance additional government consumption and debt reduction. If the increased revenue is offset by income tax cuts the contraction in GDP is milder as this reduces the overall efficiency cost of higher taxation.

Importantly, the economy–wide modelling employed here does not capture potential positive externalities that may arise from government expenditure on infrastructure, health or education which may result in economic benefits over time. Finally, the modelling focuses on the impact of the ALP policy scenario on housing investment and, in so doing, does not capture the direct impact of the ALP policy scenario on investments in other assets affected by changes to CGT (such as shares).

Welfare implications of the policy changes

The economy-wide modelling provides a picture of the aggregate impact of the policy on economic welfare (as captured by measures such as GDP). However, there will be important distributional effects across the population. Principally, the reduction in house prices (compared to what they would have been otherwise) results in a transfer of wealth from current homeowners and investors

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[6] Newgate Research 2019, 'Investor responses to proposed property taxation changes' finds that the proportion of potential investors in their survey likely to purchase a property over the next five years would fall from 50% to 20% if the policy scenario is introduced.

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to future homeowners. Future investors will also be impacted as the reduction in prices and increase in rents does not fully offset their increase in user costs.

Given that existing owners and future investors tend to have higher disposable income and more wealth than non-owners, these changes are likely to slightly improve the overall progressivity of the tax system. However, it is worth noting that property investors and owner-occupiers are widely dispersed across the income distribution. At present, 70% of property investors earn less than $87,000 a year. At the same time, over 70% of investors hold just one investment property. Thus, while property investors have higher than average levels of income, their economic circumstances vary considerably.

The relatively small increase in rents will impact households who rent. While households that rent are also found across the income distribution, low income renters are far more likely to be in housing stress than high income renters, and have less disposable income to spend on additional rent. That said, low income renters will benefit to a greater degree if revenue from the policy is used to increase spending on government services and transfers, which was proposed in the ALP policy platform for the 2019 election.

The reduction in existing dwelling prices will also make it easier for some renters to become owner occupiers. Given the still significant hurdles to becoming a homeowner in Australia, and the relatively moderate impact of the policy on dwelling prices and rents, this is likely to largely lead to households becoming homeowners faster than they otherwise would have, rather than lifetime renters becoming owner occupiers.

Policy responses to deal with the transition

While the longer term impact of the ALP policy scenario on prices and rents is likely to be relatively modest, the disruption to markets in the short term could be material, particularly if introduced at a time of falling prices or construction activity. To smooth the transition, both Federal and state governments could consider introducing other policy measures. Any short term demand led stimulus should be timely, temporary and targeted (TTT) in nature.

This could include temporary measures to boost short term demand, such as first home buyer grants and concessions. A variation on this was announced during the 2019 election campaign, which sees the Government proposing to use the National Housing Finance and Investment Corporation to guarantee the loans of 10,000 first homebuyers. However, as these measures tend to put upward pressure on prices they should be phased out once the sector transitions. A further option for demand side stimulus would be for the states and territories to provide concessions to stamp duty.

Governments could also look at measures that would boost housing supply by: increasing investment in public housing; or via relaxing zoning laws which would make it cheaper to build new dwellings. These changes would need to be introduced well ahead of the commencement of the policy scenario to aid the transition given the significant lead time for large construction projects.

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1 Introduction

This section provides an introduction to the proposed changes to negative gearing and capital gains taxation examined in this report. It provides a summary of the ALP policy scenario, and puts it in the context of a broader discussion about tax design. This section finishes by outlining what Deloitte Access Economics has been asked to do.

Key Findings

- The ALP proposed to reduce the capital gains tax discount and limit the use of negative gearing to newly constructed properties from 1 January 2020. Existing arrangements will be grandfathered for assets purchased prior to this date.
- This ALP policy scenario had been suggested in order to: strengthen the Commonwealth's Budget position while maintaining its progressive nature; increase home ownership rates by reducing incentives for investors; and encourage investment in new construction. The ALP had also announced other policies which will impact the incentives to invest in new rental stock.
- The appropriate taxation of capital gains and the applicability of negative gearing is an ongoing policy debate in Australia and changes to both have been introduced in the past. This debate has largely focused on the issues of: tax design; equity within and between generations; and stability in the property market and the financial sector more broadly. While these are important considerations for analysing the impact of particular policies, it is also appropriate to consider these in the context of the entire tax (and transfer) system.
- Deloitte (2015) found that allowing for the deductibility of expenses incurred in earning an income is a standard part of many tax systems. Additionally, providing a discount for the taxation of capital gains is important, as it is designed to encourage savings, and to account for the 'cost of inflation' between consuming that income now and in the future.
- That said, previous analysis has shown that the current arrangements for the taxation of capital gains is overly generous (Deloitte 2015, Australian Government 2010), as inflation expectations are lower than when the current regime was introduced in 1999.
- It is this combination of a generous CGT discount and negative gearing that is what has led to the increased use of negative gearing as an investment strategy.

1.1 What is negative gearing and the capital gains tax?

To help understand the nature of the proposed changes it is useful to first define the concepts of negative gearing and capital gains tax. **Negative gearing** provides recourse for investors who make a loss on their investment to recoup part of this loss as a tax deduction against other taxable income, including wages or salaries.

Negative gearing allows individuals who incur a net loss associated with their investment to deduct their loss from their personal income tax liability in the tax year the loss is realised, rather than needing to quarantine the loss for further years. Effectively, negative gearing can be used to reduce an investor's overall annual tax liability. A property is said to be 'negatively geared' if the costs associated with earning a rental income are larger than the rental income. Negative gearing can reduce an individual's overall taxable income, and also change the investor's marginal tax rate.

Capital gains tax (CGT), as the name suggests, is levied on capital growth. The tax is paid only when the capital gain is realised – in other words, the tax is only payable when an individual sells an asset for a value greater than what they outlaid to purchase the asset. The current CGT discount means that individual investors only pay tax on 50% of their gain (provided they hold the asset for more than one year).

This capital gain is taxed at the individual's marginal tax rate, after adjusting for the CGT discount. Owner-occupied housing is an exception – capital gains on owner-occupied homes are not taxed at all. There are also different rates of capital gains taxation for businesses and superannuation funds.

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1.2   Objectives of the proposed changes

The ALP's position was that policy action is required to improve housing affordability and home ownership rates, particularly among young people. They were also motivated by a desire to improve the progressiveness of Australia's tax and transfer system (both within and across generations), while ensuring that the Commonwealth Budget position remains on a sustainable footing. To address these concerns, the ALP planned to:[7]

- Limit negative gearing to new housing; and
- Reduce the CGT discount from 50% to 25% for assets that are held longer than 12 months.

These proposed changes were only to apply to assets purchased from 1 January 2020, with existing arrangements applying to assets held before this date ('the ALP policy scenario'). The introduction of the policy over summer was noted to be at a quieter time in the property cycle reflecting a 'good smooth time for implementation.'[8]

Importantly, Deloitte Access Economics understands that losses from new investments in existing rental properties would still be used to offset the tax liability from other investment income and can also continue to be carried forward to offset the final capital gain or other future net income on the investment.

The ALP also announced a range of other policies related to personal income tax rates and thresholds[9], the taxation of trusts[10], taxation of other forms of savings such as superannuation[11] and removing full dividend franking credit refundability.[12] While these policies would have also affected incentives to invest in residential housing in Australia to varying degrees (and to invest in other asset classes), they are not considered in the modelling within the report.

In addition to these tax changes, the ALP also proposed changes to policy to encourage additional housing supply, aimed at lower income renters. While this report does not consider the effect of these policies on the housing market, Box 1.1 below contains further details on these policies.

In aggregate, the ALP suggested that their policy platform would:

- Improve the Australian Government's Budget position by broadening its revenue base;
- Enhance the fairness of Australia's tax and transfer system, by removing tax expenditures that predominantly benefit higher income earners;
- Discourage demand side pressures from home property investors to the benefit of potential owner-occupiers; and
- Lead to investment in new houses, alleviating affordability pressure and creating jobs for the economy.

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[7] See https://web.archive.org/web/20190305105528/https://www.alp.org.au/negativegearing accessed 5 July 2019

[8] Belot, H. 'Labor to limit negative gearing concessions to new properties from January 1', ABC News, available from: https://www.abc.net.au/news/2019-03-29/labor-to-end-negative-gearing-concessions-for-new-investors/10951194.

[9] See https://web.archive.org/web/20190519053941/https://www.alp.org.au/policies/fairer-tax-cuts-for-working-australians/ accessed on 5 July 2019.

[10] See https://web.archive.org/web/20190518084748/https://www.alp.org.au/policies/trusts-reform/ accessed on 5 July 2019.

[11] See https://web.archive.org/web/20190518084737/https://www.alp.org.au/policies/labors-plan-to-make-superannuation-fairer/ accessed on 5 July 2019.

[12] See https://web.archive.org/web/20190531085617/https://www.alp.org.au/policies/reforming-dividend-imputation/ accessed on 5 July 2019.

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Box 1.1: Other ALP housing market policies

The ALP had also proposed other policies which are expected to affect Australia's housing market[13]. The stated aim of these policies is to increase the supply of properties available to rent, particularly for low-income earners.

The ALP announced that they would establish a **10-year, $6.6 billion scheme** which will subsidise investors who build new properties for rent at below market rates. The ALP expect the policy to lead to the construction of 250,000 houses over a ten year period. Specifically, an investor in a new property would receive a subsidy of $8,500 each year on the condition they keep rent for the property at 20% below market rate. This is similar to how the National Rental Affordability Scheme (NRAS) policy operated under the previous Rudd ALP Government.[14]

The ALP also announced that they would intend to make changes to the **tax treatment for Build to Rent**. The ALP would legislate to lower the managed investment trust withholding rate on tax distributions attributable to investments in build-to-rent housing from 30% to 15%. This policy aims to encourage investment in build-to-rent housing by taxing it at the same rate as qualifying commercial property.[15]

While these policies are aimed at encouraging investment in additional housing in Australia, it may take some time for this to supply to enter the market. For example, under the previous NRAS policy, only 37,000 affordable dwellings were built over a decade, short of the intended 50,000 dwellings in four years.

1.3 Broader debate around CGT and Negative Gearing

The appropriate taxation of capital gains and the applicability of negative gearing is an ongoing policy debate in Australia and changes to both have been introduced in the past (see Box 1.2, on prior removal of negative gearing and the introduction of the CGT in 1985). This debate has largely focused on the issues of:

- Tax design;
- Equity – both within and across generations; and
- Stability in the property market and the financial sector more broadly.

While it is important to examine both of these components of Australia's tax system in relation to the whole, we can also better understand the merits of the individual components by looking at them in isolation.

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[13] See https://web.archive.org/web/20190518084726/https://www.alp.org.au/policies/labors-comprehensive-plan-for-housing-affordability/ accessed on 05 July 2019.
[14] Jane Norman, '*Bill Shorten uses ALP national conference to unveil $6.6-billion plan to build 250,000 homes*', ABC News online, accessed on 16 April 2019. Available at: https://www.abc.net.au/news/2018-12-16/shorten-goes-big-on-housing-affordability-at-alp-conference/10624154
[15] See https://www.alp.org.au/media/1657/190328_factsheet_housing.pdf, accessed on 16 April 2019.

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Box 1.2: Removal of negative gearing and introduction of the CGT (1985 to 1987)

On 20 September 1985, the Australian Government introduced a general tax on capital gains, which was levied on the real gain (accounting for CPI inflation) usually on the disposal of an asset. The Government also removed the ability for investors to use negative gearing, although, that was reinstated from July 1987. Since this period, there has been considerable debate as to what the effect of these tax changes was on the housing market, particularly within the period where negative gearing was restricted.

- **Real rents** (rents less CPI inflation) did not rise nationally over this period. That said, there were differences across different markets, with real rents rising significantly in Sydney and Perth consistent with lower than average vacancies in these market, remaining broadly flat in Melbourne and falling in Brisbane and Adelaide.
- For Australia overall, the rate of **house price growth** continued to slow through this period, as it had since mid-1984, coinciding with rising borrowing costs. The standard variable mortgage rate peaked at 15.5 percentage points in April 1986, where it stayed until August 1987.
- **Dwelling construction activity** as a share of the economy also declined through this period, a continuation of a trend from the end of 1984. This is consistent with moderate growth in house prices through this period, which reduce the incentive to invest in new stock.

While we would expect that an increase in the rate of property taxation for investors would have some effect on market indicators, these were likely small in comparison to changes in other factors that also affect the market, such as interest rates. This is because investors were a smaller share of the market at the time than they are now, and that there can be a considerable lag in the flow through from tax changes to market outcomes. That said, the short period of policy change makes it hard to draw any firm conclusions.

Deloitte's *Mythbusting Tax Reform Volume 2* (Deloitte 2015) noted the following related to the use of **negative gearing** in Australia:

> "[T]he ability to deduct expenses incurred in earning revenue is an accepted principle of our tax system – and most other tax systems too. It's the same principle that lets chefs deduct the cost of their uniform against their wages. In the same way, it allows an investor to deduct the cost of borrowing to earn the rent from an investment property."

In other words, the ability to deduct expenses incurred in the process of earning income against that income is a standard part of tax system design, and consistent with the tax design principles outlined in Box 1.3 below. However, the capacity to negatively gear extends this principle, and allows for those expenses to be deducted against other, unrelated income. While Australian Treasury *(2015)* finds that this additional deductibility "…does not, in itself, cause a tax distortion", it does note that negative gearing:

> "…does allow more people to enter the market than those who might have had the equity alone to do so. Purchasers can make bigger investments in property by borrowing, in addition to using their own savings."

This says that the ability to negatively gear may encourage an increase in housing debt, which could lead to financial stability concerns. This was noted by the International Monetary Fund (IMF 2019) that:

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> "Within the context of a broader tax reform, gradual lowering of capital gains discounts and limits on negative gearing for investors would reduce structural incentives for leveraged investment by households, including in residential real estate."

However, as Deloitte (2015) noted, it is the combination of negative gearing and the current **CGT discount** which encourages increased leverage, rather than negative gearing alone.

Box 1.3: Tax design principles

While there is no one set of tax design principles, most tax economists generally agree that it is important to consider certain key themes when designing a tax (and transfer) system. It is also particularly important to consider these in the context of the overall system, rather than in the context of a single tax. The below list of design principles is adapted from the *Australia's Future Tax System* (AFTS 2010) review:

- **Equity** – The tax and transfer system treat people in similar economic circumstances in the same way, additionally, those with a greater capacity to contribute should bear a greater net burden. This is commonly referred to as the 'progressivity' of the system.
- **Efficiency** – The tax and transfer system should raise and redistribute revenue with the least possible cost to the economy. This includes limiting the amount of administrative burden and compliance costs.
- **Simplicity –** The system should be easy to understand and simple to comply with.
- **Sustainability –** The system should be able to fund government expenditure on an ongoing basis, including accounting for future demographic or other trends such as the ageing population.
- **Policy consistency –** Rules in one part of the system should be consistent with similar rules in a different part of the system.

It is also important to consider that at times pursuing one of these principles can will make it harder to achieve another. For example, Australia's progressive personal income tax base increases the equity of the entire system, by increasing the amount of tax paid by higher income earners as a share of their income. At the same time though, it also somewhat reduces the system's simplicity and efficiency through increasing the number of tax bands and levying a marginal tax rate as taxable income increases.

Overall, people will differ on where to draw the line on the different trade-offs associated with designing a tax system and individual taxes. That said, these principles can still be a useful way to examine the merits of a particular tax or system of taxes.

A discount for the taxation of capital gains is important, as it is designed to encourage savings, and to account for the 'cost of inflation' between consuming that income now and in the future when those gains are realised. Prior to September 1999, only these 'real' gains were taxed, as an investor only paid tax on the difference between the nominal price growth in the asset, and growth in consumer price index (CPI) inflation over that period.[16] The Ralph Review of Business Taxation (Australian Treasury 1999) recommended moving to a system which discounted the tax rates applied to capital gains. This was a response to the complexity of the existing system, as well as providing an extra incentive to save.[17] A new system was implemented in September 1999, which provided a 50% discount on tax paid on capital gains.

Since then, that 50% discount has become more valuable to investors, as inflation expectations are considerably lower than they were when the policy was implemented in 1999.[18] This means that investors are in many cases being more than compensated for inflation and an allowance for

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[16] The prior system of taxing only 'real gains' was more complicated than this, as only 20% of the capital gain was added to an individual's taxable income to determine their marginal tax rate. This marginal tax rate was then applied to the entire 'real gain'.

[17] Carling (2019)

[18] In September 1999, inflation was expected to be 2.9% each year over the next decade. As at March 2019, that same figure is 1.4%.

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future discounting under the current system. This 'overcompensation' has seen somewhat of a consensus created around moving to a lower CGT discount. For example, the Henry Tax Review (Australia's Future Tax System 2010) recommended a CGT discount of 40% in the context of implementing a uniform treatment of income from capital, including interest on bank deposits which are currently taxed at full marginal rates. Additionally, Deloitte (2015) recommended moving to a CGE discount of 33.3%, to be in line with the discount provided to superfunds.

That combination of a more generous CGT discount and negative gearing is what encourages increased leverage in housing markets, which can lead to financial stability concerns (as noted by the IMF) and encourages the purchase of housing as an investment.

This has led to the growth of negative gearing as an investment strategy for middle and higher income earners (see Section 2.3), as the tax treatment of debt favours investment in assets which can be leveraged, particularly for those who can offset tax on wage on other income. That said, the extent to which negative gearing may be more likely to be used by those with higher than average incomes is not an issue in itself. Rather, it is important to consider equity implications in the context of the whole system, rather than in the operation of a particular aspect of the system. This allows for the balancing of the different goals of Australia's tax (and transfer) system, as different objectives may be at odds (Deloitte 2015).

In this context, the household transfer system and progressive income tax schedule are better ways to ensure progressivity in the system, rather than changing certain aspects of different tax treatments when they are designed to achieve other objectives of the overall system. Especially considering Australia already has a targeted tax and transfer system, with the overwhelming benefit of transfer payments going to low income households while higher income households pay a larger share of income tax (Chart 1.1).

Chart 1.1 Taxes and transfers by final household income quintile, % of gross household income, 2015-16
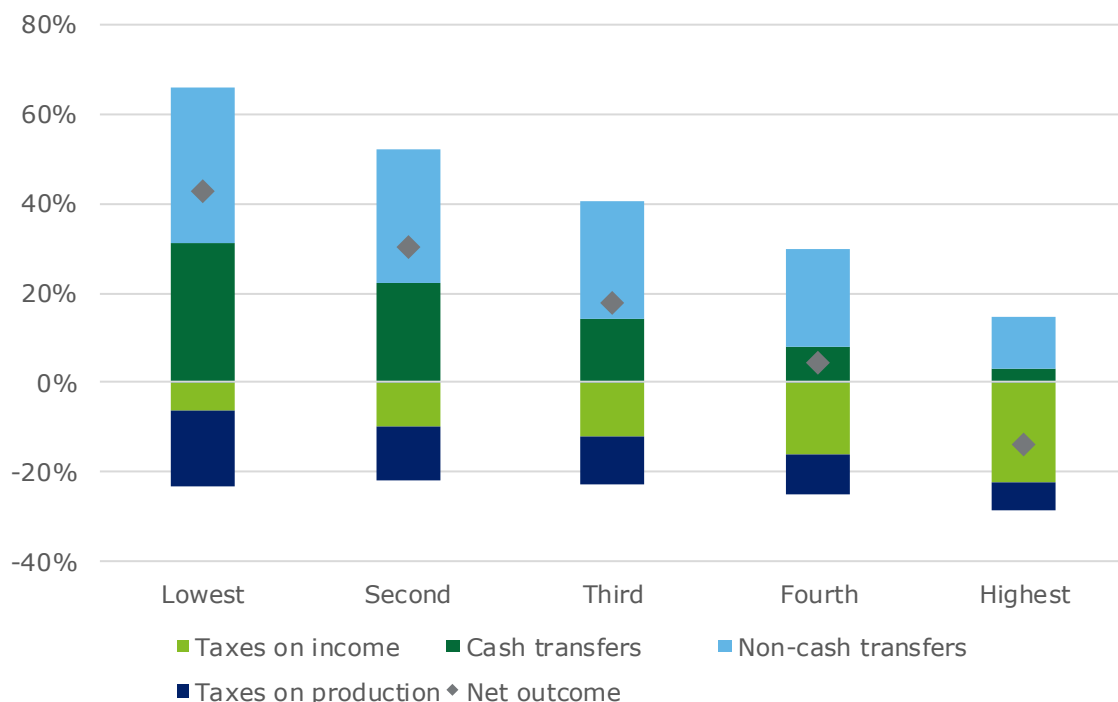
Source: ABS Cat No. 6537.0; Deloitte Access Economics

1.4   What have we been asked to do

The Property Council of Australia has commissioned Deloitte Access Economics to analyse the effect of the ALP policy scenario on the housing market and the broader Australian economy, and to test these against the ALP's stated policy objectives. This includes the effect on dwelling prices,

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rents and housing supply, as well as key economic indicators such as gross domestic product (GDP), employment and household incomes. Deloitte Access Economics will also consider the distributional impacts of the proposed changes.

The analysis in this study will focus on two scenarios:

- The ALP policy scenario in which negative gearing is limited to new housing and the capital gains tax (CGT) discount is reduced from 50% to 25% for assets that are held longer than 12 months. This was proposed to apply to both new and existing property investments and other investments subject to CGT such as shares. The proposed policy would not affect investments held before the implementation date of 1 January 2020.
- The negative gearing only scenario in which negative gearing is limited to new housing with no changes made to the CGT discount. The policy would not apply to investments held before the implementation date.

The remainder of this report is as follows:

- **Section 2** provides a brief summary of the state of Australia's housing markets, as well as providing a profile of a 'typical renter' and a 'typical investor' in Australia
- **Section 3** provides a summary of the economic theory related to the operation of housing markets, and also contains a review of the existing empirical literature related to changes to property taxation
- **Section 4** outlines our approach to modelling Australia's housing market
- **Section 5** outlines our findings of the effect of the two scenarios modelled on Australia's property market
- **Section 6** outlines the economy wide effect of the two scenarios modelled
- **Section 7** outlines the distributional consequences of the modelled changes to property taxation
- **Section 8** outlines some potential options for policy makers to offset the short term effect of the policy on housing markets and Australia's economy.

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2 State of the housing market

This chapter provides a brief overview of the state and near term outlook for Australia's housing markets at time of writing. It also provides a brief outline of the profile of the typical renter and the typical investor in Australia. This includes their profile of demographic characteristics, income and wealth relative to owner occupiers (in the case of renters) and other Australian's (in the case of investors).

Key Findings

- Australia's housing markets are experiencing price falls and a decline in construction after an extended period of elevated activity.
- This is due to both borrowers and sellers revaluating their willingness to borrow/lend given current conditions, rather than rising unemployment or interest rates. This is a relatively unique situation, which makes the outlook more uncertain.
- Any changes to property taxation could amplify the level of uncertainty in the market and in so doing impact investor sentiment.
- Renters in Australia tend to be younger, less well off, and spend a higher share of their income on housing costs than owner occupiers.
- This implies that any changes to rents that result from changes to the taxation of housing are likely to have important equity implications for renters.
- A larger share of higher income earners will be affected by any changes to taxation of investment properties, although investment properties are also held by some lower income households, who will also be affected by any changes.
- In terms of housing product, investors are more likely to invest in apartments or townhouses, although there is a degree of regional variation.
- While it is likely that the majority of investor finance goes into existing dwellings, it is not possible to determine the true level of investment in new dwellings. Surveys suggests that the propensity of investors to invest in new dwellings is similar to owner-occupiers.

2.1   Housing market outlook

Conditions in Australia's housing markets have weakened after a sustained period of appreciating **dwelling prices** centred on Australia's east coast (Chart 2.1). The downturn in prices has been most pronounced in Sydney and Melbourne, as credit conditions for domestic borrowers have tightened, foreign investors have left the market, and supply has increased. The impact of tighter credit conditions has been most acute for potential investor buyers, who were most active in these two markets, often acting as the marginal purchaser.

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Chart 2.1 Dwelling price index, February 1989 to February 2019
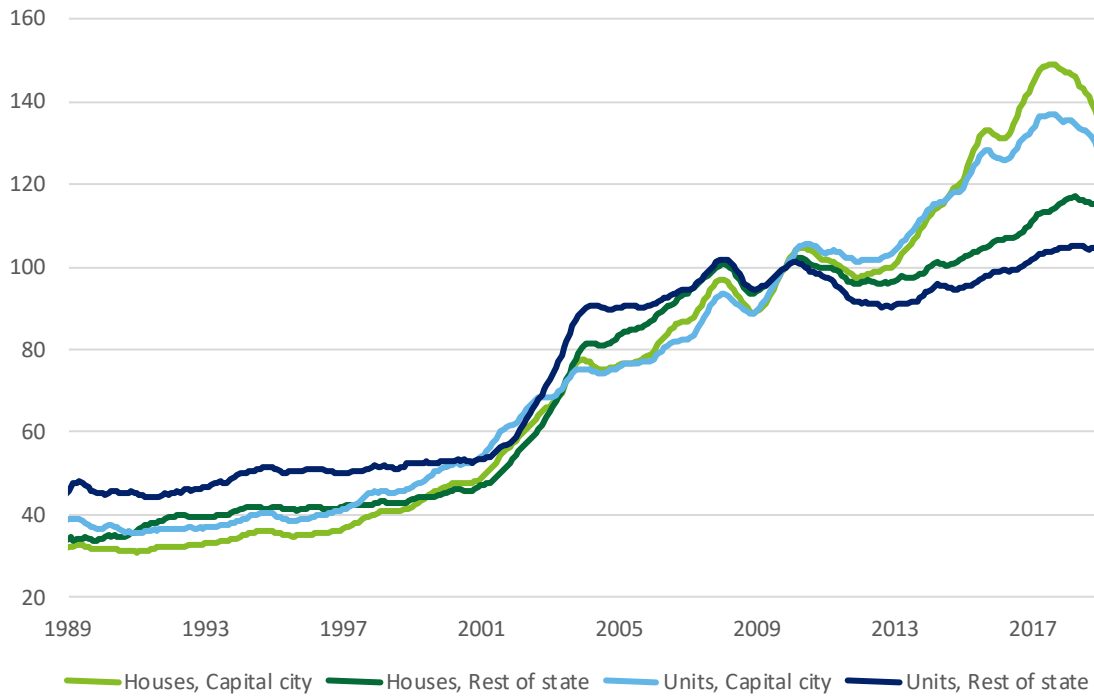
Source: Data provided by CoreLogic.

The previous increase in prices across these markets encouraged a large increase in **dwelling construction activity** (Chart 2.2). The amount of new supply increased across most key markets, with the amount of new supply entering the Sydney and Melbourne markets still expected to peak.

Chart 2.2 Annual dwelling approvals per head of population growth, Eight capital cities
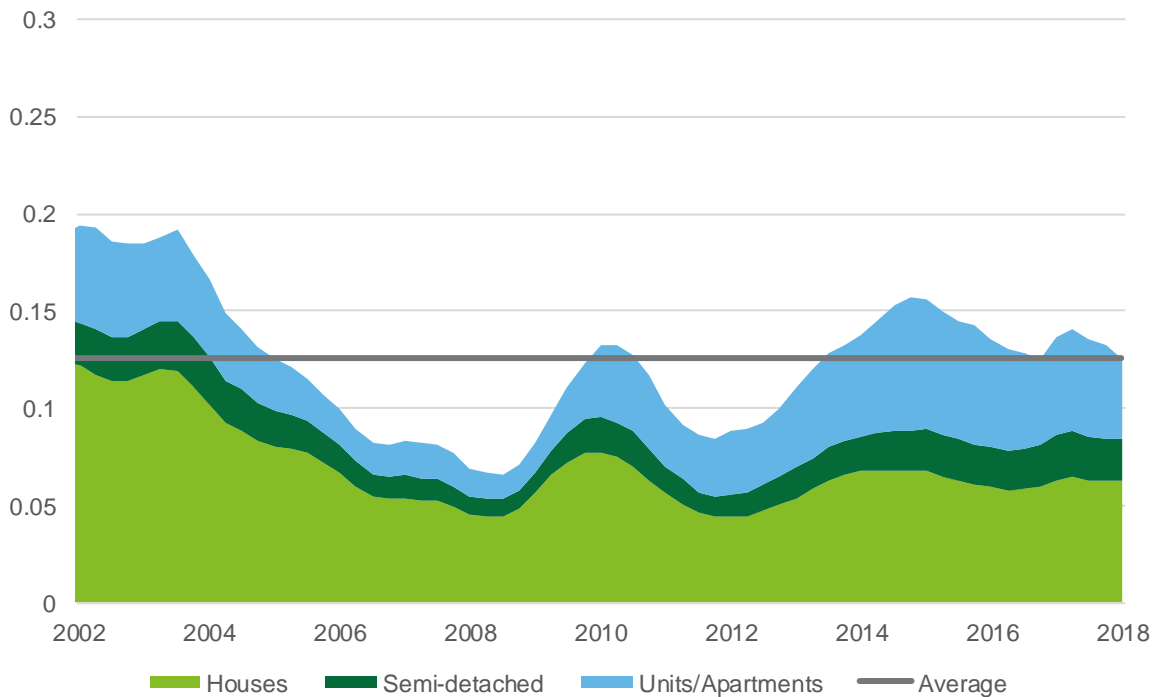
Source: ABS Cat No. 3218.0, 8731.0; Deloitte Access Economics estimates

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That said, more recent falls in dwelling prices are expected to reduce the incentive to add to the current construction pipeline, with the amount of dwelling activity expected to fall over 2019 and 2020 (Deloitte Access Economics 2019). This is already reflected in the sharp reduction in the dwelling approvals pipeline, as shown in Chart 2.3 below.

Chart 2.3 Housing construction activity in Australia, rolling annual totals, March quarter 1999 to March quarter 2019
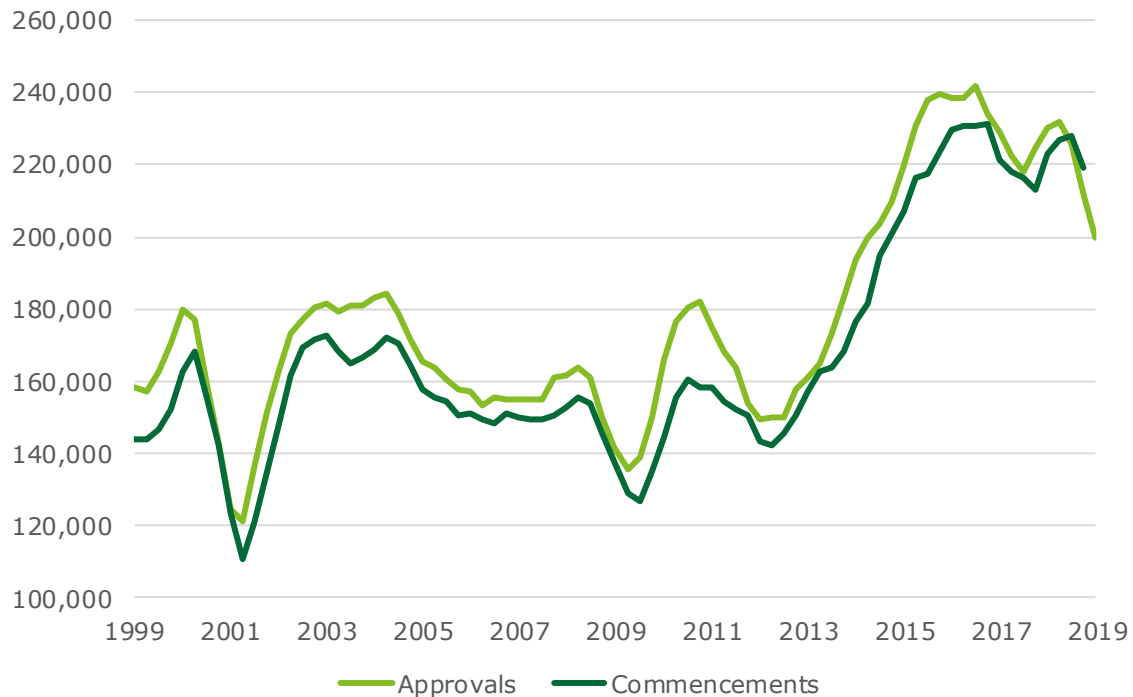
Source: ABS Cat No. 8731.0, 8752.0. Note: Dwelling commencement data is only available through to the December quarter of 2018.

The large increase in new supply has placed downward pressure on **rental growth** over the last two years. Rental growth has slowed, even as strong population growth has buoyed demand. The expected slowdown in new dwelling supply will start to put pressure on rents slowly, however population growth is expected to further moderate over this period, which will lessen the impact on rents somewhat.

Slow growth in rents and fast rising prices also saw a sustained fall in **gross rental yields** (Chart 2.4). Falling prices have started to reverse these, but capital city yields still remain below their previous historic lows. Rising rental yields will slowly make housing a more attractive investment relative to other investment options, but the relatively low level of rents suggests this may still be some time away.

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Chart 2.4 Gross rental yields
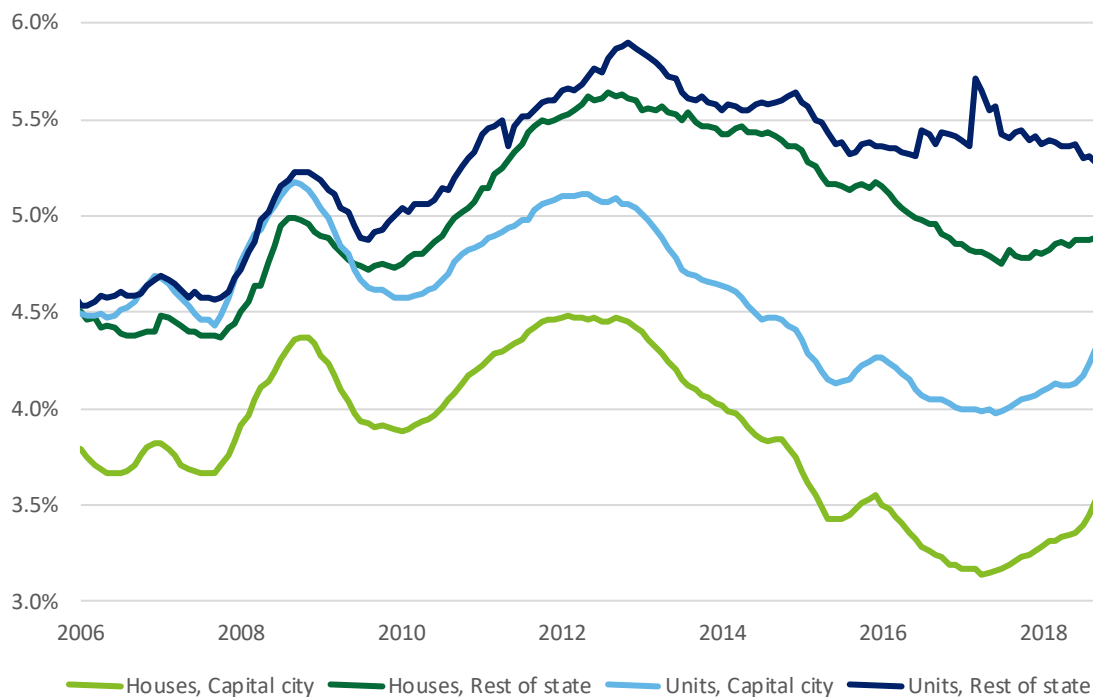
Source: Data provided by CoreLogic

Overall, Australia's housing markets are undergoing a period of softening market and construction activity after an extended period of elevated activity. In particular, housing construction activity is expected to contract over the remainder of 2019 and into 2020 as the large increase in the approvals pipeline is worked through (Deloitte Access Economics 2019). Prolonged cycles in Australia's housing markets are not unusual in Australia, which often goes through periods of sustained price growth followed by higher dwelling construction and then lower price growth or price falls as the supply and demand fundamentals rebalance.

Unusually, the current fall in prices on the east coast is not due to rising interest rates and/or higher unemployment but, rather, both borrowers and sellers revaluating their willingness to borrow/lend given current conditions. The relative uniqueness of this situation makes the outlook for the market more uncertain, with expected movements in the usual macroeconomic indicators that normally dictate the housing market cycle less predictive than they have been in the past.

2.2   Profile of a typical renter

Renting in Australia has become more common as rates of home ownership – particularly for younger and middle aged cohorts – have declined over the last decade (see Chart 2.5).

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Chart 2.5 Share of Australian households who are owner occupiers by age, 1961 to 2016
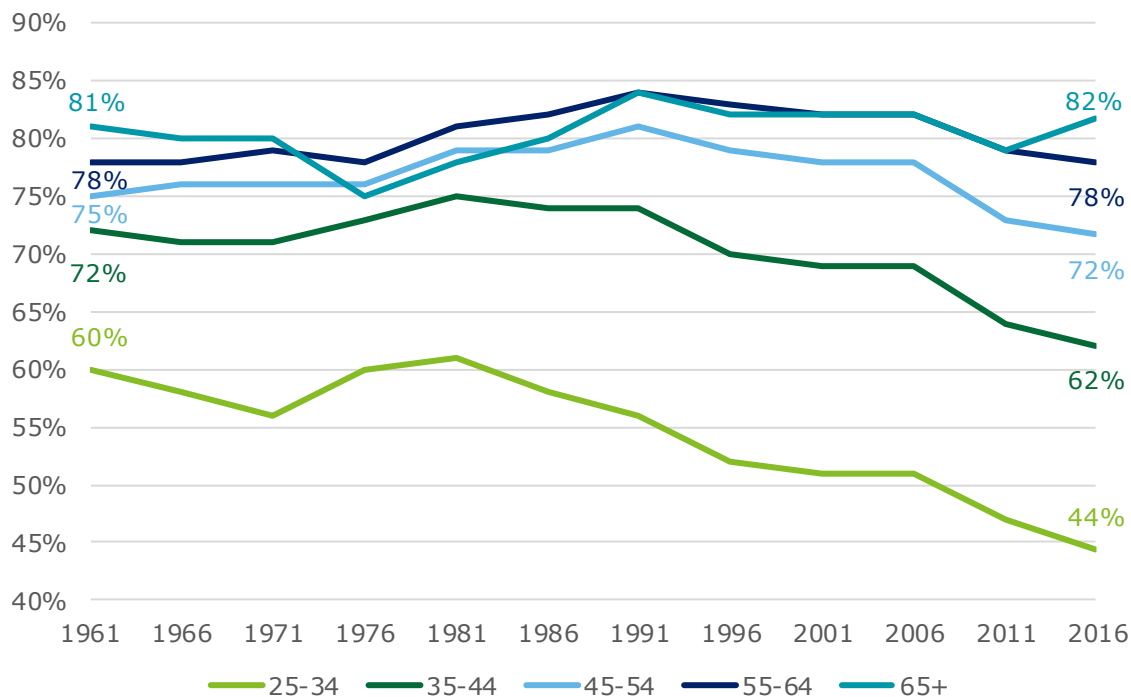
The increasing number of renters in Australia are more likely to live in apartments and townhouses than free-standing houses (Chart 2.6). This finding is consistent for both capital cities and Australia's regions. That said, there is a larger share of renters living in townhouses and apartments in capital cities, reflecting the larger share of capital city dwelling stocks that is made up by apartments and townhouses. Apartments and townhouses in capital cities are also often more likely to be in locations that offer greater access to employment, infrastructure and amenities.

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Chart 2.6 Comparison of renter and owner occupier housing type, capital city and rest of state, 2016
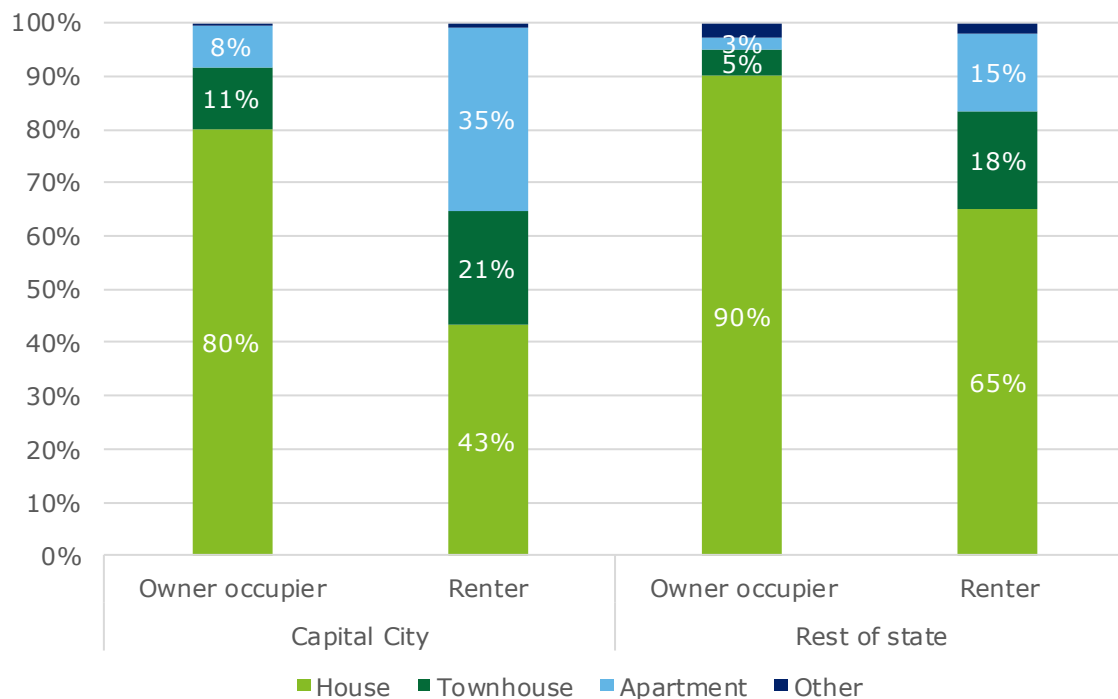
Source: 2016 Census. Note: 'Other' dwellings includes portable dwellings such as caravans, tents and other improvised shelters.

As Chart 2.7 and Chart 2.8 below show, renters in Australia are more likely to be younger and on a lower income than owner occupiers. This result is consistent with the significant amount of time needed to save sufficient income for a deposit to purchase a dwelling. Renting is also likely to provide greater flexibility for young people as they transition between education and work (which may necessitate a geographical move), as well as their ability to find a dwelling which suits their family situation (share houses, single bedroom apartments, family homes). That said, renting is still common place across the income and age distributions.

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Chart 2.7 Cumulative distribution of age of household head, split by owner occupiers and renters, 2016
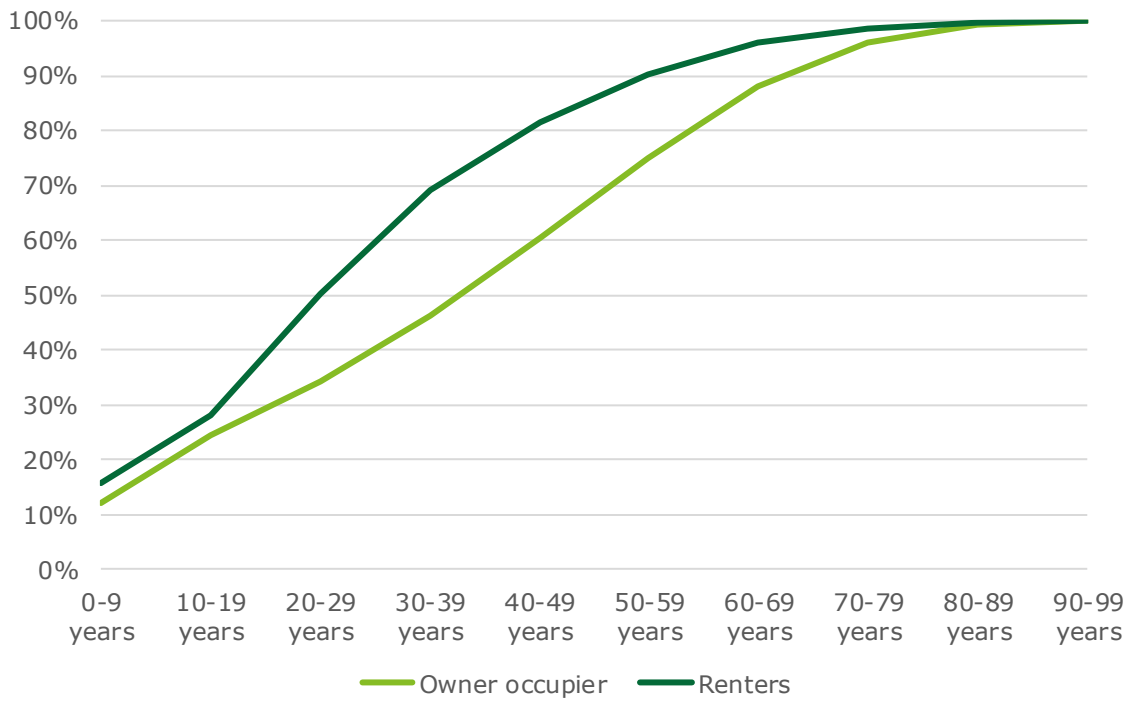
Source: 2016 Census.

Chart 2.8 Cumulative distribution of weekly income, split by owner occupiers and renters, 2016
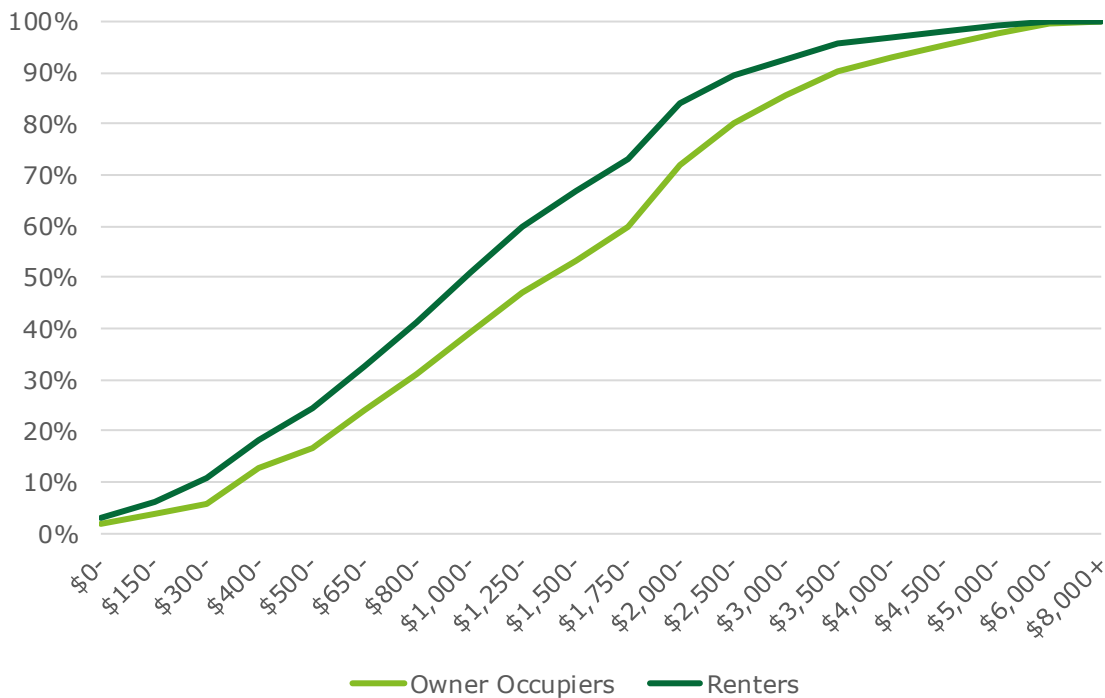
Source: 2016 Census.

Households who rent in the private market in Australia tend to be in lower net wealth quintiles. At the point of the last Census, 56.2% of private renters were in the lowest household net wealth quintile, while 32.0% were in the second lowest (Chart 2.9). This is substantially more than the

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24.5% of owners with a mortgage who are in either of the bottom two net worth quintiles, or the 7.9% of owners without a mortgage households in those two quintiles. This result is consistent with patterns of lifetime income and wealth accumulation and the large share of household wealth in Australia that is in the form of owner occupied housing (42% for the average Australian household (ABS 2018)).

Chart 2.9 Housing tenure type by household net wealth quintile, 2015-16
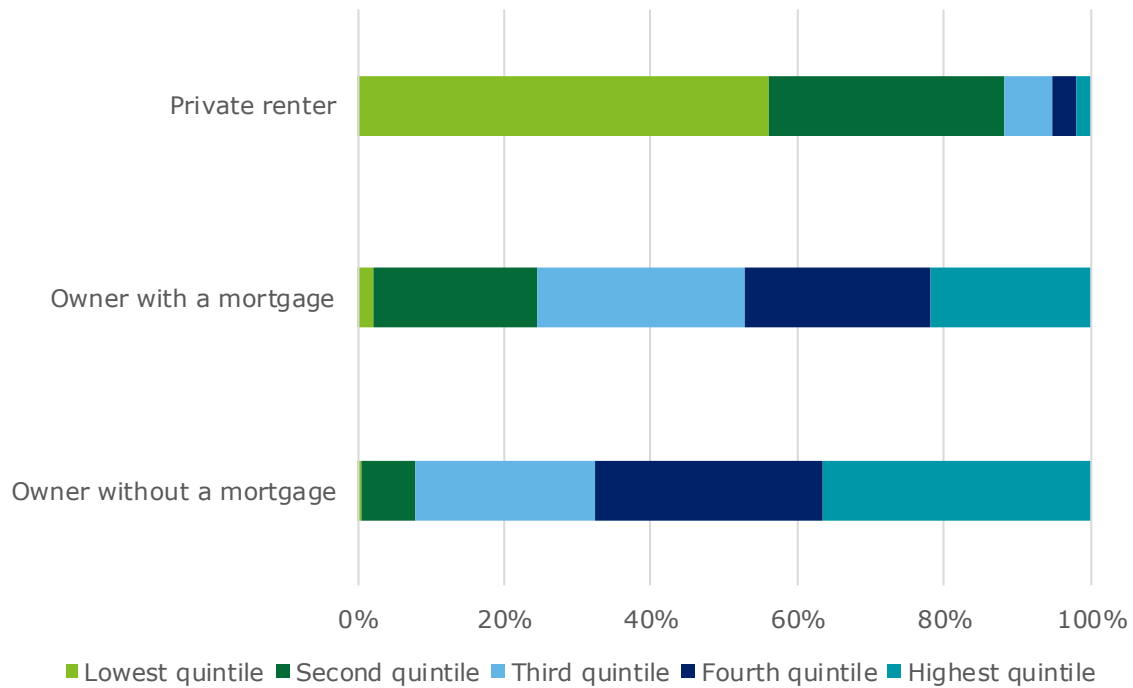
Source: ABS Cat No. 4130.0.

Housing costs are higher on average for owner occupiers with a mortgage than those for renters in the private rental market (Chart 2.10). Housing costs for both types of households have increased on average since 1994-95, however, that increase has been relatively larger for households who rent. After accounting for inflation, average housing costs for households who rent increased $142 (59%) from 1994-95 to 2015-16, while those same figures for owner occupiers with a mortgage are $142 (38%).

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Chart 2.10 Housing costs for renters and owner occupiers, 2015-16 $ per week
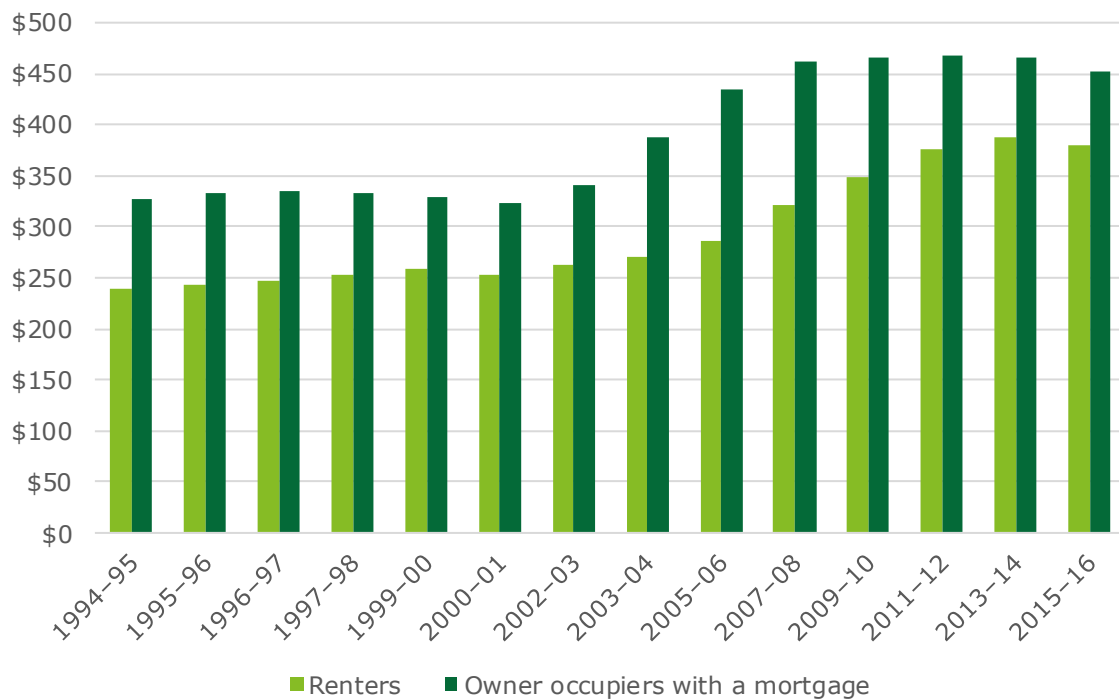
Source: ABS Cat No. 4130.0. Note: 'Renters' refers to those in the private rental market.

An alternate way of looking at housing costs is presented in Chart 2.11 below. This considers the capacity of a household to pay for housing, by expressing housing costs as a share of gross household income. On this measure, renters tend to spend a higher share of their income on housing, making them more exposed to changes in housing costs than owner-occupiers. This difference is particularly true for those renters in lower income quintiles, but does hold across the household income distribution.

This implies that any changes to rents that result from changes to the taxation of housing are likely to have important equity implications for renters. While this effect is only one aspect of the potential equity implications (which may also be affected by increased home ownership, or higher direct or indirect transfers from government to lower income households), it is an important consideration in evaluating the proposed policy changes.

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Chart 2.11 Housing costs as a proportion of gross household income by equivalised disposable household income quintile, 2015-16

■ Renters   ■ Owners with a mortgage   ■ Owners without a mortgage
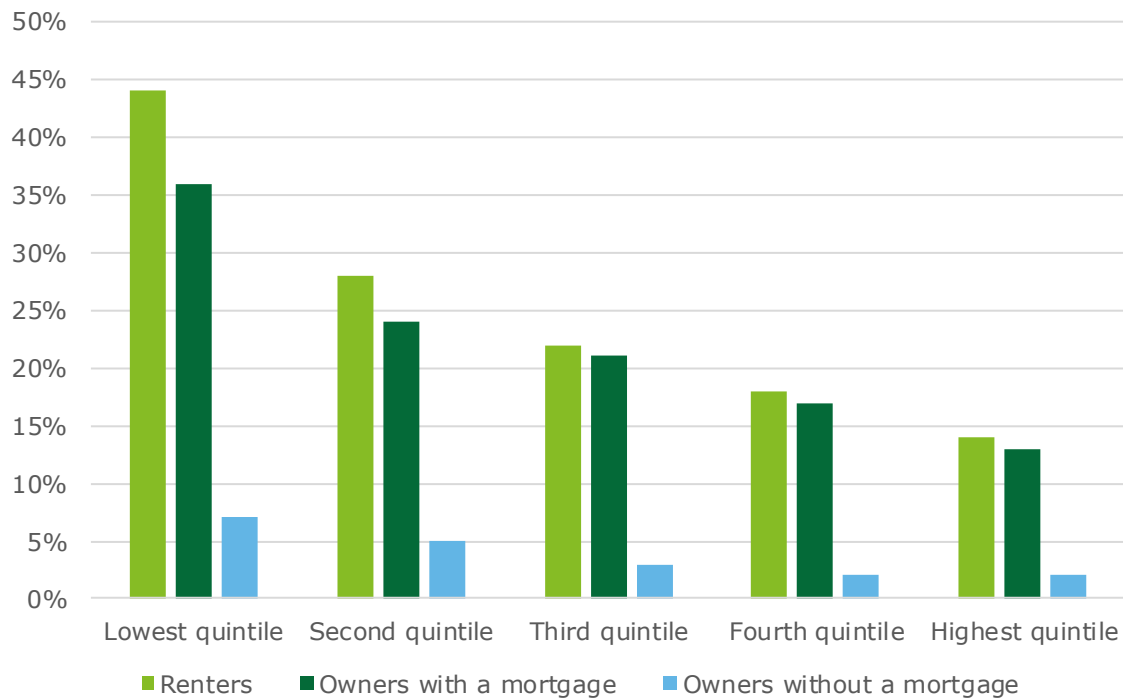
Source: ABS Cat No. 4130.0. Note: 'Renters' refers to those in the private rental market.

2.3   Profile of investors

Property investors are found across the income distribution and in a range of different occupations, although higher income earners are more likely on average to own investment properties. Data from the Australian Taxation Office (ATO 2019) shows that the most common occupations of those who own property investments include general managers (62,560), primary or secondary school teachers (51,757) and registered nurses (51,489). The large numbers of teachers and nurses who are property investors partly reflects the larger share of the workforce employed in these occupations, with individuals in some higher income earning occupations being more likely on average to hold an investment property.

In terms of where property investors sit on the income distribution, after excluding the impact of net rental losses or gains around 1.5 million or 70% of Australian property investors had a taxable income of less than $87,000. Across the general population, 82% of taxpayers had an income below $87,000. Similarly, 5.8% of negatively geared investors earned more than $200,000 compared to 2.5% of the broader population. This suggests that while property investors are slightly more likely to be higher income earners than the general population, a significant share of investment properties are owned by those on low or middle incomes.

Most investors hold relatively few rental properties with 71% of property investors holding just one rental property and 90% holding no more than two rental properties in 2016-17 (ATO 2019). Similarly, those holding no more than two properties make up 90.5% of those who negatively geared in 2016-17.

Chart 2.12 below shows that investors who negatively gear are spread relatively evenly across the income distribution, although the likelihood of holding a negatively geared property rises for earners in the top three income deciles. Around 11% of those in the top 30% of the income distribution currently use negative gearing to offset their rental loss against non-investment income. This same proportion is around 6% for the bottom 30% of tax filers, although 10% of those in the bottom decile use negative gearing. Importantly, a greater share of high income

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investors will also be able to continue to use negative gearing as an investment strategy under the ALP policy scenario, by using their rental loss to offset other investment income.

Chart 2.12 Proportion of individuals who are investors by income decile, 2016-17
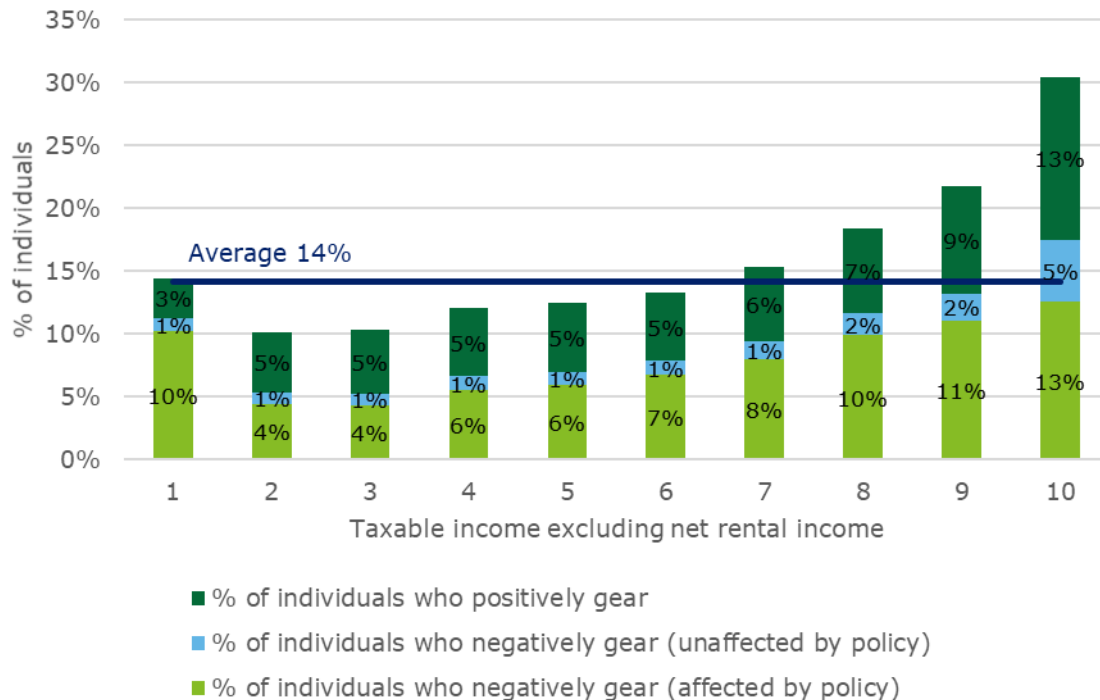
Source: ATO Taxation statistics – Individual sample files (2019).

Perhaps unsurprisingly given the share of property assets in national wealth, property investors are also more likely to be in higher wealth quintiles than the broader population. Analysis of the Survey of Income and Housing suggests that 70% of property investors are in the top 40% of the wealth distribution and 47% are in the top 20% of the wealth distribution.

Overall, this data suggests that the proposed additional restrictions on the use of negative gearing will impact higher income earners to a greater extent than lower income earners.

The distribution of capital gains across taxable income deciles (excluding capital gains) is less skewed towards high income earners than rental income is (Chart 2.13). Capital gains are most prominent for the top (31.2%) and bottom (25.9%) income deciles, which together accounted for more than half of total capital gains in 2016-17.

This suggests that there are groups of individuals who may wait until their taxable incomes are low (i.e. in retirement) to realise their gains, or share capital gains with family members on lower incomes. However, since the data on capital gains includes a range of assets other than real estate the differences in distribution could be driven by differences in the income distribution of other assets. Chart 2.14 shows that Australian real estate was the largest source of realised capital gains in 2016-17, accounting for around 40.3% of net gains. Capital gains from trusts accounted for 34.2% of realised gains, some of which will include gains from Australian real estate held in trust, along with shares and other assets.

Overall, Australian property accounts for a significant share of total realised gains. However, it should be noted that this data is presented in aggregate as data on capital gains by asset type and income quintile is not available and thus it is possible that the asset profile of those in higher income deciles may differ from that of those in lower income deciles. Thus, it is not possible to conclude that 31.2% of the capital gains from property assets went to those in the highest income decile.

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Chart 2.13 Proportion of realised capital gains by taxable income (excluding capital gains), all asset types, 2016-17
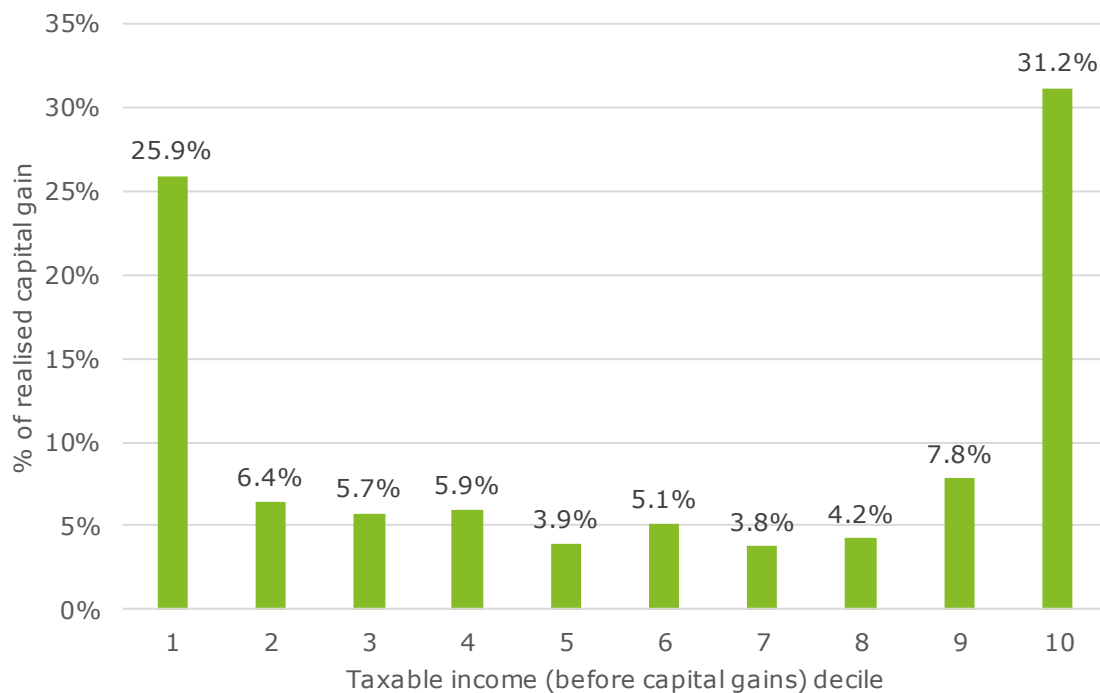
Source: ATO Taxation statistics – Individual sample files (2019).

Chart 2.14 Realised net capital gains by asset type, share of total, 2016-17
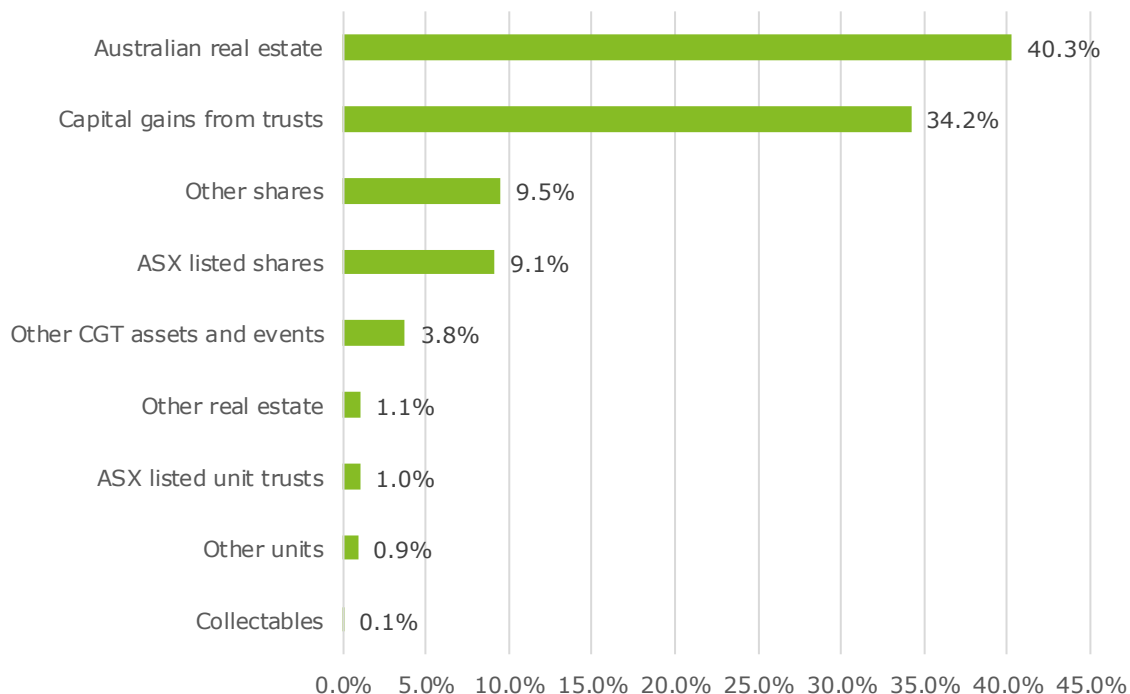
Source: ATO Taxation statistics –Capital Gains Tax (2019).

2.4 Investor activity in the market

Since July 1991, investors have accounted for around 32% of overall housing finance (including refinancing). This figure has varied over time, reaching 45% in December 2014 at the height of the housing boom in Sydney and Melbourne. The imposition of regulatory constraints on investor

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lending saw the share of investor financing fall progressively to 32% in November 2018 (see Chart 2.15). Interestingly, the share of investor loans since September 1999 (when the CGT discount was increased) has averaged 35%, suggesting that investors have been more prominent in the market over this time, although this time period has also coincided with declining real interest rates and strong growth in house prices which may have also prompted investor activity.

The share of construction finance attributable to investors has broadly followed the overall share of investor loans, although there was some divergence in the series between 2007 and 2015. Currently, investor finance accounts for 29% of all construction finance which is similar to the long term average of 30%.

Chart 2.15 Investor share of total housing and constructions loans
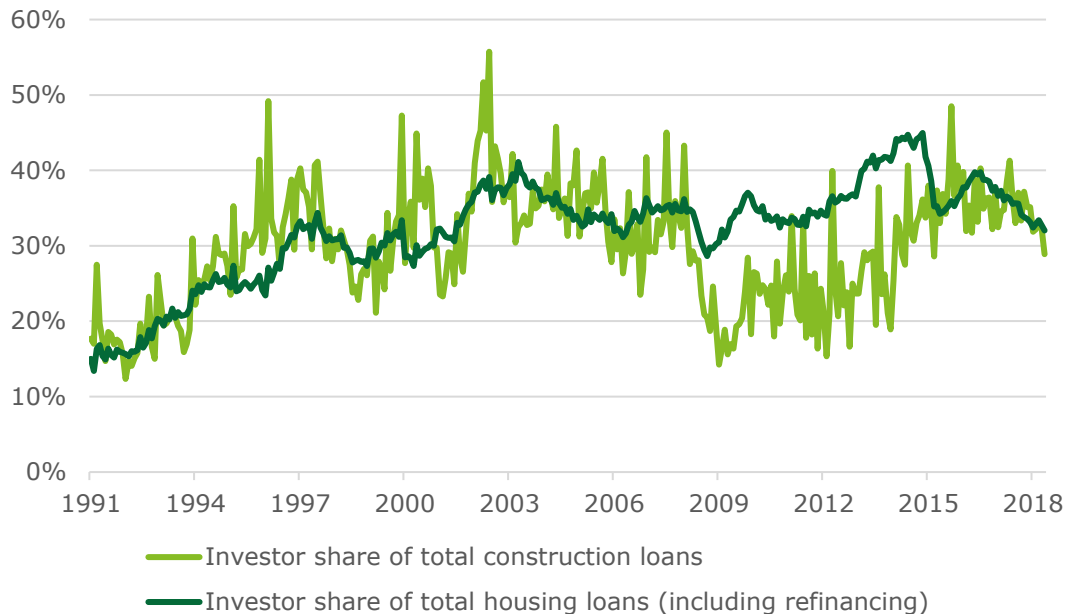
Source: ABS (2019), Housing Finance, Cat. No. 5609.0.

Overall, these figures suggest that investors have a similar propensity to invest in construction to owner-occupiers. The share of both investment and owner-occupied loans which were used for construction have been broadly similar over time. Currently, 8.1% of investor loans (including refinancing) are for construction finance, compared to 9.4% of owner-occupied loans (including refinancing).

No definitive data is available on how much investor finance goes into the purchase of new dwellings. However, given the patterns for construction it may be reasonable to assume that it may be similar to the share for owner occupiers. In the case of owner-occupiers, 21.5% of housing finance excluding refinance is currently directed to construction loans or the purchase of new dwellings. Data from one mortgage broker, Australian Financial Group suggests that 36% of investor lending over the twelve months to April 2019 went to new properties, construction or off the plan purchases.[19]

The NAB Residential Property Survey (Q4 2018) shows that domestic investors (either first home buyer investors or other investors) account for 30.7% of buyers of new developments and 27.1% of buyers of existing property. While this does not provide a precise share of investor finance that goes towards new dwellings, it suggests that investors have at least a similar likelihood (if not a greater likelihood) to invest in new dwellings than owner-occupiers.

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[19] Cranston, M. (2019), 'Bowen revises negative gearing numbers', *Australian Financial Review,* 10 April 2019.

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When it comes to housing type, investors are more likely to invest in apartments or townhouses, although there is a degree of regional variation in the share of these dwellings owned by investors (Chart 2.16). This contributes to the variation in the total share of dwellings held by investors by region.

For example, the largest proportion of investor owned dwellings is in the Greater Darwin region, at 52.7%, with 81.9% of strata titles held by investors. Greater Melbourne contains the next largest proportion of investor dwellings at 39.0%. Greater Hobart has the lowest proportion of investor owned dwellings of any metropolitan region in Australia, at 22.5%.

Chart 2.16 Number of investment units and houses owned by investors, 1 March 2019
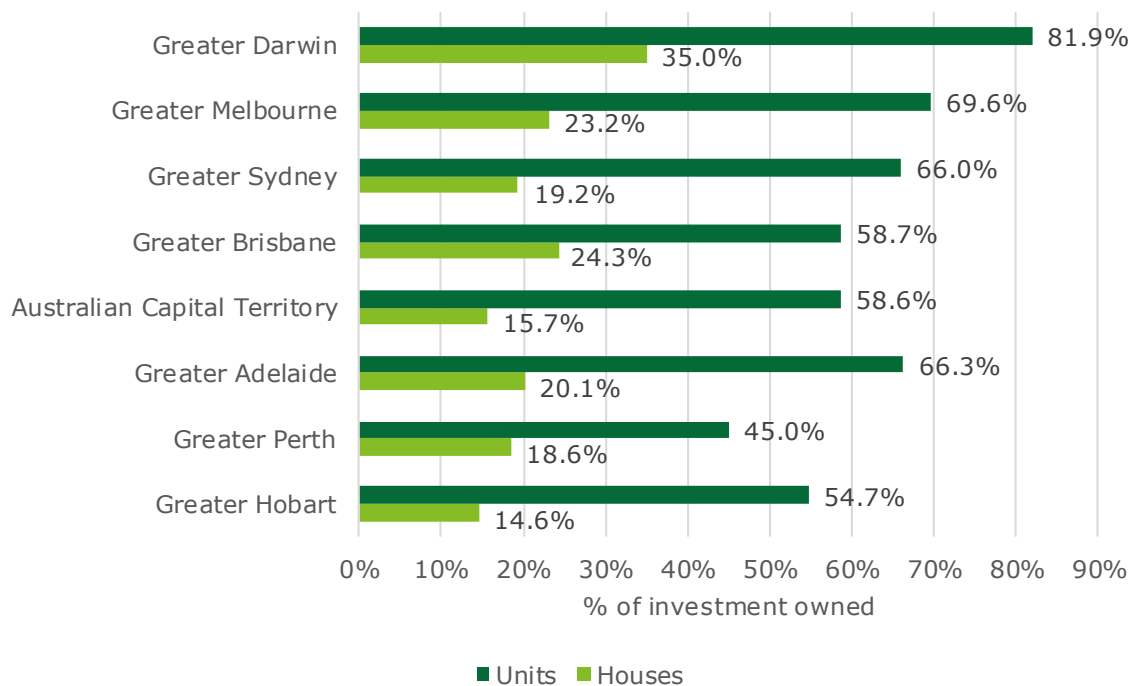
Source: Data provided by CoreLogic.

The higher share of investor housing in particular regions and product types has implications for the effect of the changes to property taxation examined in this report. Specifically, markets with a higher share of investor housing will likely be more impacted by these changes.

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3 Economic theory and empirical literature

This section summarises the insight that economic theory provides on the likely impact of the proposed changes to negative gearing and CGT and summarises the findings of previous studies in Australia and overseas.

> **Key Findings**
>
> - Economic theory implies that an increase in taxation of investor housing is likely to lead to downward pressure on prices, upward pressure on rents and lead to an increase in the share of owner-occupiers relative to investors.
> - Empirical evidence following significant tax reforms in the US in the 1980s, finds that increases in the user cost of housing is likely to impact rents only gradually and not by the full extent of the increase in user cost. This evidence suggests much of the short term adjustment is likely to occur through changes in dwelling prices.
> - Evidence from existing Australian studies that draw on a relatively detailed model of the property market suggest that the overall impact on prices and rents from reforms to negative gearing and CGT is likely to be relatively moderate.
> - There are a range of existing studies which develop a property market model for Australia which can help inform the development of a model to estimate the impact of changes to CGT and negative gearing. These studies find that housing supply in Australia is relatively inelastic.

3.1 What can economic theory tell us about the likely impact of changes to negative gearing and CGT?

There are a range of theoretical economic models which can be used to examine how changes in taxation arrangements (for either investors or owner-occupiers) are likely to affect the property market.

One of the seminal models of the housing market is set out in an article by Poterba (1984).[20] Poterba defines the concept of user cost for each unit of housing services which captures:

- Mortgage interest payments
- The opportunity cost of holding equity in housing
- Depreciation, maintenance and transaction costs
- Property specific taxes e.g. land tax and stamp duties
- Expected annual capital gains (which reduce the user cost)
- Taxation arrangements for capital gains and negative gearing which apply to investors in Australia.

User cost is typically expressed as a % of the price of a housing asset. Homeowners equalise the marginal cost and benefit of housing services such that:

$$Price * User\ cost = Rent \quad (1)$$

If the left hand side of equation (1) is smaller than the right hand side, then homeowners are better off owning than renting and there will be an incentive for households to purchase given current prices and user costs. If the right hand side of equation (1) is smaller than the left hand side, then households will have an incentive to rent rather than own a property.

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[20] Poterba, J. (1984), "Tax subsidies to Owner-Occupied Housing: An Asset Market Approach", *The Quarterly Journal of Economics,* 99(4), pp. 729-52.

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This same equation will also hold for property investors, although user costs will differ between owner-occupiers and investors where there are differences in tax arrangements between owner-occupiers and investors (e.g. the level of capital gains discounts and availability of negative gearing, incidence of land tax and other differences in taxation arrangements between the two groups).

Stapledon (2016) builds on the Poterba model to examine the implications of the ALP policy scenario.[21] A variation of the Stapledon (2016) model is set out in section 4.3 below and this forms the basis of the estimates of user cost that inform the empirical analysis in this report.

Stapledon (2016) shows that the policy changes increase the user cost to investors by removing access to negative gearing and increasing the taxation of capital gains. Since these changes do not affect owner-occupiers, the net advantage to owner-occupiers increases. In addition the overall user cost of housing has risen. This implies both a reduction in demand for housing which will cause prices to fall but will also lead to a decline in the supply of housing which will put upward pressure on rents.

Stapledon (2016) notes that since user costs for owner-occupiers are unaffected as prices fall and rents rise, there will be an incentive for renters to shift to becoming owner-occupiers. In many cases this may take the form of renters becoming owner-occupiers sooner than they otherwise would have.

Thus the key implications of the Stapledon (2016) model are that the policy changes will (relative to the baseline) lead to:

- Downward pressure on prices
- Upward pressure on rents
- An increase in the proportion of owner-occupiers relative to investors.

The changes can also be explained using standard supply and demand diagrams as illustrated by Figure 3.1. The first supply and demand diagram captures the impact of a reduction in after-tax returns (or equivalently an increase in user costs) on investor demand. This reduces the price investors are willing to pay and shifts investor demand inward.

The second diagram shows owner-occupier demand for housing which is unchanged as a result of the policy change.

The third diagram shows the impact on the market with total demand represented by the grey demand curve equal to the sum of investor demand (green line) and owner-occupier demand (the blue line). Total demand shifts in due to decline in investor demand and total demand and supply meet at P_2 which is lower than P_1. At this new lower price, the quantity of dwellings supplied is lower (Q_{T2} rather than Q_{T1}). The quantity of housing consumed by owner-occupiers rises and the quantity consumed by investors falls. Since the total quantity has fallen, the reduction in housing purchased by investors is greater than the increase in housing purchased by owner-occupiers.

The final diagram illustrates the impact on the rental market. The reduction in demand by investors leads to an equivalent reduction in supply of rental housing. At the same time demand for rental housing falls as renters move to become owner-occupiers in response to lower house prices although the size of the fall in demand is smaller than the reduction in supply in this case, leading to an increase in rents.

It is important to note that the implications for prices and rents in this supply and demand model will depend on the elasticity of demand and supply. For example if supply is perfectly inelastic i.e. vertical then all of the impact will occur through lower prices, and there will be no effect on rents as both demand and supply in the rental market will fall by the same amount. On the other hand, if supply is perfectly elastic i.e. horizontal then there will be no change in prices and all of the

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[21] Stapledon, N. (2016), 'Notes on Housing – No. 1 March 2016', UNSW Business School Centre for Applied Economic Research, Issue 10 March 2016.

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adjustment will occur through higher rents. Thus understanding the elasticity of supply is important to determining the likely effect of the policy changes on prices and rents.

Figure 3.1 Illustrating changes to after-tax rates of return for investors using demand and supply diagrams
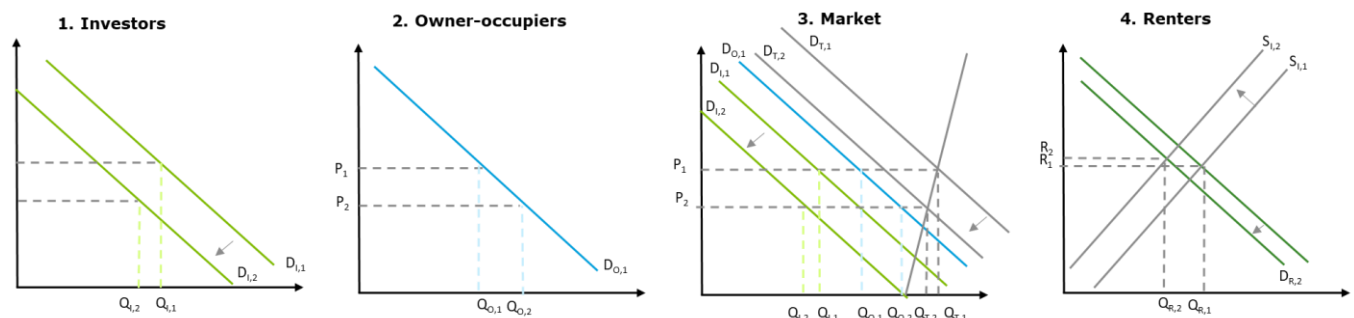
Source: Deloitte Access Economics

3.2   Empirical evidence from the US

The US introduced the Tax Reform Act in the mid-1980s, which increased the effective rate of tax for owner-occupiers and, to a greater degree, investors. A series of empirical studies sought to examine the degree to which these changes in tax which increased the user cost of owning housing flowed through to rents, prices and housing supply.

Follain, Hendershott and Ling (1987)[22] estimate that the Tax Reform Act would require a 13-22% increase in rents to maintain the user cost of capital for investors at pre-reform levels. Two empirical studies subsequently sought to test the relationship between user costs and rents in the US:

- Di Pasquale and Wheaton (1992) estimate the impact of the Tax Reform Act of 1986 using an econometric model of rents and the supply of rental housing. They find that demand for rental housing rises with the user cost of capital and supply of rental housing falls. However, the elasticity of rental housing is quite high while the demand is relatively inelastic. As a consequence the impact on rents from an increase in the after-tax cost of capital is somewhat muted. They estimate that the tax reform act will increase rents by 8% over the next 10 years.[23]
- Blackley and Follain (1995) also estimated a structural econometric model to examine the speed with which rents adjust to changes in user cost or tax policy. They estimate that ultimately about 60% of the increase in user cost is reflected in net rent, but the adjustment of net rents is very slow, with only about 30% of the increase occurring in the first 10 years.[24]

The evidence from these studies suggests that rents are likely to adjust slowly to changes in user costs and not to increase by the full extent of the change in user costs.

This is consistent with the theoretical model in Carpozza et al (1998) which argues that in urban areas, changes in user costs due to tax changes are likely to be reflected in prices rather than rents as rents are largely driven by accessibility value i.e. transportation costs of the opportunity cost of travel time which is unchanged as a result of changes in user cost. Any changes in supply in urban areas will only occur progressively over time. On the other hand, they note that in rural areas where the supply of land is more elastic, the impact on rents may be more pronounced.

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[22] Follain, J., Hendershott, P and Ling, D. (1987), 'Understanding the Real Estate Provisions of Tax Reform: Motivation and Impact', *National Tax Journal,* 3: 363-372.
[23] DiPasquale, D. and Wheaton, W. (1992), 'The Cost of Capital, Tax Reform and the Future of the Rental Housing Market', *Journal of Urban Economics,* 31: 337-359.
[24] Blackley, D. and Follain, J. (1995), 'In search of empirical evidence that links rent and user costs', NBER Working Paper No. 5177.

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Carpozza et al (1998) also note that changes in interest rates (which affect user costs) has a limited effect on rents, with most of the adjustment happening through house prices.[25]

Overall, the empirical evidence from the US suggests that any impact of increases to the user cost of housing is likely to impact rents only gradually and not by the full extent of the increase in user cost. Much of the short term adjustment is likely to occur through changes in dwelling prices.

3.3 Empirical evidence from Australia

Given there have been limited historical taxation policy changes in Australia, there have been few Australian empirical studies of how changes to negative gearing and CGT are likely to impact the property market. The most robust Australian studies to date have drawn on simulation models to simulate the impact of tax changes on the property market.

One notable contribution to the literature is Cho, Li and Uren (2017) who use a macroeconomic overlapping generations model to simulate the impact of removing negative gearing without grandfathering. They find that steady state (long term) house prices decrease by 1.7%, while rents increase by 2.2%, and housing supply decreases by 1.3% when negative gearing on investment properties is removed. Removing negative gearing increases the average homeownership rate of the economy from 66.7% to 72.2%. They find that the removal of negative gearing is welfare improving but the distributional impacts are complex. While they find home ownership rates rise for young and relatively poor households, the reform hurts younger higher income households who invest in property. While they find that the removal of negative gearing is welfare improving, this conclusion is sensitive to the assumption that the government returns the revenue to households. If the government uses the additional revenue for government consumption (i.e. to provide government services) household welfare declines although these calculations do not capture any benefit to households from additional government services.[26]

A study by Duncan et al (2018) uses a micro-simulation model to represent the supply and demand decisions made by Australian households when it comes to housing tenure choice. It is benchmarked on the 2001–11 HILDA Survey. It contains detailed tax, benefit and housing assistance parameters for every year over the period 2001–11. They model a reform to CGT which reduces the tax rate from 50% to 0% while holding capital gains constant. Based on data from 2010, a complete abolition in CGT discount was estimated to increase rental investors' after-tax economic costs (i.e. user costs) from 7.4% to 8%.[27] They do not estimate the impact of the policy change on property prices in their model.

The Grattan Institute (2016) also estimates the impact of their proposed policy changes, which would reduce the CGT discount to 25%, and restricting negative gearing (on all investment properties) such that losses from investments, cannot be deducted against wage and salary income.[28] These changes are broadly similar to the ALP policy scenario but do not assume grandfathering of existing property and assume that negative gearing is also applied to new property.

While they do not use a formal model, they use two approaches that simulate an increase in user costs or a decrease in rate of return for investors. In the first approach, they estimate the foregone tax benefits from the policy changes as a share of the property values. This would lead to a 1% increase in property prices. In the second approach, they calculate change in return as a proportion of property value, for different types of property owners (negatively geared investors, positively geared investors, ungeared investors, and owner-occupiers). Based on the assumption

[25] Capozza, D., Green, R., & Hendershott, P. (1998). Tax Reform and House Prices: Large or Small Effect? *Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association*, 91, 19-24.
[26] Cho, Y., Li, S. and Uren, L. (2017), 'Negative Gearing Tax and Welfare: A Quantitative Study for the Australian Housing Market', University of Melbourne Working Paper.
[27] Duncan, A.S., Hodgson, H., Minas, J., Ong-Viforj, R. and Seymour, R. (2018), 'The income tax treatment of housing assets: an assessment of proposed reform arrangements', AHURI Final Report No. 295, Australian Housing and Urban Research Institute, Melbourne, http://www.ahuri.edu.au/research/final-reports/295.
[28] Daley, J., Wood, D., and Parsonage, H. (2016), 'Hot property: negative gearing and capital gains tax reform', Grattan Institute.

that the lost benefits were to be fully capitalised into the value of residential property, prices would be lower by between 1% to 2.2%. They argue based on economic theory and empirical research from the US, that the impact on rents is likely to be limited as is the effect on supply which is constrained predominantly by land release and zoning restrictions rather than price.

There are a range of other Australian studies that have sought to examine the impact of changes to negative gearing or CGT on the Australian property market. Like the three studies mentioned above, they have typically modelled slightly different policy scenarios. Some of these studies have sought to model a change in CGT in economy-wide computable general equilibrium models, but have not necessarily sought to specifically model the impact of prices and rents in a bespoke property market model.

An example of such an approach is the study undertaken by the Centre for International Economics which models the impact of an increase in the CGT (reducing the discount rate from 50% to 25%) as an increase in the tax levied on returns to capital in the dwelling services industry (as well as other industries). The study finds that the cost to occupants of dwelling services is higher each year by 0.7% with supply of housing estimated to fall by 1.7% in the long run. This approach is similar to our approach to modelling the economy-wide impact of the policy changes.[29] Other studies have sought to forecast the impact of changes to capital gains tax on prices of rents but have provided limited detail on their modelling approach.[30]

While recognising that findings have differed considerably across a range of studies, evidence from Australian studies that draw on a relatively detailed model of the property market suggest that the overall impact on prices of rents from reforms to negative gearing and capital gains tax is likely to be relatively moderate. However, most existing modelling does not seek to model the exact policy scenario considered here.

3.4 Empirical models of the Australian property market
While not seeking to model changes to negative gearing and capital, a number of Australian studies have sought to model the property market including the determinants of housing prices and the elasticity of housing supply. The findings of these studies are instructive in seeking to build a model of the property market that captures the impact of changes to negative gearing and CGT.

3.4.1 Models of the determinants of house prices
The existing literature on determinants of house prices in Australia can be broadly split into two strands:

- models of the determinants of level of house prices in the long run
- models seeking to explain changes in house prices.

An example of the first approach is Abelson et al (2005).[31] They find that, in the long run, real house prices are determined significantly and positively by real disposable income and the consumer price index. They are also determined significantly and negatively by the unemployment rate, real mortgage rates, equity prices and the housing stock.

One challenge with long run models of the level of housing prices is modelling the endogeneity of housing supply and prices. Models which estimate short run changes in housing prices are able to assume that supply is relatively fixed in the short run. One example of this is Otto (2006) who estimate the change in house prices as a function of the components of user costs (including real interest rate, the price to rent ratio, expected capital gains) embedded in an autoregressive

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[29] Centre for International Economics 2017, 'Analysis of capital gains tax changes', prepared for Housing Industry Association Limited.
[30] McKell Institute 2017, 'Switching Gears: Addendum II: Why housing prices won't crash'.
[31] Abelson, P, Joyeaux, R., Milunovich, G and Chung D. (2005), 'Explaining House Prices in Australia: 1970-2003', *Economic Record,* 81(255): 96-103.

distributed lag model. They found mortgage rates to be the key driver of price increases across all eight capital cities.[32]

More recently, Saunders and Tulip (2019) have developed a comprehensive econometric model of the Australian housing market.[33] The model consists of 62 equations (noting that the majority are identities or autoregressions). There are a range of key relationships in the model:

- Building approvals (which then determines dwellings completions and the housing stock) are modelled as a function of interest rates, income and housing prices.
- Rental vacancies are modelled as a function of dwellings completions and changes in the population (and unemployment rate).
- Rent is modelled as a function of the vacancy rate (and income).
- Housing prices are modelled as a function of interest rates, rents, and momentum.

While the research does not examine taxation changes, it does include a measure of user cost. The model set out in Chapter 4 of this report draws heavily on the model and underlying relationships built by Saunders and Tulip (2019), but uses a measure of user cost that accounts for taxation changes over time.

3.4.2   Findings in relation to supply elasticity

A handful of studies have sought to examine the elasticity of housing supply with respect to prices in Australia. These studies find that housing supply is in most cases relatively inelastic (that is supply increases by less than 1% in response to a 1% increase in price). Some studies also find that the supply of apartments is more elastic than the supply of houses.

Saunders and Tulip (2019) estimate a long run supply elasticity of 0.07 although find that apartment commencements respond more to changes in price than detached housing. In another study, Ong et al (2017) estimate a long run elasticity of 0.05 to 0.09 using data on building approvals at the LGA level.[34] Both studies find a much larger response of approvals to changes in price but given that approvals only constitute a small proportion of existing swelling stock, the impact on total supply is relatively small.

A slightly earlier study of supply elasticity in Sydney by Otto and Gitelman (2002) estimate a supply elasticity of 0.4, although it is possible that this result may be driven by reallocation in building activity across Sydney in response to price differentials across regions.

Overall, the evidence of existing studies suggests that housing supply is relatively inelastic with some evidence that the supply of apartments is more elastic than detached houses.

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[32] Otto G. (2007), 'The Growth of House Prices in Australian Capital Cities: What Do Economic Fundamentals Explain?', *The Australian Economic Review,* 40(3): 225-238.

[33] Ong, R., Dalton, T., Gurran, N., Phelps, C., Rowley, S. and Wood, G. (2017), 'Housing supply responsiveness in Australia: distribution, drivers and institutional settings', AHURI Final Report No. 281, Australian Housing and Urban Research Institute Limited, Melbourne, http://www.ahuri.edu.au/research/final-reports/281,

[34] Gitelman, E. and Otto, G. 2012, 'Supply Elasticity Estimates for the Sydney Housing Market', *Australian Economic Review,* 45(2): 176-190.

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4 Approach to modelling the policy changes

This section provides an overview of the modelling undertaken to identify the potential impact of the proposed policy change. It introduces the three key stages of modelling: estimating model parameters, model calibration, and distributional analysis. The results of the first stage of modelling—estimating model parameters— are also presented and discussed.

Key Findings
- Modelling the potential impact of the proposed policy changes is conducted in three stages:

  1. **Estimating model parameters**— involves using econometric analysis to quantify the historic relationship between changes in user cost, prices, rents and housing supply.
  2. **Model calibration**—developing a model that projects baseline changes in the housing market, and deviations from this baseline due to the proposed policy changes, based on the relationships estimated in stage 1.
  3. **Economy wide and distributional analysis**—measuring distributional and economy wide impacts informs how changes to the housing market impacts other sectors in the economy, and how these combined changes effect household incomes, wealth and housing costs.
- To understand the direct effect of the proposed changes to negative gearing and the CGT discount on the housing market, a user cost approach is employed. This approach is based on the fact that the proposed policy increases the annual cost of home-ownership for investors, affecting their purchasing decisions and subsequent housing market dynamics.
- These changes in user cost, impacts the market clearing price of properties, which in turn impact the level of new supply and rental prices in the market. Econometric estimations are used to isolate this relationship between user costs and prices, then understand the subsequent flow on effects to supply and rents in each period. The primary purpose of this analysis is not to predict future house prices, but rather to determine what the net impact of the policy is on housing prices, commencements and rents.
- Results from the econometric modelling reflect theoretical responses to the proposed policy changes. Based on the model parameters and an expected increase in user costs, the dynamics of the changes are:

  o An increase in user cost, flows through to a decrease in prices.
  o This decrease then leads to a contraction in new housing supply — as investment is less attractive — reducing the availability of excess stock.
  o Lower levels of excess stock constrain the availability of rental properties, leading to an increase in rents.
  o Higher rents, combined with lower house prices increase rental return.

These relationships dynamically respond to each other over numerous periods, based on the persistence of prices, rents and supply in the market. The ultimate impact of these relationships over the medium term are estimated through the process of model calibration. These results are discussed in Chapter 5.

4.1 Overview of the modelling

The proposed changes to negative gearing and CGT will change the cost of home ownership for investors. The limiting of negative gearing increases the annual cost of home-ownership for investors who make a loss on their investment, while the reduction in the CGT discount reduces an investors' expected after tax capital gain upon selling a property.

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These relationships mean that the potential impact of the proposed policy changes can be captured by modelling a change in an investor's 'user cost' of home ownership. A user cost approach to modelling the housing market is consistent with recent research in Australia (Otto, 2007; Saunders and Tulip, 2019) and overseas (Duca, Muellbauer and Murphy 2011; Glaeser and Nathanson 2014; Oxford Economics 2016)[35, 36]. However, these papers have not applied a user cost approach to measuring the impact of changes to negative gearing and the CGT discount on the property market.

A change in the user cost of home ownership affects an investor's decision to purchase property in the housing market. This subsequently affects housing market dynamics – prices, rents and supply — which has flow on effects for other market participants — owner-occupiers, investors and renters. Additional stakeholders, such as residential property developers and construction workers, will also be impacted by the proposed policy change.

To capture these interrelated dynamics and their impact on the broader economy, modelling the proposed changes to negative gearing and the CGT discount is conducted in three stages:

1. Estimating model parameters— involves using econometrics to inform the historic relationship between changes in user cost, prices, rents and housing supply.
2. Model calibration—modelling that projects baseline changes in the housing market, and deviations from this baseline due to the proposed policy changes, based on the relationships estimated in the stage 1.
3. Economy wide and distributional analysis—measuring distributional and economy wide impacts informs how changes to the housing market impacts other sectors in the economy and how these combined changes effect household incomes, wealth and housing costs.

An overview of the modelling approach is provided in Figure 4.1.

Figure 4.1 Overview of approach to modelling
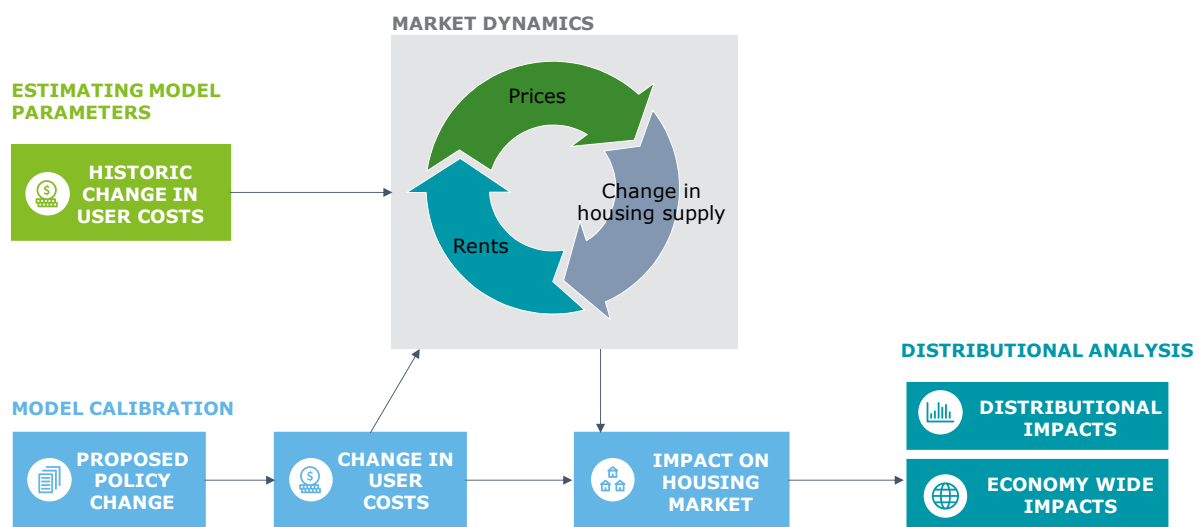
Source: Deloitte Access Economics

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[35] Otto, G. (2007), 'The growth of house prices in Australian capital cities: What do economic fundamentals explain?', Australian Economic Review, *40*(3), 225-238; Saunders, T., & Tulip, P. (2019), 'A Model of the Australian Housing Market', Reserve Bank of Australia Discussion Paper Series, 1.
[36] Duca, J. V., Muellbauer, J., & Murphy, A. (2011), 'House prices and credit constraints: Making sense of the US experience', The Economic Journal, *121*(552), 533-551; Glaeser, E. L., Gyourko, J., Morales, E., & Nathanson, C. G. (2014), 'Housing dynamics: An urban approach', Journal of Urban Economics, 81, 45-56; Oxford Economics (2016), 'Forecasting UK house prices and home ownership', November 2016.

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4.2   Market dynamics

To estimate how a change in user cost will impact the housing market it is important to develop a framework to understand the dynamics of the housing market. The dynamics of the housing market can be defined as a relationship between prices, rents and supply. These relationships can be defined through two separate markets: housing services, and housing investment.

Rental prices balance the supply and demand for housing services, while house prices balance the supply and demand for housing as an investment.[37] The relationship between market clearing rents and market clearing prices differs.

Rent directly impacts house prices. Rent is a benefit to the owner of a house as it is either an income, or an 'imputed' savings. Therefore, increases in the value of rents increase the value of owning a property compared to other investments for investors, or increases the value of not renting for owner-occupiers.

House prices do not directly impact rents. In a given period, fluctuations in house prices will not change rents as both those who require a house for living (renters and owner-occupiers), and those who require a house for investment drive prices. However, across time, prices impact rents to the extent that they impact the change in supply for housing. For example, if prices decrease, this can drive increased demand for housing, which will result in an increase in supply.[38] Increased supply of housing can put downward pressure on rents.

Ultimately, rents are impacted by the change in *total* housing supply. The change in total supply is calculated as the marginal change in *new* housing supply, minus depreciation of existing properties. The extent to which these changes in total supply then impact rent, can be considered through excess housing stock. In simple terms, excess housing stock is a measure of total housing supply per household in each period. If there is a decrease in new housing, this will reduce the level of excess stock available, putting inflationary pressure on rents.

These simple relationships between prices, rents and housing supply is shown visually in Figure 4.2. This figure also depicts the role of user cost. User cost directly impacts house prices, as it is a determining factor in the purchase of houses for:

- Owner-occupiers, who trade off the costs and benefits of renting as compared to home ownership.
- Investors, who purchase based on their rate of return from an investment property. This is a function of rental yield and user cost.

User cost only impacts rents and housing supply through its relationship with prices. The share of owner-occupiers in the market can then be estimated based on the aggregate changes occurring in the housing market each period.

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[37] Oxford Economics, 2016. *Forecasting UK house prices and home ownership.*
[38] The ultimate impact of price on supply depends on how quickly market supply responds to demand.

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Figure 4.2 Relationships that drive market dynamics
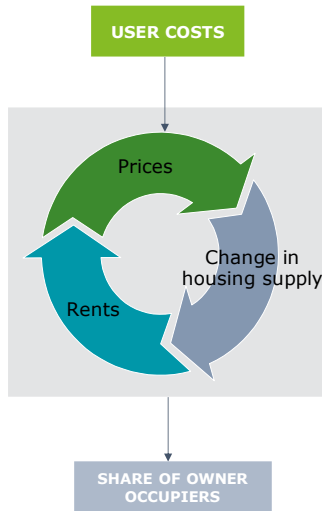
Source: Deloitte Access Economics

4.3   Calculating user cost

User cost captures the annual cost of owning a property. This cost includes mortgage interest repayments, expected return on equity, depreciation, maintenance and transaction tax, land taxes, expected capital gains and tax arrangements.

As noted in section 3.1, the key equilibrium relationship underlying most economic models of the property market is:

$$Price * User\ cost = Rent$$

This means, that in equilibrium the price of a property equals the rental yield, such that the cost of ownership is equal to the cost of renting. A comparison of historical user costs and rental yields in Chart 4.1 shows a close long term relationship between the two variables, indicating that it is reasonable to assume this equilibrium relationship between user cost and rental yield in the long run.

Chart 4.1 The long run relationship between user costs and rental yields
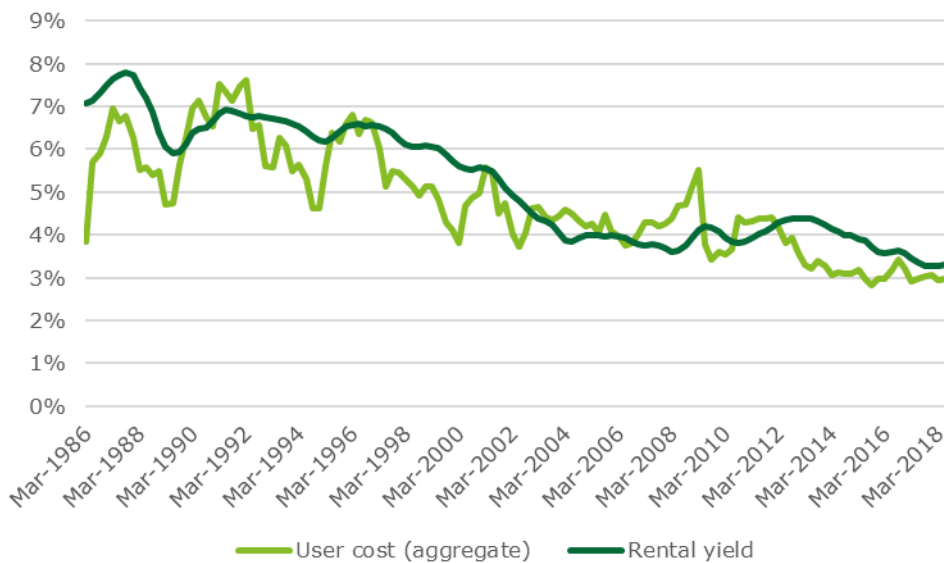
Source: Deloitte Access Economics

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User cost will differ for owner-occupiers and investors due to differing tax arrangements, including the CGT discount and the availability of negative gearing. The current user cost of owner-occupiers and investors can be defined as:

$$UC^{OO} = P\left[\overline{\phi_a}i(1 - t_{oo}) + (1 - \overline{\phi_a})M_{oo} + \bar{\delta} + \overline{exp} - \overline{\Delta P}\right]$$

$$UC^I = P\left[\overline{\phi_a}i(1 - t_i) + (1 - \phi_n)m_i + \bar{\delta} + \overline{exp} + \bar{lt} + (\phi_n - \overline{\phi_a})M_i.(1 - t_i) - \overline{\Delta P}(1 - 0.5t_i)\right]$$

Where:

- P is price
- $\overline{\phi_a}$ is the equity share in the property
- i is the interest rate on alternative investments
- M is the average mortgage rate
- $\bar{\delta}$ is the depreciation rate
- exp are other costs (including maintenance, stamp duties, and transaction costs)
- $\overline{\Delta P}$ is the expected capital gains appreciation
- $\bar{lt}$ is the land tax
- ϕ_n is the neutral equity share for the property (where ongoing costs equals the rental yield).

Under current tax arrangements, the difference in user costs for owner-occupiers and investors is given by the terms:

- $(\phi_n - \overline{\phi_a})Mt$, which represents the ability for investors to negatively gear and deduct their losses against income.
- $-\overline{\Delta P}(0.5t)$, which represents the CGT that only applies for investors selling properties.

By reducing the CGT discount and limiting the availability of negative gearing, the proposed reforms are expected to raise user costs for investors, by removing the negative gearing savings defined above and increasing the proportion of capital gains taxed from 0.5 to 0.75. User costs for owner-occupiers are unchanged, however aggregate or average user costs increase dependant on the share of owner-occupiers relative and investors in the market.

In estimating the various components of user costs, a number of parameters are held constant over time, included expected capital appreciation. This was done using a time series back to 1985, as a longer time series (back to 1980) could not be generated with confidence due to limited data on inflation expectations in the early 1980s. A more detailed description of user cost calculations is provided in Appendix C.

4.4 Estimating model parameters

Estimating the impact of the proposed tax changes on the housing market relies on time series analysis of price, rents, supply and user costs, as well as other macroeconomic factors, to identify the historical relationship between changes in user cost and housing market dynamics.

The estimations do not primarily aim to predict future house prices, but rather isolate an accurate relationship between user cost and other key housing market variables. This relationship can then be used to identify how a change in user cost causes a deviation in house prices from baseline changes in the housing market.

The flow of these relationships are summarised in Figure 4.3. This figure also depicts the effect of changes in the housing market on the relative mix of owner-occupiers and investors in the market.

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Figure 4.3 Flow of housing market relationships
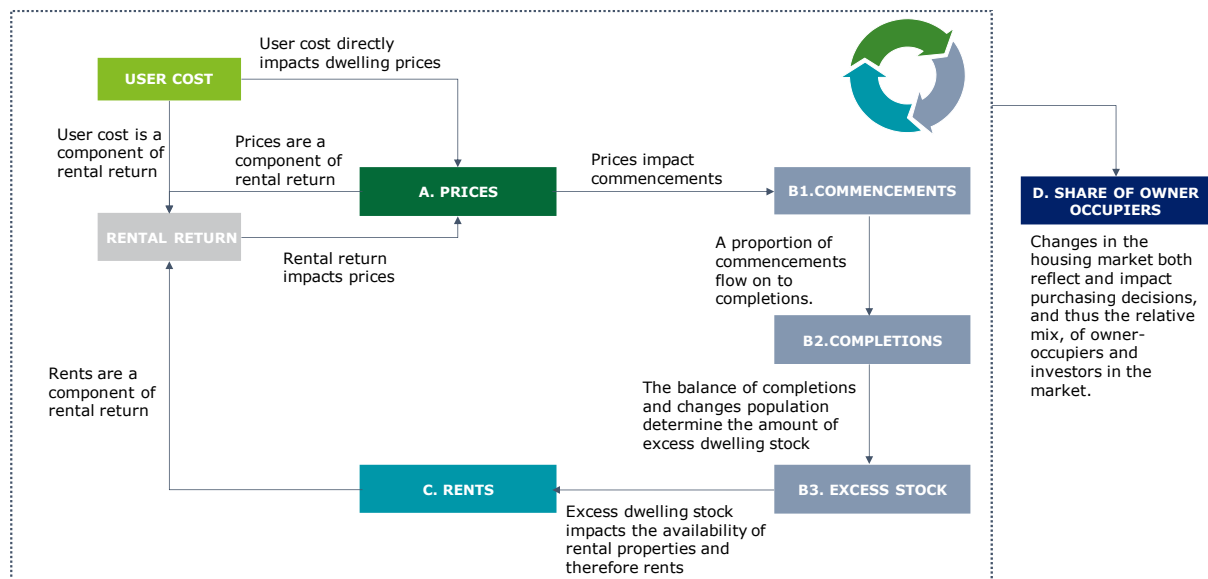
Source: Deloitte Access Economics

The econometric equations used to estimate these relationships are provided below. These estimations are based of that of Tulip and Saunders (2019), and use quarterly time series data between 1980 and 2018, depending on data availability. Estimations are run for dwellings (combined houses and units) unless otherwise stated. Detailed econometric results are available in Appendix B.

Note that lower case variables indicate logged variables and Δ indicates a change variable.

A. Prices

Prices are estimated as a function of rents, lagged prices and user cost. User cost both directly impacts price, as a measure of the immediate response to changes in user cost, and indirectly impacts price, through changes in the rental return.

A number of model variations were tested to determine the immediate impact of user costs on house prices. These variations involved testing the inclusion of a weighted average of user costs for owner occupiers and investor, and only the change in the user cost for investors. The second model, which assumes the immediate effect on prices is driven by changes in investor user cost (rather than by both the user cost of owner-occupiers and investors) generates a better model fit. Additionally, a comparison of the coefficients in both specifications indicates that prices are more responsive in the short term to changes in investor user cost than owner-occupier user cost. These short term dynamics are important to capture, but the model should still accurately represent the long-term market outcomes which are driven by both owner-occupiers and investors. Sensitivity analysis indicated that assuming investor user cost drives the short term price response, rather than a weighted average of user costs, did not have a material impact on the expected long run response of dwelling prices to the policy change.

Therefore, the price estimation (including investor user cost), is given as follows: [39]

$$\Delta p_t = 0.087 + 0.016(r_{t-1} - p_{t-1} - uc_{t-1}) + \sum_{i=1}^{2} \alpha_{3i}\Delta p_{t-i} - 0.038\Delta uc_{t-1}^{I} \pm 0.013\Delta GST_t + \epsilon$$

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[39]

 A separate relationship for house prices and units was tested, both yielding similar results. This estimation was also tested including a differential for periods of growing and declining prices, but there was no significant difference between the two market conditions.

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Where:

- p is real hedonic dwelling prices
- r is CPI rents
- uc^I is investor user cost
- uc is total user cost, calculated as the weighted average user cost of investors and owner-occupiers
- $(r_{t-1} - p_{t-1} - uc_{t-1})$ is the rental return, representing the difference between rental yields and user cost
- GST is a dummy equal to one in the quarter of September 2000 and zero otherwise.

The above estimation shows that prices respond positively to increases in rental return, adjusting towards the long run market equilibrium condition in which user cost reflects rental yield. However, this adjustment is slow. A 1% increase in rental return results in a 0.016% increase in price growth rates. This slow adjustment is due to the high degree of persistence in prices captured by the co-efficient on lagged prices. User cost has a direct negative impact on prices, of a larger magnitude, capturing the immediate effect on prices of a 1% change in user cost.

B1. Commencements

Commencements reflect investments in the development of new dwellings and new dwellings are required to increase supply. Therefore, changes in commencements are driven by changes in prices, as they impact the decision to invest in new properties. Commencements are estimated as:

$$\Delta com_t = -0.028 + 2.209\Delta p_{t-1} - 1.737\Delta p_{t-2} + 1.088\Delta p_{t-3} + \sum_{i=1}^{5} \gamma_{3i}\Delta com_{t-i}$$

$$+ \sum_{i=1}^{4} \gamma_{5i}\Delta M_{t-i} + \sum_{i=0}^{2} \gamma_{6i}\Delta GST_{t-i} + 0.708\Delta gdi_{t-4} + 1.376\Delta cpi_t + \epsilon$$

Where:

- com is dwelling commencements
- M is the variable mortgage rates
- cpi is trimmed CPI
- gdi is real Gross Domestic Income (GDI).

Commencements are overall positively driven by prices—a 1% increase in price growth in the previous period increases commencement growth by 2.2%—reflecting that as the value of property increase, so too does investment in new property. However, given the variability of commencements between each period, there is a slight adjustment in the second and third lagged period of prices. The lagged commencements capture persistence in the market based on changes in commencements over the previous year.

A separate equation for housing commencements and hedonic house prices, as well as unit commencements and hedonic unit prices, was also estimated to differentiate the response of different housing types. These estimates, provided in Appendix C, show that for a given change in price, the commencement of units is much more responsive than the commencement of houses to changes in prices.

An additional estimation was also run to identify the potential impact of price changes on housing investment. If the impact of price on dwelling investment was larger than the impact of price changes on commencements, this would indicate an increase (decrease) in the quality of dwellings being invested, in addition to increased (reduced) supply. However, the relationship between price and investment was tested and found to be similar to that of price and commencements. This suggests that historically, changes in the level of investment following price changes have been similar to changes in quantity, although it is possible thhat the data may be too aggregated to identify changes in quality. It may also be the case that large changes in quality may only occur in response to sufficiently large changes in dwelling prices.

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B2. Completions

Commencements map directly into completions over a number of periods. The rate in which commencements are completed depends on the time taken to build/develop a property and the long run completion rate of new developments. For this estimation, commencements over the previous six periods flow into completions as follows:

$$\Delta comp_t = \omega_1 + \sum_{i=1}^{6} \omega_{2i}\Delta com_{t-i} + \epsilon$$

Where

- $comp$ is dwelling completions.

This estimation was also run for units and houses.

B3. Excess Stock

In each period, more or less stock may become available than demanded based on the number of completions. A measure of excess stock can be calculated as the change in total dwelling stock and household formation—a measure given by the change in adult population divided by the five-year trailing average adults per dwelling.[40] This calculation is given as:

$$ES_t = \Delta K_t - \delta_t K_{t-1} - \frac{\Delta WAP_t}{AHS_t^{5y}}$$

Where:

- ES is excess stock
- K is total dwelling stock
- WAP is the working age population (aged +15)
- AHS^{5y} is the five year trailing average adults per dwelling.

C. Rents

Rents are driven by the availability of rental properties. Changes in rents can therefore be considered a function of changes in the availability of property—the level of excess stock available in a given period. This relationship is estimated as:

$$\Delta r_t = -0.001 - 0.393ES_t + \sum_{i=1}^{4} \beta_{3i}\Delta r_{t-i} + \sum_{i=1}^{3} \beta_{4i}\Delta pop_{t-i} - 0.167\Delta UE_{t-1} + \epsilon$$

Where:

- pop is total Australian population
- UE is the unemployment rate.

Rents respond negatively to excess stock. A 1% increase in excess stock decreases rental growth by 0.39%. This means excess stock is higher, reflecting more available dwellings for rent, this puts downwards pressure on rents. Rental prices also experience a high level of persistence, captured by the lagged changes in rental prices. When the relationship between CPI rents and excess stock is estimated separately for excess houses and excess units, the response of rents to an excess stock is more than twice as strong for units as it is for houses.[41]

D. Share of owner-occupiers

Changes to the housing market change the purchasing decisions of both owner-occupiers and investors. The relative purchasing decisions of owner-occupiers and investors are impacted by the relative return of ownership for each, as well as different responses to changes in rents and price. These decisions impact the share of owner-occupiers in the market, which can be estimated as:

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[40] Based on Tulip and Saunders (2019).
[41] Separate rental price time series for units and rents could not be estimated, as available data only dated back to 2002. However, a comparison of the time series available showed very similar trends.

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$$OO_t = 0.260 - 0.417(r_{t-1} - p_{t-1} - uc_t^{OO}) + 0.314(r_{t-1} - p_{t-1} - uc_t^{I}) - 0.857\Delta p_{t-1} - 0.00001T_t$$

Where:

- uc^{OO} is the user cost of owner-occupiers, which is part of the imputed rental return of owner-occupiers
- uc^{I} is the user cost of investors, which is part of the rental return of investors
- T_t is an indicator for the time period.

Intuitively, higher rental returns for owner-occupiers increase the share of owner-occupiers, while higher rental returns for investors decreases the share of owner-occupiers. The share of owner-occupiers responds negatively to increases in price last period, indicating that the share of investors rises as prices rise and the share of owner-occupiers rise as prices fall.

4.4.2   Summary of results

Based on the above estimations, and an expected increase in user cost for investors (and on aggregate), the directional impact of the proposed policy changes can be mapped. This mapping, depicted in Figure 4.4, shows that:

- An increase in user cost, flows through to a decrease in prices.
- This decrease then leads to a contraction in new housing supply (as investment is less attractive), reducing the availability of excess stock.
- Lower levels of excess stock constrain the availability of rental properties, leading to an increase in rents.
- Higher rents, combined with lower house prices increase rental return.

These relationships dynamically respond to each other over numerous periods, based on the persistence of prices, rents and supply in the market. The ultimate impact of these relationships over the medium term are estimated through the process of model calibration, outlined below.

Figure 4.4 Summary of relationships estimated from the econometric modelling
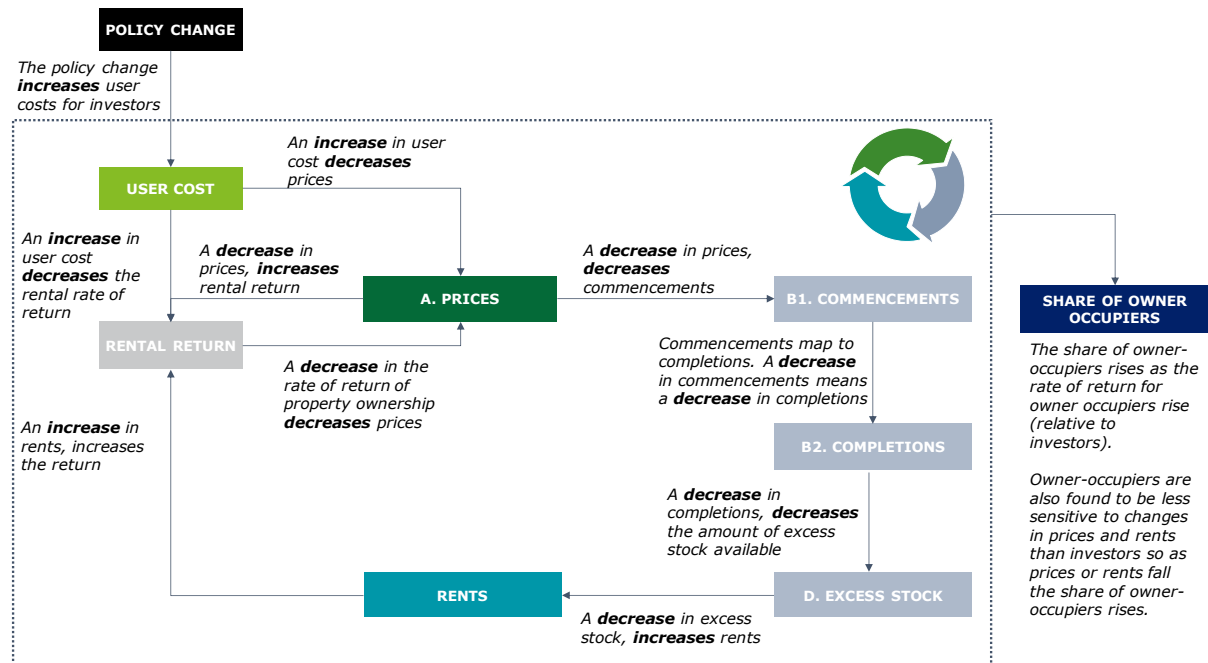
Source: Deloitte Access Economics

4.5   Model calibration and distributional analysis

The relationships described above are incorporated into a housing market model to simulate the change in prices, rents and housing supply due to the policy change. These changes are modelled

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as a deviation from baseline prices, i.e. how the market would respond in the absence of the policy changes. Therefore any modelled changes are 'in-addition' to current housing market dynamics.

The process of calibration, depicted in Figure 4.5, is summarised in four key stages:

1. **Build and calibrate regional housing markets.** This is based on the following characteristics:
   – Supply of houses and apartments
   – Share of owner-occupiers and investors
   – Other assumptions on expected capital gains and rental yields.

2. **Estimate how the proposed policy changes will change average user costs.** The extent of the user cost increase will depend on the share of investment properties, particularly those that are negatively geared, in a market

3. **Use the estimated relationships from the econometric analysis to estimate the effects on regional property supply, prices, and rents.**

4. **Estimate the distributional effects associated with the proposed policy changes**. This is based on the income profiles of owner-occupier and investor households and economy-wide impacts.

Figure 4.5 Process of model calibration and distributional analysis
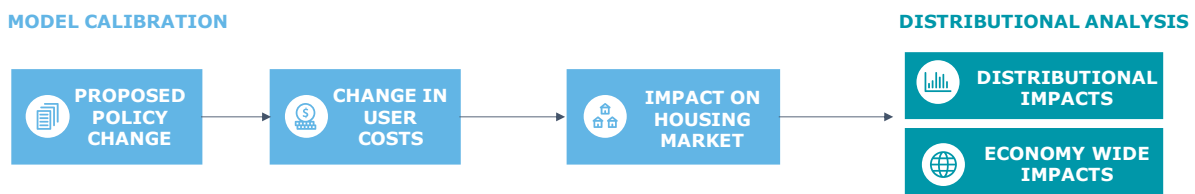
Source: Deloitte Access Economics

There are three key assumptions that underpin the model calibration.

1. The model is estimated on the average historical relationships between user costs and housing prices, rents and supply. Consequently, the model is unable to account for the short-term 'sentiment' effects that might be associated with the proposed policy changes, particularly when the market is at a low point of the price cycle. These effects are considered in more detail based on market responses to previous shocks and policy changes.
2. The model is based on the existing composition of the housing market, including the property type and owner composition. The proposed policy changes will affect the marginal investor and owner occupier, and their composition could potentially look different compared to the existing market.
3. The model assumes that the behaviour of grandfathered investors remains the same. In particular, the proposed policies will include grandfathering for existing properties and the modelling does not assume a change in hold periods for grandfathered investors.

Results from the modelling are set out in the following section.

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5 Results of the modelling

This section of the report presents the estimated results of the proposed policy changes on the property market. This includes the effects on property prices, construction activity, rents, and share of owner-occupiers in the market. It presents the aggregate national results but also draws out differences between regions and housing types.

Key Findings

- The ALP policy scenario is estimated to increase average user costs by 5.5% for existing properties, and 4.3% for new properties. If only negative gearing were removed, user costs are estimated to increase to a lesser extent, at 2.6% and 1.3% for existing and new properties respectively.
- Higher user costs for investors will account for the majority of the user cost increase. Average investor user costs will increase by between 9% and 16% for existing properties (depending on whether net rental losses can be offset against other investment) and 10% for new properties under the ALP policy scenario.
- The increase in user costs will largely flow through to lower dwelling prices. The ALP policy scenario is estimated to reduce existing dwelling prices by 4.6% in the long run relative to a baseline scenario where the policy changes do not occur. New dwelling prices are estimated to fall by 3.7%.
- Removing negative gearing alone is estimated to reduce existing property prices by 2.3% and new dwelling prices by 1.1%.
- The policy changes will reduce unit prices to a greater degree than house prices. By 2030, new unit prices are projected to be 5.6% lower, compared to 2.9% for houses. As investors comprise a larger share of the market for units, there is a greater increase in user costs.
- However, the experience of previous market disruptions suggests that the initial price effects could be larger. Deloitte Access Economics considers these potential 'sentiment' effects by drawing on the experiences of four previous major tax changes and economic shocks in Australia and modelling the introduction of the policy under these environments, which suggest that prices could fall by as much as 6.2% in the first year of the policy's introduction before transitioning towards the long run price impact.
- The econometric modelling used here captures the long term relationships between user costs and prices, although as illustrated by previous market disruptions there is some uncertainty over the likely transitional dynamics.
- The impact on demand and consequently prices for new properties is projected to negatively affect construction activity. The proposed changes are estimated to reduce national dwelling commencements by 4.1% in 2030 relative to the baseline. Given that new completions each year represent just 2% of total stock, the policy will only have a modest effect on overall supply. By 2030, stock is expected to be reduced by 0.4% relative to the baseline. Commencements are estimated to fall by 1.3% under the negative gearing only scenario.
- The policy changes will have a greater effect on unit commencements. The policy is estimated to reduce unit commencements by 6.8% in 2030. This is because units both face a larger price reduction, and unit commencements are also more responsive to any given price change.
- The modelling only captures the policy's impact on quantity. However, the policy may also impact the quality of new dwellings as developers seek to reduce costs.
- The policy changes are estimated to have a limited impact on rents, reflecting the small reduction in dwelling supply. Average rents are estimated to be 0.5% higher by 2030 relative to the baseline. The estimated effect is smaller (0.1%) when only negative gearing on existing properties is removed.
- The policy changes will increase user costs for investors relative to owner-occupiers. The ALP policy scenario is estimated to increase the proportion of total properties owned by owner-occupiers by 2.5 percentage points. Lower property prices reduce the time needed for owner-occupiers, particularly first home buyers, to save for a deposit, allowing them to get into the market slightly earlier than in a scenario without the ALP's proposed policy. Given the still

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significant hurdles to becoming a homeowner in Australia, and the relatively moderate impact of the policy on dwelling prices and rents, this is likely to largely lead to households becoming homeowners faster than they otherwise would have, rather than lifetime renters becoming owner occupiers.

- The ALP policy scenario is estimated to have the greatest effects on the Greater Melbourne and Greater Sydney property markets. In 2030, existing dwelling prices are estimated to be around 8% lower relative to the baseline. New commencements will be lower by an estimated 7%, while rents will be higher by around 1%. These cities are affected disproportionately as they have 1) a higher share of investors (relative to owner-occupiers); 2) lower rental yields leading to greater reliance on negative gearing by investors, and 3) a higher share of units.
- The effects of the ALP policy scenario will also differ between inner, middle and outer ring regions within a city. Regions with a high concentration of investor activity are estimated to experience more acute price and supply reductions.

5.1   Increase to user costs

The proposed policy changes are expected to increase the annual user costs from holding property (net of expected capital gains). The policy changes have differing effects across buyer and property types.

- **Investors who buy existing properties, and are unable to offset rental losses against other investment incomes.** Their user costs will increase from the removal of negative gearing, and the reduction in the CGT discount. Removing negative gearing means that these investors will no longer be able to deduct their rental losses against their labour income on an ongoing basis. While they will be able to deduct any rental losses against their eventual capital gains, their user costs are expected to increase as 1) there is a lost opportunity cost associated with being unable to claim the rental loss on an ongoing basis, and 2) they are still required to pay CGT on their net capital gains and the CGT discount has been reduced as a result of the reform.
- **Investors who buy existing properties, and are able to offset rental losses against other investment incomes.** Their user costs will only increase from the reduction in the CGT discount. These investors are unaffected by the removal of negative gearing as they can continue to deduct against their investment income following the policy change. Based on the 2016-17 ATO statistics, approximately 8% of investors who record rental losses have other forms of investment income that they can use to offset their rental losses.
- **Investors who buy new properties.** Their user costs will increase from the removal of negative gearing, and the reduction in the CGT discount. While these investors will not be directly affected by the removal of negative gearing, the next buyer who buys the property (if they are an investor) will no longer be able to negatively gear. Consequently, this reduction in benefits for future investors is priced into the expected capital appreciation for new properties.
- **Owner-occupiers who buy new properties.** Their user costs will increase from the removal of negative gearing. Although owner-occupiers do not benefit directly from negative gearing, any investor that they sell to will no longer be able to negatively gear. Consequently, this is priced in through lower capital gains expectations. The increase in user costs for owner-occupiers is lower than for investors buying new property as owner-occupiers are assumed to hold properties for a longer period of time and thus face a lower cost per year.
- **Owner-occupiers who buy existing properties.** Their user costs will remain unchanged as a result of the policy changes.

The modelling has assumed an increase in user costs for investors and owner-occupiers in new housing, even in the negative gearing only scenario. This is on the basis that there is likely to be a price difference between new and existing properties due to their differential tax treatment, which would no longer hold once sold, hence reducing their capital gains. In practice, estimating the price differential is difficult and there may be some impact on user costs for other groups during the period in which prices transition to their long run levels which is difficult to predict ex-ante and not incorporated in the modelling here.

Chart 5.1 shows the impact of the proposed policy changes on user costs for different buyer and property types. The ALP policy scenario will increase user costs the most for investors who buy existing properties, and are unable to offset rental losses against other investment incomes ('Can

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no longer NG' in the chart). Their real user costs are expected to increase by 16% on average relative to their baseline user costs.

The 2016-17 ATO statistics indicate that 92% of all investors are unable to offset rental losses against other income, so 92% of new investors are assumed to be in this group. In practice, while the likelihood of being negatively geared is likely to be much higher among new purchasers, some investors in this group who do not have other investment income may purchase properties which strong rental yields and/or provide a sufficiently large deposit such that they are positively geared from day one. The average increase in user costs used in the modelling is estimated based on information about the average initial deposit and regional rental yields. In practice, the actual increase in user costs will vary across each group of investors. In this case investors who are positively geared from day one will experience a smaller increase in user costs from the ALP policy scenario whereas those with smaller deposits will likely experience a higher increase user costs. The figures in Chart 5.1 should be seen as an indication of the average increase in user costs for this group.

Investors who buy new property will have the second highest increase in user costs, at 10% (bottom panel, Chart 5.1). While the ABS does not provide data on the proportion of new property purchasers who are investors, based on the analysis in section 2.4 and the NAB survey results, the evidence suggests investors have a similar likelihood of being new properties to owner-occupiers. The modelling assumes that 29% of both new and existing properties are purchased by investors in line with their overall share of dwelling stock nationally. Investors who buy new property experience a smaller increase in user costs than investors who buy existing property (and can no longer negatively gear) as they will continue to benefit from negative gearing on an ongoing basis while holding the property. They face a larger increase in user costs relative to investors who buy existing property and can continue to negatively gear (9% increase). Both investors face a reduction in the CGT discount. Investors buying new property also face reduced capital gains expectations as they price in the next owner's inability to negatively gear.

As noted above, these results represent the average user cost changes across different buyer types. There will be variation on the impacts faced by each individual investor. The costs will vary depending on the rental yield that they expect to receive, their level of debt, and the specific mortgage rates and marginal tax rates that they face.

In aggregate, user costs for existing properties will increase by 5.5% under the policy scenario, while user costs for new properties will increase by 4.3%. The impact on aggregate user costs are relatively small given that owner-occupiers comprise 71% of the property market, and are largely unaffected by the policy changes. However, if the marginal buyer is more likely to be an investor, the ALP policy scenario will result in a larger impact on user costs than given below.

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Chart 5.1 User costs by buyer type and property type under policy scenarios

Existing properties
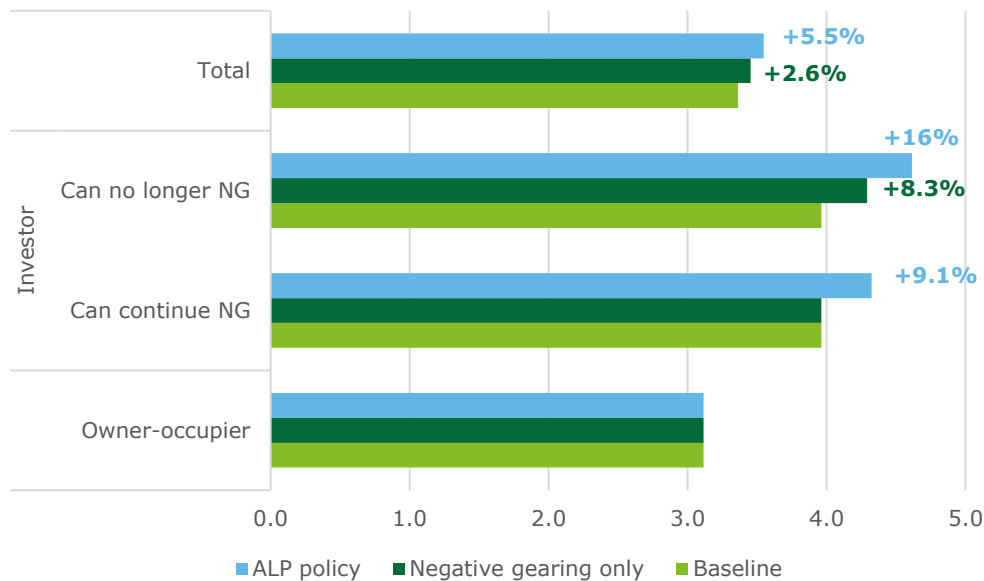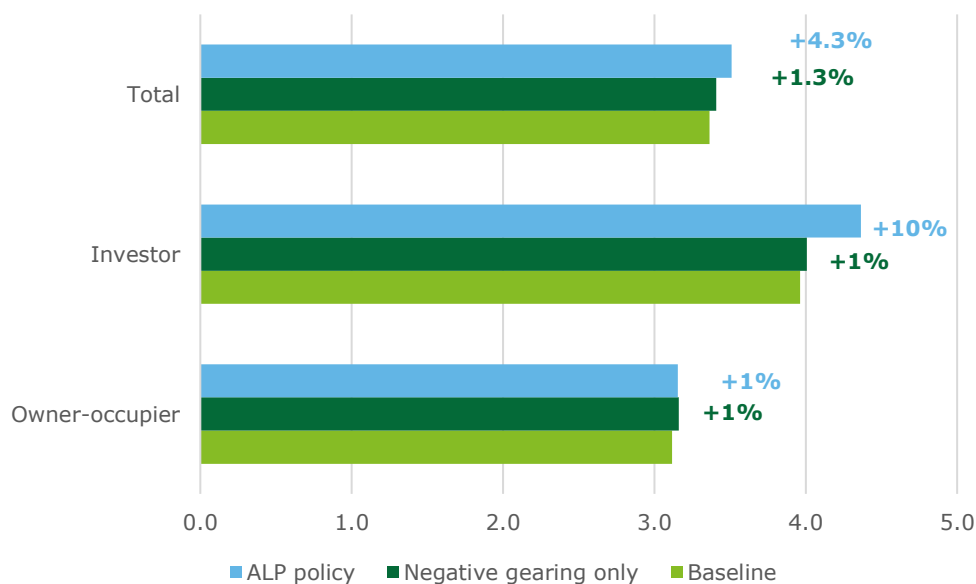
New properties

Source: Deloitte Access Economics.

The proposed policy will have different effects across Greater Capital City Statistical Areas. Under the ALP policy scenario, average user costs for existing properties will increase by between 1% and 11% across Australia. Average user costs for new properties will increase by between 1% and 8%.

The policy changes will increase average user costs by the most in Greater Melbourne and Greater Sydney. In contrast, it will have the smallest effect on user costs in Rest of SA, Rest of NT, and Rest of WA. These are regions in which average rental yields are relatively high and historical capital appreciation have been relatively modest and thus the impact of removing negative gearing and reducing the capital gains tax discount is expected to be less pronounced.

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The policy changes have differing effects on user costs across regions depending on:

- The share of investors relative to owner-occupiers. A higher share of investors leads to a larger increase in user costs. Investors account for approximately 40% of the property markets in Greater Sydney and Greater Melbourne, compared to 29% nationally.
- Long term capital gains expectations. Higher capital gains expectations reduces baseline user costs, and these policy changes have a greater impact on user costs in relative terms.
- The average rental yield. A lower rental yield typically indicates a greater reliance on negative gearing. Rental yield tends to be lower in capital cities with high property values.
- The average income for investors. Investors with high incomes face higher marginal taxes, and will face greater user cost increases from the proposed negative gearing changes.

5.2   Effect on property prices

The results of the econometric modelling suggest that over the long run, a 1% increase in user costs is mostly passed through in the form of lower prices, and would lead to a 0.8% fall in prices. The fall in price is in line with the theoretical model of user costs, and the results are broadly consistent with existing empirical studies from the United States.

The ALP policy scenario is expected to reduce average prices for existing properties by 4.6% in 2030. Average prices for new properties will also be lowered, albeit to a lesser extent, at 3.6%.

These results should be interpreted as the difference in prices between a scenario where the proposed policy changes occur, with a baseline scenario where the policy changes do not occur for the duration of the forecast period. They do not represent a fall in prices relative to current levels. These price changes will occur on top of any increase (or decrease) that is already predicted for the property market. For instance, Moody's Analytics forecast that national property prices would fall by 7.7% through 2019, before rebounding in 2020.[42] If as expected, property prices continue to fall, these changes will occur in addition to those forecast.

The estimated price declines are slightly higher than estimates by the Grattan Institute (2016) who estimated a 2.2% fall in prices from the removal of negative gearing and a reduction in the capital gains tax discount to 25% (a scenario that is relatively similar to the treatment of existing property under the ALP policy scenario).

Only removing negative gearing would have a smaller effect on prices, reducing prices for existing dwelling and new dwellings by 2.3% and 1.1% respectively. These results are broadly consistent with those of Cho et al (2017) who estimate a 2.4% decline in dwelling prices from the complete removal of negative gearing.

The policy changes will lead to a steeper fall in unit prices relative to house prices (see Table 5.1). The ALP policy scenario is projected to reduce new unit prices by 5.6%, compared to 2.9% for new houses. The econometric analysis found that house and unit prices have similar levels of responsiveness to a given change to user costs. However, unit prices will fall by a greater extent as investors account for a larger share of the market, and user costs will increase by more. Investors hold 58% of units in Australia, compared to just 19% of houses.

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[42] https://www.abc.net.au/news/2019-04-09/home-loans-rebound-but-moodys-predict-further-price-falls/10984590

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Table 5.1 Change in average dwelling prices by dwelling type (% relative to the baseline, 2030)

	The ALP policy scenario		Negative gearing only scenario	
	Existing properties	New properties	Existing properties	New properties
Houses	-3.3%	-2.9%	-1.6%	-1.2%
Units	-8.0%	-5.6%	-4.1%	-1.0%
Total	-4.6%	-3.6%	-2.3%	-1.1%

Source: Deloitte Access Economics

The ALP policy scenario will result in the greatest price declines in Greater Melbourne and Greater Sydney. Existing property prices will decrease by 8%, while new property prices will decrease by 6%. Table 5.2 shows the price effects under the policy scenarios across regions.

The price effects within each Greater Capital City Statistical Area will also vary. Areas with a high concentration of investment properties are expected to face the largest price reductions. For instance, more than 50% of properties in Sydney – City and Inner South (SA4) and Melbourne – Inner (SA4) are investment properties, compared to 40% for Greater Sydney and Greater Melbourne.

Table 5.2 Impact on average dwelling prices by region (% relative to the baseline, 2030)

	The ALP policy scenario		Negative gearing only scenario	
	Existing properties	New properties	Existing properties	New properties
Australia	-4.6%	-3.6%	-2.3%	-1.1%
Greater Sydney	-8.3%	-6.3%	-4.9%	-2.4%
Rest of NSW	-2.1%	-1.7%	-0.9%	-0.4%
Greater Melbourne	-8.3%	-6.3%	-4.7%	-2.3%
Rest of VIC	-2.1%	-1.7%	-0.9%	-0.4%
Greater Brisbane	-3.9%	-3.3%	-1.4%	-0.7%
Rest of QLD	-2.2%	-2.1%	-0.1%	-0.1%
Greater Adelaide	-4.3%	-3.5%	-1.7%	-0.8%
Rest of SA	-0.8%	-0.8%	0.0%	0.0%
Greater Perth	-4.1%	-3.2%	-1.9%	-0.9%
Rest of WA	-1.3%	-1.3%	0.0%	0.0%
Greater Hobart	-1.7%	-1.3%	-0.7%	-0.3%
Rest of Tas	-1.5%	-1.4%	-0.2%	-0.1%
Greater Darwin	-4.0%	-4.0%	0.0%	0.0%
Rest of NT	-1.0%	-1.0%	0.0%	0.0%
ACT	-1.9%	-1.8%	-0.1%	0.0%

Source: Deloitte Access Economics.

The impact of the policy scenario on user costs for each region (and housing type) is based on aggregate user costs, reflecting the impact of user costs on both investors and owner-occupiers

and their respective share of housing in each market. This is a reasonable assumption given that both types of buyers are active in the housing market and will affect aggregate demand. In the econometric modelling of national property prices, the long term transition of prices was driven by a weighted average of user costs for owners and investors, although short term effects on prices were driven by changes to user costs for investors.

Whether using a weighted average of user costs for investors and owner-occupiers is the most appropriate way of capturing the aggregate impact of the policy on user costs and consequently prices for a given market is unclear, particularly since the increase in investor user costs is significantly larger than for owner-occupiers. It is certainly possible that markets or sub-markets with a high concentration of investors or owner-occupiers could experience different price impacts to that implied by the weighted average. The impact on construction activity could also differ. For example, in some inner city apartment markets, developers may be heavily reliant on investor pre-sales to secure construction, but this may not be the case in outer metropolitan detached housing developments in which most prospective buyers are mostly owner-occupiers.

Box 5.1: 'Sentiment' effects

The econometric modelling presented above is based on the average historic relationships between user costs and housing prices. While it can identify the long term impacts of the policy changes, it is less applicable for understanding the short term dynamics. In the short term, prices may be driven by investor sentiments rather than economic fundamentals.

In the short term, investors may misjudge the impact of the policy on their user costs. An overestimation could lead to a steeper than anticipated decline in prices. A survey of 1,000 participants found that there was only moderate awareness of the ALP's proposed changes to investment property taxation amongst prospective investors in January (Newgate, 2019). Despite the relatively low level of knowledge, around half of all participants (49%) responded that they would be discouraged from investing in property of any sort if the proposed changes are made, while a further 42% would reconsider the type of property they would invest in.

Investors could also engage in strategic behaviour in the short term in the lead up to the policy's introduction. Those investors looking to buy existing properties in early 2020 could bring forward their purchases to take advantage of grandfathering. This would lead to higher prices in the lead up to 2020, with a greater fall in prices expected following that.

These types of transition effects cannot be captured within the econometric modelling with any precision. However, Deloitte Access Economics considers past behaviour around the time of the introduction of previous major tax changes and economic shocks to provide some guidance (in a stylised manner) on the potential dynamic path that prices could take in the short-term. The past shocks include:

- **The introduction of the GST:** the trajectory of prices in the four quarters before and after the introduction of the GST. This example demonstrates potential strategic behaviour by investors in the lead up to the policy change, followed by a reversal in prices after the policy's introduction. Investors could also potentially act strategically in the lead-up to the introduction of the policy scenarios.

- **The downturn during the GFC:** the trajectory of prices in the four quarters following the peak of property prices in March 2008. This example demonstrates the potential role of a shock to investor sentiment. The policy changes could weaken investor sentiment if investors are uncertain over the future of the property market.

- **The introduction of negative gearing in 1985 (NG85):** the trajectory of prices in the four quarters following the removal of negative gearing in 1985. This example demonstrates the transition path when a similar policy was introduced in a market that was growing relatively strongly. In the lead up to the introduction of negative gearing in 1985, hedonic dwelling prices grew by an average of 6% per annum from 1980 to 1985.

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- **The introduction of the vendor tax in 2004 (VT):** the trajectory of prices in the four quarters following the introduction of a vendor tax (representing 2.25% of property value for investors) from June 2004. This policy was in place until August 2005, and was only introduced in NSW. Over the four quarters after the introduction of the vendor tax, hedonic dwelling prices in NSW were 6% lower than they would have been if they grew at the same rate as the rest of Australia.

These potential short-term price trajectories can be compared to a **base case** that assumes the estimated econometric relationships hold in the short term. This would represent a case where the transition effects are relatively mild.

The price trajectories have been parameterised by isolating the effects of these periods from other changes that affected prices at the time (e.g. variable mortgage rates) with the exception of the vendor tax. In the vendor tax case, the price growth differential between NSW and rest of Australia was fully attributed to the policy, and imposed in the short term. The reason for this is that since the vendor tax was only introduced in one state, the difference in price trajectories between NSW and the rest of Australia can be seen as indicating the relative impact of the policy on prices, although it is possible that prices in NSW may have fallen even in the absence of the vendor tax. After the first four quarters, price dynamics in all four scenarios follow the base case model.

Chart 5.2 shows the transition path under the four stylised examples outlined above. Under these scenarios, the ALP policy scenario could lower existing property prices by up to 6.2% one year after the policy is introduced (VT case). The vendor tax transition shows a greater reduction in prices compared to the base case, where prices are just 2.5% lower after one year.

The price trajectory shown under the vendor tax should be interpreted cautiously. While it shows that investors could react very strongly to tax changes, the vendor tax example could potentially overstate short-term price effects as the vendor tax was only introduced in NSW and investors could have chosen to shift some investment activity to other states. Consequently, the difference in prices between NSW and rest of Australia would capture both investors in NSW accounting for their increased user costs, as well as investors redirecting their investment and pushing up prices in other states. As the policy scenarios will be introduced in all states, the second effect will not be present under the policy scenarios considered here.

Moreover, while prices in NSW fell more than the rest of Australia, it is unclear how much of these falls might have occurred anyway. During the period of the vendor tax, prices in Sydney relative to other capital cities fell by more than 6%, although prices in the rest of NSW grew at a similar rate to the rest of Australia. Prices in Sydney had begun to fall prior to the introduction of the vendor tax although this was also the case in Melbourne, Adelaide and Brisbane where prices recovered much more quickly. However, rental yields in Sydney were relatively low both relative to other cities and historic levels, suggesting that the size of the price correction for Sydney could have been more significant even in the absence of the vendor tax. Given this, it is not possible to conclude that the vendor tax alone reduced prices by 6% in NSW relative to other states.

These past experiences do not provide a definitive guide to the likely transition effects. However, they suggest that the potential transition could be more rapid than indicated by the base case. Indeed, the transition is more rapid than the base case across all four scenarios.

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Chart 5.2 Potential transition path for existing dwelling prices, the ALP policy scenario
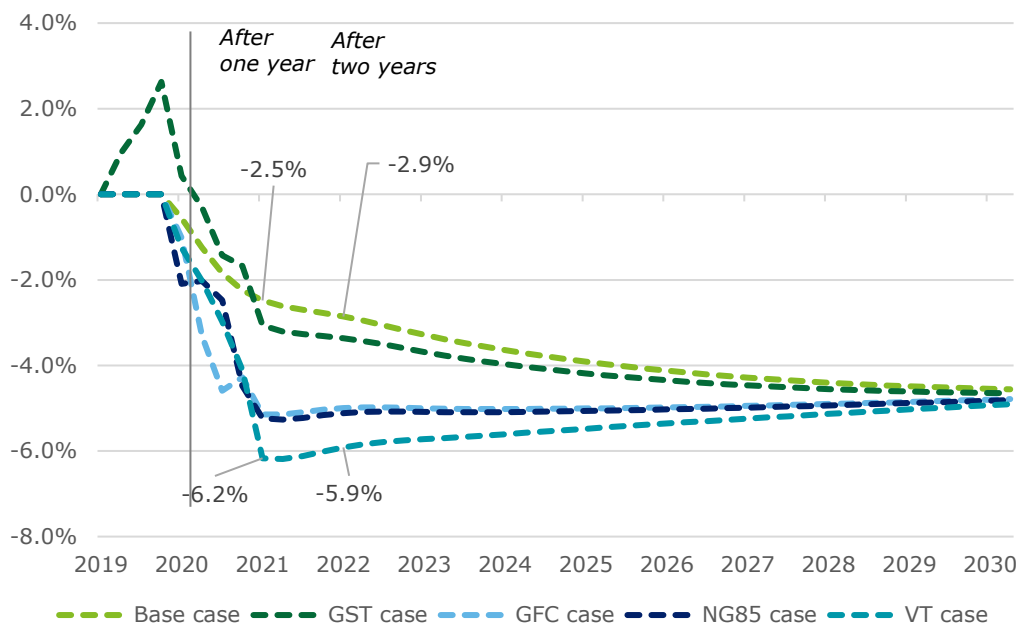
Source: Deloitte Access Economics

5.3   Effect on commencements and housing stock

Lower prices for properties in turn lead to a reduction in new dwelling commencements. This result is in contrast to the ALP's view that new construction would instead increase. Based on the econometric modelling, each 1% fall in house prices yields a 2.2% decrease in commencements the following quarter, and an overall 1.1% decrease in commencements in the long run.

It is assumed that only the prices of new properties are considered by developers and drive changes in commencements. The estimated housing supply elasticity is in line with recent Australian studies of housing elasticities (Sauders and Tulip 2019, Ong et al 2017).

The ALP policy scenario is projected to reduce total commencements in 2030 by 4.1% relative to a baseline where the policy changes do not occur. If only negative gearing were removed, commencements are estimated to be 1.3% lower. These results are relative to 'no policy change' baseline. Deloitte Access Economics forecasts that while commencements are likely to fall in the short-term, they are expected to grow in the long term driven by strong population and income growth. There will be an average of 49,300 commencements per quarter in 2029-30. The ALP policy scenario is projected to reduce baseline commencements by 4.1%, representing 2,000 commencements per quarter.

The long run impact on the total stock of dwellings is likely to be small as new completions only represent 2% of total stock each year, and also because long run supply is largely driven by population growth, income growth, zoning laws and household formation patterns, which will be largely unaffected by the policy changes. By 2030, the total stock is expected to be lower by 0.4%.

Commencements will fall to a greater extent for units (see Table 5.3). The ALP policy scenario is projected to reduce unit commencements by 6.8% in 2030, and house commencements by 3.4%. The greater fall in unit commencements is driven by two compounding factors:

- The policy changes will lead to a larger fall in unit prices relative to house prices.
- Unit commencements are more responsive for a given change in price. Each 1% fall in unit prices leads to a 2.8% decrease in unit commencements in the next quarter. This compares to a 2.0% decrease in house commencements. The higher supply elasticity for units is consistent with the existing Australian literature (Otto and Liu, 2014; Saunders and Tulip, 2019).

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Table 5.3 Change in dwelling commencements by dwelling type (% relative to the baseline, 2030)

	The ALP policy scenario	Negative gearing only scenario
Houses	-3.4%	-1.4%
Units	-6.8%	-1.3%
Total	-4.1%	-1.3%

Source: Deloitte Access Economics

The difference in price impacts by region also lead to a degree of regional variation in new dwelling commencement activity (see Table 5.4). The ALP policy scenario is projected to reduce new dwelling commencements by 7% in Greater Melbourne and Greater Sydney in 2030. This represents a 0.9% and 0.8% reduction in total dwelling stock respectively. In contrast, commencements are projected to fall by 0.9% in Rest of SA, 1.2% in Rest of NT, and 1.5% in Rest of WA.

The larger effects for Sydney and Melbourne result from the larger fall in prices. Unit commencements (which are more sensitive to price changes) also account for a greater share of total commencement activity. Unit commencements comprised 56% and 64% of all commencements in Greater Melbourne and Greater Melbourne in the year to September 2018 (ABS, 2019), compared to 46% nationally.

Table 5.4 Impact on new housing commencements and stock by region (% relative to the baseline, 2030)

	The ALP policy scenario		Negative gearing only	
	Commencements	Stock	Commencements	Stock
Australia	-4.1%	-0.4%	-1.3%	-0.1%
Greater Sydney	-7.2%	-0.9%	-2.7%	-0.3%
Rest of NSW	-2.0%	-0.2%	-0.5%	0.0%
Greater Melbourne	-7.2%	-0.8%	-2.6%	-0.3%
Rest of VIC	-2.0%	-0.3%	-0.5%	-0.1%
Greater Brisbane	-3.8%	-0.5%	-0.8%	-0.1%
Rest of QLD	-2.4%	-0.3%	-0.1%	0.0%
Greater Adelaide	-4.1%	-0.4%	-0.9%	-0.1%
Rest of SA	-0.9%	-0.1%	0.0%	0.0%
Greater Perth	-3.7%	-0.4%	-1.0%	-0.1%
Rest of WA	-1.48%	-0.1%	0.0%	0.0%
Greater Hobart	-1.52%	-0.1%	-0.4%	0.0%
Rest of Tas	-1.6%	-0.1%	-0.1%	0.0%
Greater Darwin	-4.6%	-0.2%	0.0%	0.0%
Rest of NT	-1.2%	-0.1%	0.0%	0.0%
ACT	-2.1%	-0.4%	0.0%	0.0%

Source: Deloitte Access Economics.

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Based on the short term price dynamics shown in Chart 5.2, the ALP policy scenario could reduce new dwelling commencements by up to 7.9% after two years if prices fall to the same extent as they did under the introduction of the vendor tax in NSW (Chart 5.4).

Deloitte Access Economics did consider whether the reduction in commencements might be different to that implied solely by the change in prices under each scenario. The evidence for this was mixed. In the case of the vendor tax, commencements fell by 20% in NSW relative to other states suggesting a larger effect on commencements. Under the GFC scenario, commencements were 7% lower than what would be given by the historic relationship between prices and commencements. However, after the introduction of negative gearing in 1985 the change in commencements was not significantly different to that forecast by our commencements model (and shown in the dark blue line below).

Given this mixed evidence, commencements are assumed in Chart 5.3 to respond to actual price changes in line with the existing model for commencements under each of these scenarios, although it is possible that the short term impact on commencements could be greater than is shown here.

The transition effects represent the average effect across Australia (or in the case of the vendor tax the effect on NSW relative to other states), and are not necessarily reflective of the experiences of individual regions which may differ depending on each region's point in the property cycle and share of investors.

Chart 5.3 Potential transition path for new dwelling commencements, the ALP policy scenario
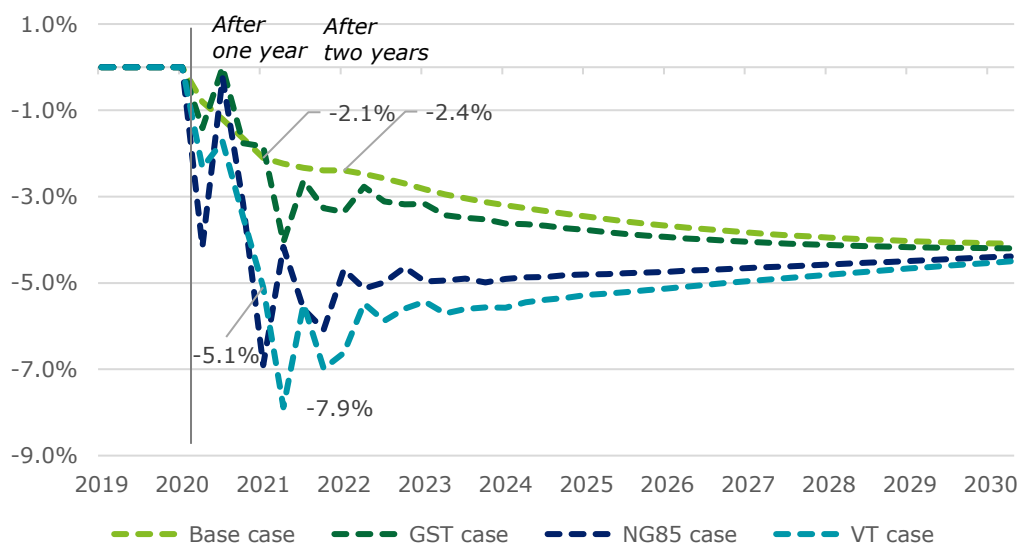
Source: Deloitte Access Economics

Note: New dwelling commencements are estimated based on the model for commencements assuming the price path in each scenario follows that in Chart 5.2. The profile of commencements under the GFC scenario was very similar to the NG85 scenario and was excluded for presentation purposes.

The modelling here only captures the effects of the policy changes on the quantity of dwellings provided by the market. It does not consider the quality of dwellings provided by the market. Developers may choose to respond to the price reductions by lowering either the quality or size of housing provided (rather than not providing stock). The market could also respond with higher quality products if there are fewer tax breaks to make housing investment, and investors will focus on quality to attract owner-occupiers and ensure a return (Australian Financial Review, 2019).

There are potentially non-linear effects at play, where developers can reduce quality to a certain point in order to reduce costs. However, if the price falls past a tipping point, it may become unprofitable to develop the land (no matter the quality of dwelling provided).

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5.4 Effect on rents

The lower stock of dwellings available in the market leads to an increase in rents in the long run. As a result of the ALP policy scenario, rents are expected to be 0.5% higher compared to the baseline by 2030. If only negative gearing were removed, rents will be higher by 0.1%.

The effect of rents is projected to be relatively small as the overall impact on the stock of new dwellings is relatively small. While the policy is expected to reduce the share of property purchased by investors (see Box 5.2), a corollary of this is that some of the property which would otherwise have been purchased by investors is now purchased by new owner-occupiers. When these substitutions occur any decrease in the supply of rental properties will be matched by a decrease in the demand for rental properties, and there will be no net effect. The upward pressure on rents comes solely from the impact of the ALP policy scenario on the total stock of dwellings.

The results are broadly consistent but somewhat smaller than suggested by the existing literature. The United States literature found that rents bore only a small proportion of the change in user costs, and are slow to adjust (see section 3.2). Cho, Li and Uren estimate a rent effect of 2.4%, although their approach does not use statistical modelling. Saunders and Tulip (2019) find that changes to interest rates have a very small effect on rents.

Rents were not separately modelled for units and houses as historic data on the stock of houses and units is not available.

Rents are expected to increase by the most in Greater Melbourne (Table 5.6). The ALP policy scenario will lead to rents being 1.4% higher relative to the baseline where the policy change do not occur. This is followed by Greater Sydney (1.0%) and Greater Adelaide (0.8%).

The rent effects are likely to be unevenly distributed within each greater capital city statistical area, and be localised. Particular areas with a large investor presence or with low vacancy rates will experience the largest increase in rents – particularly if demand to rent in that particular area is inelastic. This will particularly be the case if there is a low level of substitutability between rental properties in different regions within a city. If renters are unwilling to move out of a particular area region (e.g. inner rings of capital cities) and there are supply constraints, the rent effects are likely to be greater than the 'average' effects estimated above.

Analysis of changes to negative gearing and capital gains taxation

Table 5.5 Impact on rents by region (% relative to the baseline, 2030)

	The ALP policy scenario	Negative gearing only
Australia	0.5%	0.1%
Greater Sydney	1.0%	0.3%
Rest of NSW	0.3%	0.1%
Greater Melbourne	1.4%	0.5%
Rest of VIC	0.5%	0.1%
Greater Brisbane	0.7%	0.1%
Rest of QLD	0.4%	0.0%
Greater Adelaide	0.8%	0.2%
Rest of SA	0.2%	0.0%
Greater Perth	0.5%	0.1%
Rest of WA	0.2%	0.0%
Greater Hobart	0.2%	0.0%
Rest of Tas	0.3%	0.0%
Greater Darwin	0.4%	0.0%
Rest of NT	0.2%	0.0%
ACT	0.3%	0.0%

Source: Deloitte Access Economics

Box 5.2: Effect on owner composition

The proposed policy changes will increase user costs for investors to a greater extent than user costs for owner-occupiers. Consequently, the share of properties owned by investors will decrease, while the share of properties owned by owner-occupiers will increase.

By 2030, the proportion of all properties owned by owner-occupiers will be approximately 2.5 percentage points higher as a result of the ALP policy scenario compared to the baseline. As investors leave the market in favour of new owner-occupiers, there is no net effect on the demand and supply of rental properties. The impact on rental supply occurs through a reduction in the quantity of new housing supply.

These results can be interpreted as households becoming owner-occupiers faster than they otherwise would have. As prices fall, they can save for their deposit faster. Modelling has not been undertaken to see whether home ownership rates will be higher.

There is some uncertainty about whether the price falls would be sufficient to yield a substantial increase in owner-occupiers in regions where price levels are relatively high.

5.5 Effects in the current market

As discussed in section 2.1, Australia's housing markets are undergoing a period of softening market and construction activity after an extended period of elevated activity. The downturn in prices has been most pronounced in Sydney and Melbourne, as credit conditions for domestic borrowers have tightened, foreign investors have left the market, and supply has increased.

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Chart 5.4 presents the historic time series for dwelling prices and commencements in Australia. Housing construction activity is expected to contract over the remainder of 2019 and into 2020 as the large increase in the approvals pipeline is worked through (Deloitte Access Economics 2019).

Chart 5.4 Historic relationship between dwelling prices and commencements
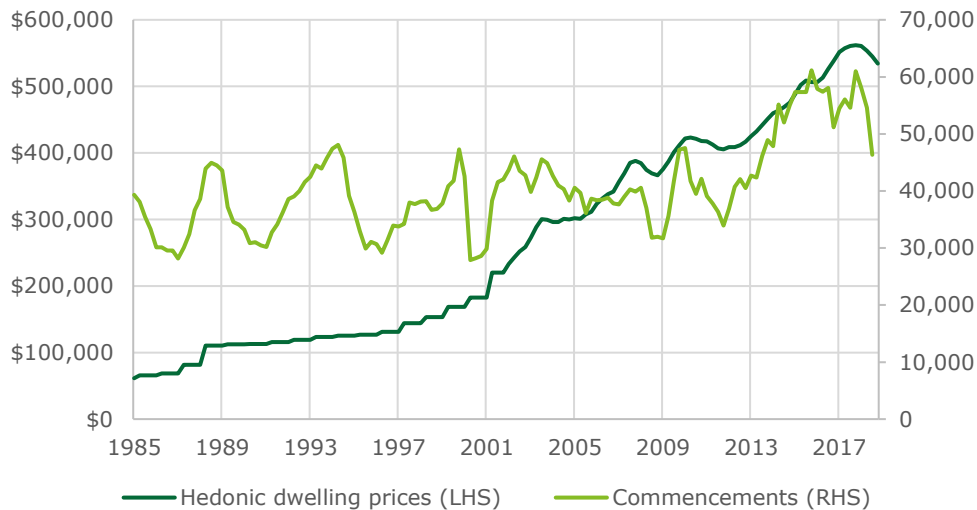
Source: Data provided by CoreLogic; ABS
Note: The hedonic dwelling price index was converted to a $ value based on the median property value in March 2019.

Unusually, the current fall in prices on the east coast is not due to rising interest rates and/or higher unemployment but, rather, both borrowers and sellers revaluating their willingness to borrow/lend given current conditions.

The relative uniqueness of this situation makes the outlook for the market more uncertain, with expected movements in the usual macroeconomic indicators that normally dictate the housing market cycle less predictive than they have been in the past.

This says that any changes to property taxation will be being levied on a market which is already facing falling prices in a more uncertain environment than normal. This suggests that changes to property taxation could amplify the level of uncertainty in the market and in so doing impact investor sentiment. Given the significant price falls that have occurred in some markets over the last eighteen months, understanding the potential transitional effects is likely to be particularly important. Potential policies to manage the transition period are discussed further in Chapter 8.

5.6   Limitations of the analysis

The modelling results given here are based on the long term historic relationships between user costs, prices, supply and rent. While it can identify the long term impacts of the policy changes, it is less applicable for understanding short term dynamics. While Deloitte Access Economics does consider some stylised examples of what the potential transition paths could look like, they rely on price trajectories due to previous economic shocks or tax policy changes. The exact path will be determined by the state of the market and investor sentiment around the time of the policy introduction and cannot be modelled with any precision.

There is a degree of uncertainty around whether changes to user costs that result from major tax policy changes lead to the same price (and other) effects as changes in user costs resultant from other factors, such as changes in interest rates. While the modelling would ideally distinguish between the two, it has not been done given that there has been few examples that can be drawn upon in Australia's history and previous episodes were in some cases only introduced briefly (the removal of negative gearing from 1985 to 1987, the introduction of the CGT in 1986, and changes to the methodology for taxing capital gains in 1999). Given the short duration of the policy changes, their impact on user costs have not been modelled separately compared to the effect of

changes in other components of user costs – other than to inform some of the potential transition scenarios. The effects of negative gearing on user costs is dependent on rental yields. For the modelling, it was assumed that rental yields remained at their current values. It may be the case that if the policy were introduced at another point in time, the rental yield, and consequently impact on the housing market could differ.

Regional effects have also been estimated using elasticities estimated at the national level, combined with regional data. Results for each region will depend on where they are in the price cycle, rental yields and investor shares. It may be the case that some regions are more (or less) responsive to a given change in user costs. Otto (2006) found that a change in the variable mortgage rate had a larger impact on house price growth in Sydney and Melbourne, and the smallest impact on Adelaide, Canberra and Darwin (although it is possible that the composition of investors and owner-occupiers in the respective markets which is captured in our model explain some of the differences). Future research could seek to examine the degree of variation in which user costs flow through to price changes and subsequently housing starts across regions.

The magnitude of the construction activity effects will also depend on whether the incidence of the price decrease falls on the value of the dwelling or the land. The impact on commencements and housing stock may be overstated if changes in property prices flow through to the price of land to a greater extent than they have historically. Lower land prices would mean reduced input costs for property developers.

Despite the limitations listed above, the modelling results presented are broadly consistent with the range of existing literature, including the experiences of similar tax policy changes in the United States, and a range of Australian models on the property market. The results here build upon these previous exercises by drawing on an after-tax measure of user costs that incorporates taxation arrangements for investors and owner-occupiers and econometric analysis of the long term relationship between user cost, prices, housing supply and rents in an integrated framework.

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6 Economy wide impacts of the policy change

This section of the report outlines the effects of the policy changes on the wider economy including the impact on economic activity and employment across different sectors in the economy.

Key Findings

- The CGE modelling finds that the proposed tax changes will lead to an adverse impact on economic activity over time. The degree to which this occurs will depend on the extent to which the incidence of the tax falls on land relative to mobile capital and (to a lesser extent) assumptions about what is done with additional government revenue.
- In a scenario where it is assumed that half of the incidence of the tax falls on the value of land, the policy was found to reduce Australia's GDP by $1.5 billion a year by 2031 (or 0.07% of GDP in that year). Employment in the construction sector is most adversely affected, with declines in FTEs averaging 7,800 over the period to 2031.Overall, the net employment grows by 1,100 FTEs a year on average as capital moves out of the dwelling sector to other sectors of the economy and the decline in the return to capital leads to a substitution towards labour. However, in the long run aggregate employment falls marginally.
- An alternative scenario, in which all of the incidence falls on mobile capital, the reduction in Australia's GDP was estimated to be larger at $3.6 billion a year by 2031 (or 0.17% of GDP in that year). Under both scenarios, the impact on gross national product (GNP) is smaller than the impact on GDP in the later years as it captures repayments of government debt owed to foreigners over time.
- A final scenario considered the net impact if the government offset income tax cuts rather than increasing government consumption and debt reduction. Under a scenario where all of the incidence of the tax falls on mobile capital but the government uses the additional revenue to reduce income tax, the estimated decline in GDP is estimated at $3.0 billion in 2031.

6.1 Introduction and modelling framework

To analyse the impact of the ALP policy scenario on the broader economy, an economy wide model, specifically Computable General Equilibrium modelling, was used.

Computable general equilibrium (CGE) modelling is the framework that is best suited to modelling the impact of large projects or policies on the economy. In this framework, it is possible to account for resourcing constraints and opportunity costs and to model changes in prices and the behaviour of economic agents in response to changes in the economy. This project has used the Deloitte Access Economics Regional General Equilibrium Model (DAE-RGEM). This is a model of the Australian and world economy and represents the interaction of households and firms with factor markets and goods markets over time. DAE-RGEM represents all economic activity in the economy, including production, consumption, employment, taxation and trade.

Figure 6.1 is a stylised diagram showing the circular flow of income and spending that occurs in DAE-RGEM. To meet the demand for products, firms purchase inputs from other producers and hire factors of production (labour and capital). Producers pay wages and rent (factor income) which accrue to households. Households spend their income on goods and services, pay taxes and put some away for savings. More detail on the modelling framework used is provided in Appendix A. For this project, the model has been explicitly modified to represent the Australian economy along with the relevant components of the property sector.

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Figure 6.1 Stylised diagram of DAE-RGEM
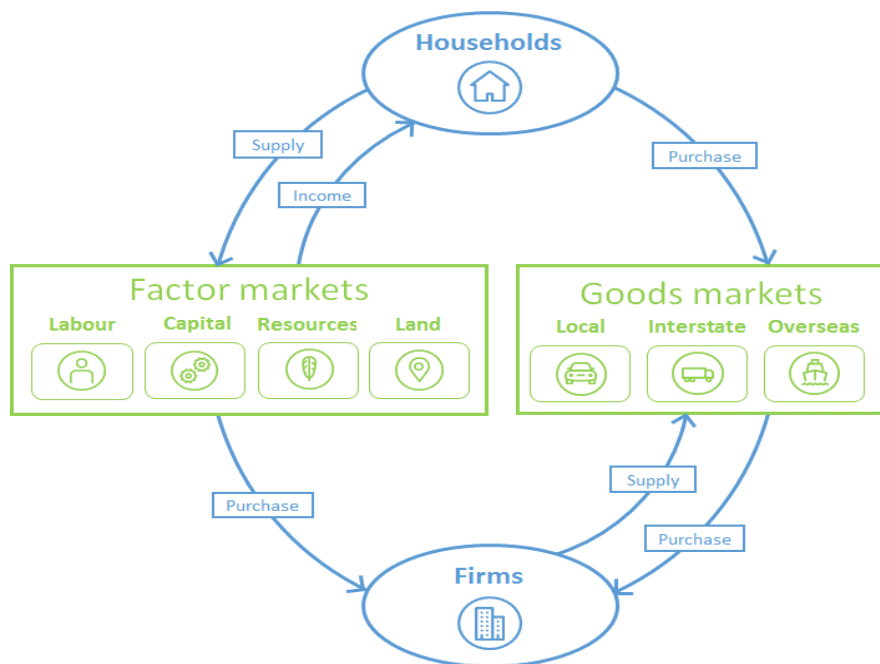
Source: Deloitte Access Economics

The economy wide impacts of the policy change will vary based on how it is assumed that a government chooses to spend the additional revenue generated through the proposed tax changes. The central scenario is based on the increase in government revenue being used to increase expenditure on government services and repayment of government debt based on the typical profile of government expenditure. The central scenario assumes that government expenditure matches the increase in revenue to achieve a balanced budget. Benefits from new government spending on long-term investments with positive externalities, such as education and infrastructure, would not be captured in the CGE model and thus would need to be considered alongside the model's results.

Deloitte Access Economics also models two other a scenarios; one in which the policy changes are accompanied by offsetting income tax cuts to maintain a balanced budget, and another in which the impact of the change in tax falls entirely on physical capital rather than land. Given that increases in taxes lead to a distortion of economic activity (to greater and lesser degrees depending on the efficiency of the tax concerned) it is anticipated that the net economic impact will be smaller in a scenario with tax cuts, although there may still be some efficiency costs from a switch in tax sources as the economy adjusts. As taxes on land are considered an efficient taxation mechanism, where the incidence of the tax falls solely on capital, the effect of the policy on the Australian economy is expected to be greater than where the incidence is partly on land.

6.2   Inputs

The modelling inputs are based on the findings from the economic modelling in Chapter 5, which estimates the change in user costs and resulting effects on house prices, construction activity, rents, and home ownership. For the purposes of implementing the shock in the model, the ALP policy scenario was modelled through a decrease of the return on investment (i.e. a change in tax on capital within the residential property sector) and a fall in the value of land.

Three scenarios are considered. In the central scenario, it is assumed that half of the incidence of the tax falls on the value of land, with the other half impacting the physical capital in the dwelling sector. Following this initial shock, prices and rents of dwellings would adjust, causing the year-on-year change in return on investment to return to baseline levels.

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The second scenario considers the case where the incidence of the tax falls completely on physical capital in the dwelling sector, causing it to fall by 5.9% relative to the baseline in FY 2021, the first year of the policy. The third scenario assumes the government use the additional revenue generated from the proposed policy to offset income tax cuts rather than increases in government consumption and debt reduction.

Importantly, a change to the CGT discount could also impact other industries in the economy, through its impact on investment in equities and other assets subject to CGT. Since the focus of this report is on the impact on the property sector, the modelling did not consider the impact of these changes on other sectors of the economy and the results should be viewed in this context.

6.3   Results (central scenario)

The results from the economic modelling are presented as changes in real gross domestic product (GDP), aggregate employment and sectoral results (including industry gross value added and employment by industry) relative to a business as a usual scenario where the ALP policy scenario is not enacted. It is assumed that half of the incidence of the tax falls on the value of land, with the other half impacting the return on investment.

6.3.1   Gross domestic product

The results from the modelling indicate that the proposed policy changes are expected to lead to a lower GDP than otherwise expected under the baseline forecast over the model period (2021-2031). By 2031, GDP is estimated to be 0.07% less than the baseline forecast. On average, the GDP is estimated to be 0.06% less per year over the duration of the model period.

Chart 6.1 presents the impact of the ALP policy scenario on real GDP over the time period 2021 to 2031. GDP is estimated to increase by $1.6 billion compared to the baseline forecast in the first year, before falling to $1.5 billion less than the baseline forecast in 2031.

Chart 6.1 Impact on real gross domestic product, Australia (billions, 2021-2031)

Source: Deloitte Access Economics

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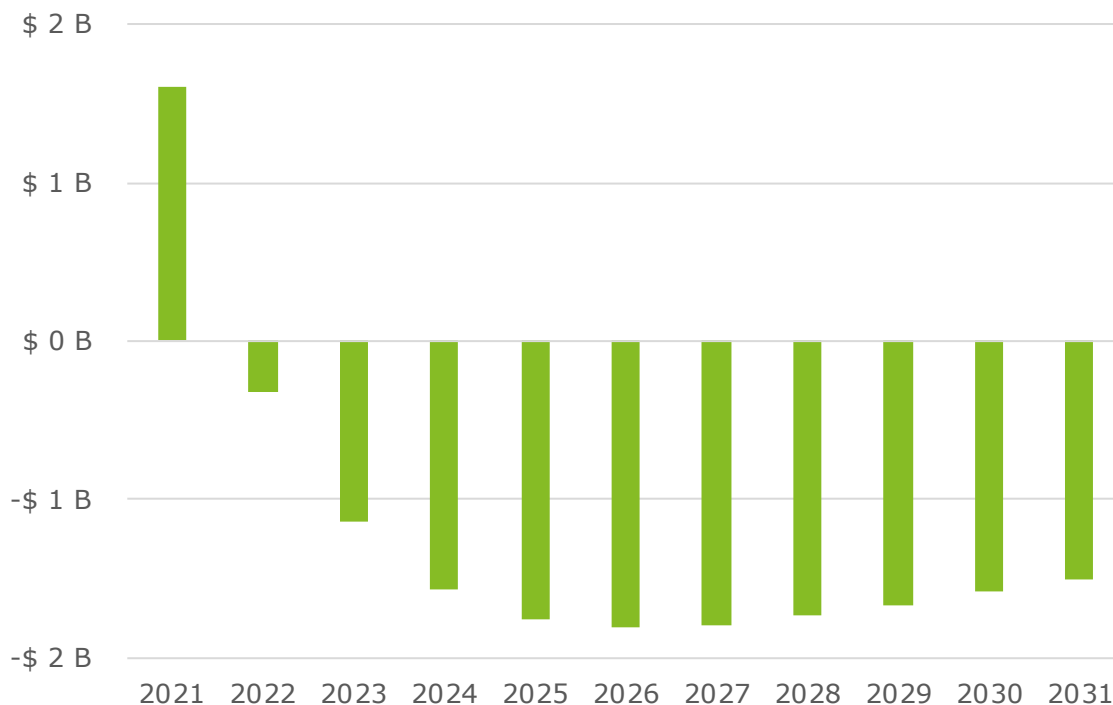
6.3.2 Gross national product

The impact on the economy can also be considered using gross national product (GNP). GNP is an estimate of the total value of the production of final goods and services within Australia. The calculation of GNP differs from GDP by including residents' investment income from overseas investments, and excluding foreign residents' investment income earned within Australia. The impact of the proposed tax changes is particularly pronounced in the first year of the policy, where GNP falls $2.34 billion, before shifting to an increase of $0.33 billion relative to the baseline forecast in 2031.

The fall in GNP in the short term occurs as there is a sharp drop in the terms of trade as the shock spills over from the dwellings sector to other capital intensive sectors of the economy. As capital moves away from the dwellings sector to other sectors in the economy and domestic demand falls, other sectors expand their production accordingly. This expansion of production occurs at a lower market clearing price which then flows through to lower export prices and a depressed terms of trade.

This effect diminishes over the modelled period as the economy adjusts to the shift in production and market clearing price for capital. In addition, Australia is paying less in interest, having paid down debt, which reduces the total change in GNP relative to the baseline in later years.

Chart 6.2 Impact on real gross national product, Australia (billions, 2021-2031)
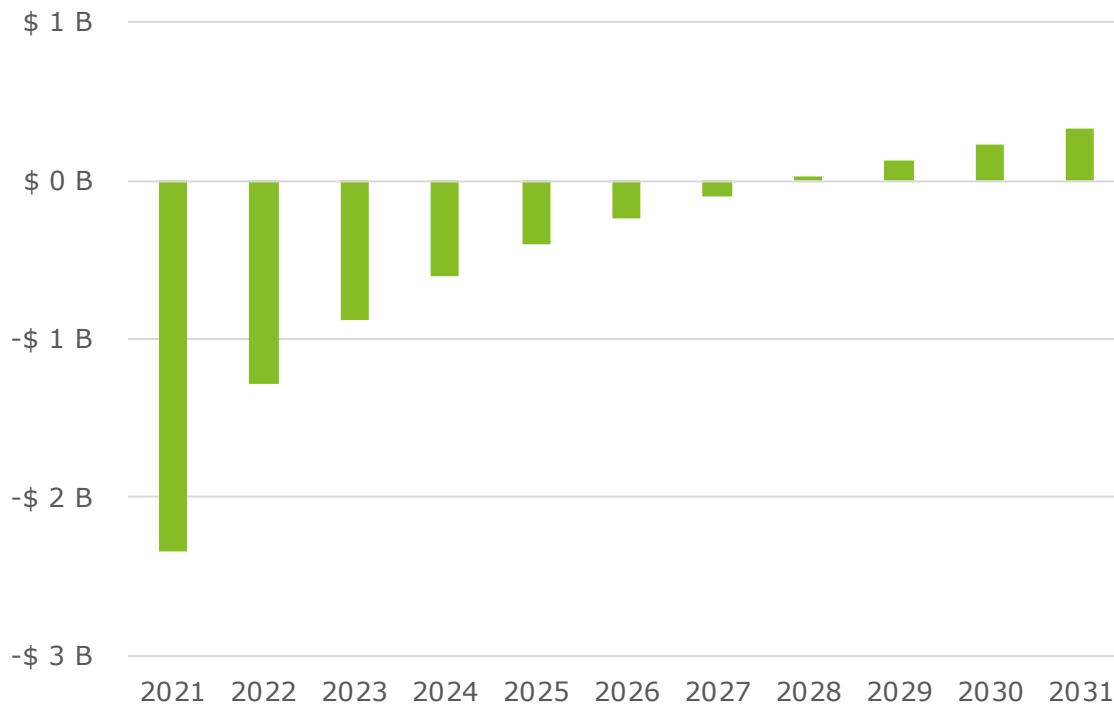
Source: Deloitte Access Economics

6.3.3 Aggregate employment

This section considers the estimated impact of the policy on employment by sector. Chart 6.3 presents the employment effects, relative to the baseline, in 2031.

Consistent with the decline in commencements estimated in the empirical model, employment in the construction sector also declines with the decline in construction in FTE averaging 7,800 over the period to 2031. This decline in construction employment is larger in the earlier years of the model. This is directly as a result of the fall in the rate of return in this sector and corresponding reduction in investment in capital. Business and financial services are heavily linked to the housing market, and so too see a decline in employment.

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Overall, employment grows by 1,100 FTEs a year on average as capital moves out of the dwelling sector to other sectors of the economy with the decline in the return to capital leading to a substitution towards labour. However, in the long run aggregate employment falls marginally. This occurs because the initial impact of the policy change on the return to capital subsides as prices and rents adjust to factor in the impact of the tax changes. Other studies such as that by the Centre for International Economics (2017) hold employment constant although find that real wages fall which is consistent with a fall in aggregate labour demand in the long run. Similar results were found in the modelling under the central scenario with real wages falling by 0.34% on average over the period to 2031, although the effect is relatively small (0.14%) by 2031.

Chart 6.3 Employment effects, relative to the baseline, average FTE per year (2021-2031)
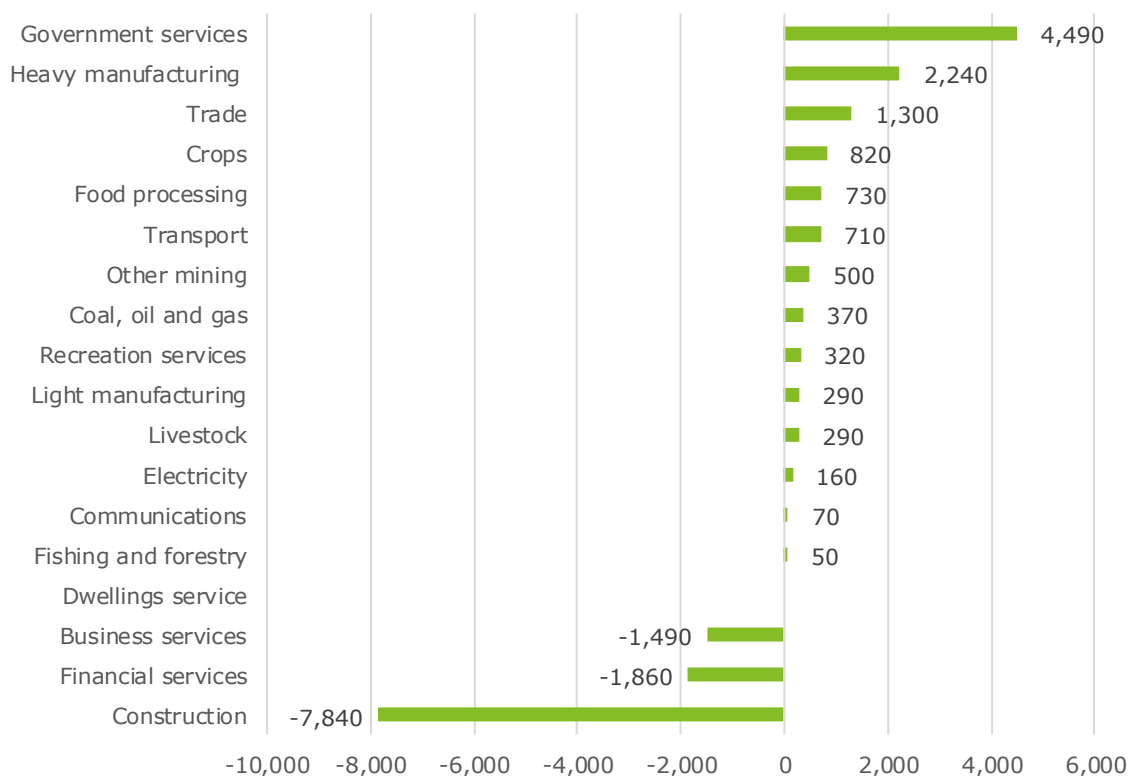
Source: Deloitte Access Economics

This labour flows to other sectors in the economy, with the greatest increase in the government services sector – likely due to the fact that the government has more revenue which they are able to spend. Other sectors to see a large increase in employment include heavy manufacturing and trade.

6.4   Results (scenario 2)

This section contains the results from a scenario whereby all of the incidence falls on mobile capital. In this setting, the reduction in Australia's GDP was estimated to be larger at $3.6 billion by 2031. Like the central scenario, the impact on GNP is smaller than the impact on GDP in the later years as it captures repayments of government debt owed to foreigners over time.

The larger economic contraction is due to land taxes being more efficient compared to taxes on physical capital which is mobile (i.e. land taxes have a smaller distortionary impact). The impact in this scenario still maintains the same pattern of sector impacts, with resources moving away from dwellings and construction.

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Chart 6.4 Impact on real gross domestic product, Australia (billions, 2021-2031)
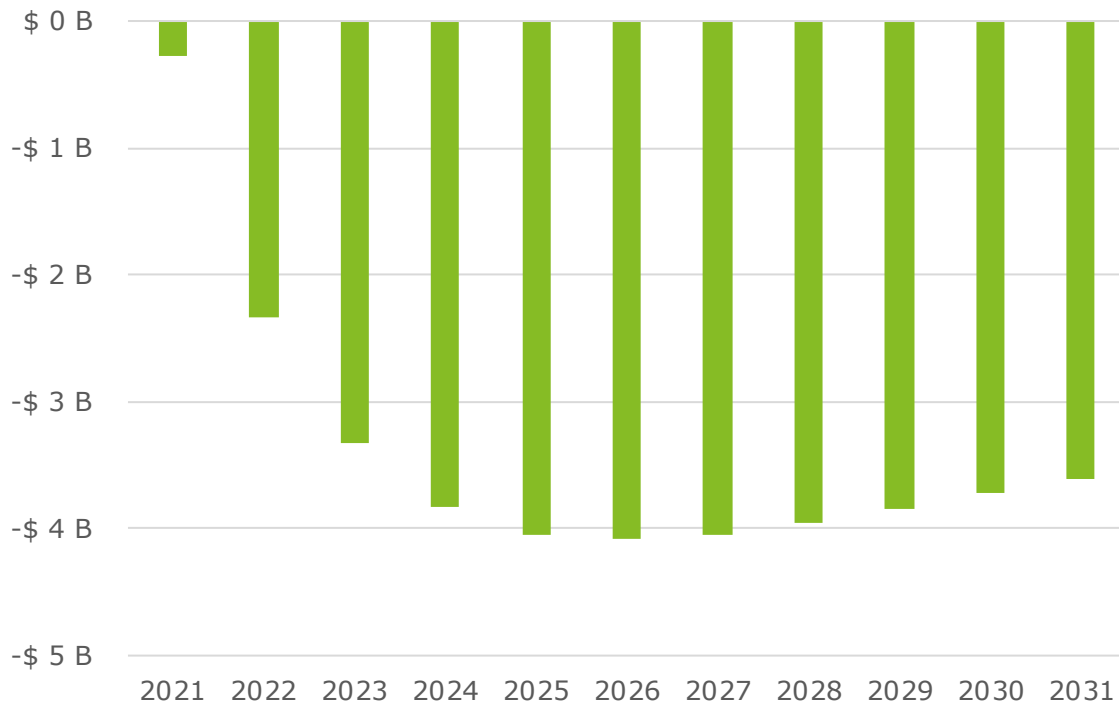
Source: Deloitte Access Economics

Chart 6.5 presents the average yearly employment effect, relative to the baseline, across the model period. Overall, the net effect of the policy, is 3,140 additional FTE employees per year, relative to the baseline. The construction sector continues to experience the largest decline in employment, relative to what is forecast under the baseline over the model period.

Similar to the central scenario, in the long run aggregate employment fall slightly and real wages also fall. Real wages fell by 0.77% on average over the period to 2031, although the impact on real wages is smaller (0.38%) by 2031.

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Chart 6.5 Employment effects, relative to the baseline, average FTE per year (2021-2031)

Sector	Value
Government services	8,710
Heavy manufacturing	4,660
Trade	2,530
Transport	1,530
Food processing	1,200
Other mining	930
Crops	820
Recreation services	660
Coal, oil and gas	650
Light manufacturing	620
Livestock	420
Electricity	350
Communications	180
Fishing and forestry	80
Dwellings service	
Business services	-2,390
Financial services	-3,860
Construction	-13,940
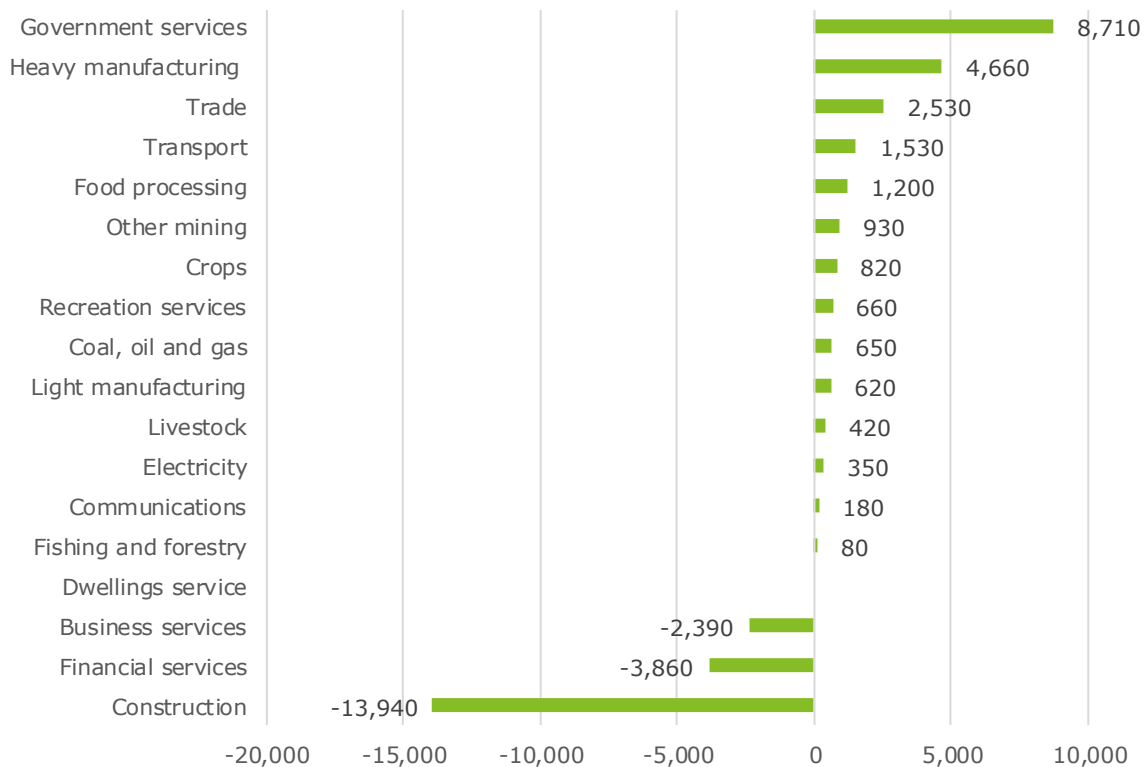
Source: Deloitte Access Economics

6.5   Results (scenario 3)

6.5.1   Additional revenue used to offset tax cuts

This section contains the results from a third scenario which assumes the like scenario 2 none of the incidence falls on the value of land but that the revenue generated from the ALP policy scenario is redistributed through income tax cuts, such that the net change in tax revenue is equal to zero.

In line with the results above, the economy still experiences a net fall in GDP. Specifically, the changes would lead to a decrease in GDP by $3 billion in 2031. This decrease is more muted than in the scenario where all of the incidence of the tax falls on mobile capital, leading to a fall in GDP by $3.6 billion in 2031 relative to the base period. This contraction is paired with significant shifts in resources away from dwellings and construction.

The income tax cuts supports additional employment in other sectors. Overall the net effect of the policy change, relative to the baseline, is an additional 12,670 FTE employees per year, compared to 3,140 per year in the previous scenario and 1,100 a year in the core scenario.

The increase in labour continues to support the government services sector, with an average of 11,210 FTE employees created per year from 2021 to 2031. Employment in heavy manufacturing is also expected to increase as well as a significant increase in trade employment.

Chart 6.6 Employment effects, relative to the baseline, average FTE per year (2021-2031)

Industry	Value
Government services	11,210
Heavy manufacturing	5,530
Trade	4,140
Transport	2,190
Food processing	1,440
Other mining	1,030
Recreation services	930
Crops	930
Light manufacturing	850
Coal, oil and gas	710
Livestock	490
Electricity	470
Communications	320
Fishing and forestry	100
Dwellings service	
Business services	-1,190
Financial services	-3,200
Construction	-13,270
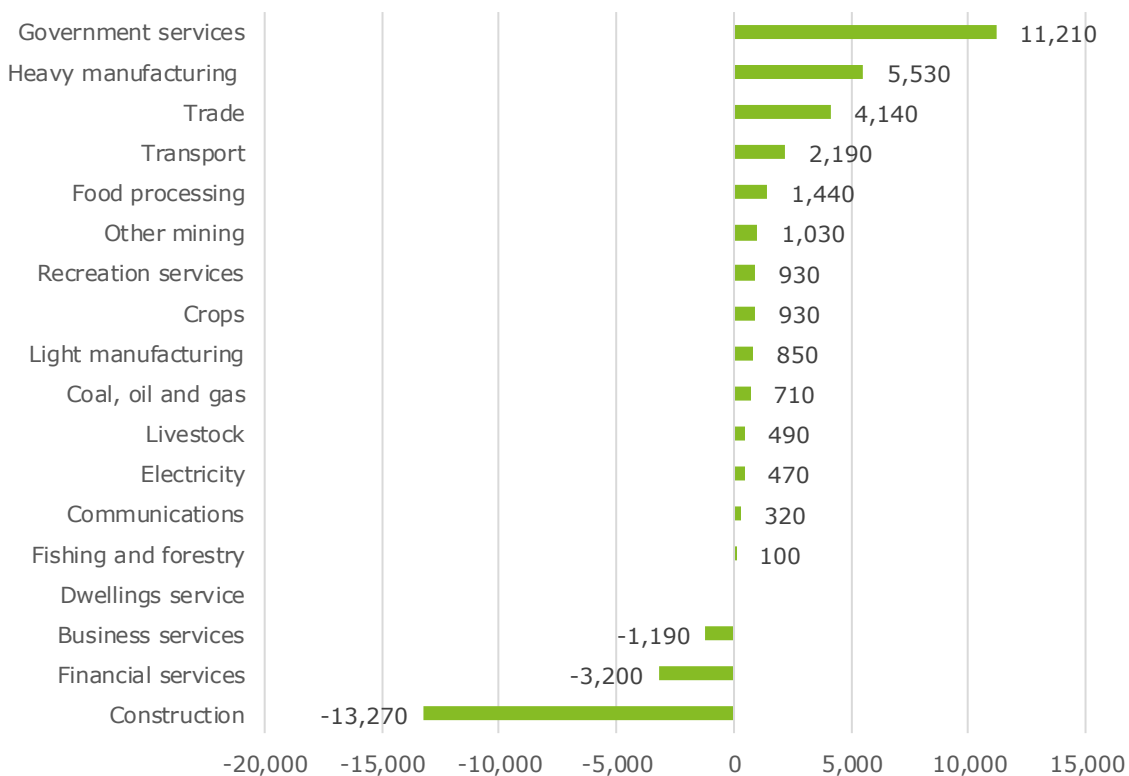
Source: Deloitte Access Economics

6.6   Comparison to other studies

In recent years, a handful of other studies have adopted a CGE model to analyse the impact of ALP's proposed changes to negative gearing and/or capital gains taxes to the Australian economy.

A study by the Centre for International Economics (2017) analysed the impact of an increase in the capital gains tax, specifically, the reduction of the discount rate to both 40% and 25%.[43] The approach considers these changes through the lens of additional tax on the dwelling services industry, and an additional tax levied on capital in the dwelling supply industry, similar to the approach used in scenario 2 here. The model generates a marginal excess burden (the reduction in welfare as a share of tax revenue raised) of 22%.

The results of the study by the Centre for International Economics (2017) indicate that a reduction in the discount rate from 50% to 25% for capital gains would see GDP fall by 0.2%each year compared to the baseline forecast. This fall in GDP would also be associated with a fall in labour demand which results a fall in real wages by 0.7%each year.

These results are comparable with the results of scenario 2 in our report which implements a similar shock and results in a fall in real GDP by an average of 0.17% per year compared to the baseline forecast. Scenario 2 also results in a similar decrease in real wages to that found by the Centre for International Economics (2017). However, the changes being modelled are different. The study by the Centre for International Economics only models the proposed change to capital gains tax (without grandfathering), whereas this report models both the proposed changes to negative gearing and capital gains although assumes that investments are grandfathered.

A second study analysed the impact of the proposed ALP policy on construction activity in Australia.[44] To estimate the effect on construction activity and employment in the construction

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[43] The Centre for International Economics (2017). Analysis of capital gains tax changes.
[44] Cadence Economics (2019). Changing the taxation regime for investors in the housing market.

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sector, Cadence Economics calibrated their CGE model based on two scenarios which implied a high and low estimate of marginal excess burden from the tax:

- A lower MEB is first estimated at 8 cents per dollar raised. This is adopted from the MEB from a land tax estimated in the Henry Tax Review.[45] This is akin to assuming the incidence of the tax falls primarily on the value of land.
- An upper MEB is estimated at 34 cents per dollar raised, adopted from the MEB associated with Conveyancing stamp duties in the Henry Tax Review.

The study estimated that the policy would lead to a decrease construction activity ($425-1,812 million lower in real 2017 dollars than the baseline forecast) and aggregate employment (1,128-4,807 FTE lower than the baseline forecast). The study also estimates a fall in employment within the construction sector by an average of 6,376 FTE per year over the first five years.

Finally, a study by Independent Economics in 2014 modelled a 40% discount to net property income akin to a negative gearing removal type scenario. This study found that this would create a marginal excess burden of 23%. The marginal excess burden estimated across the three scenarios modelled in this report ranges between 17% and 49% which is broadly in line with that estimated or adopted by other studies.

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[45] Henry Tax Review (2009). Australia's future tax system: Report to the Treasurer.

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7 Distributional impacts

This section of the report outlines the distributional effect of the policy changes due to the change in dwelling prices, rents, home ownership rates, government policy and the economy.

Key Findings

- The impact on overall economic activity found by the economy-wide modelling provides a picture of the aggregate impact of the policy on economic welfare (as captured by measures such a GDP and GNP). However, there will be important distributional effects across the population.
- These distributional implications are likely to be complex with different implications for households who are renters or owner occupiers and households who own investment properties. Where these groups sit on the income distribution will determine how well they are able to adjust to the change in incomes, housing costs, and wealth that result from the policy change.
- The reduction in house prices (compared to what they would have been otherwise) results in a transfer of wealth from current homeowners (and investors) to future homeowners. Future investors will also be worse off as the reduction in prices and increase in rents does not fully offset their increase in user costs.
- This is broadly consistent with the findings of Cho et al (2017), which find that limiting the use of negative gearing results in a transfer of 'welfare' from existing owners to future owners. That said, unlike the policy scenarios considered here, they do not grandfather existing arrangements, which means that existing investors are more adversely affected than they would be under the policy changes examined in this report.
- Given that existing owners and future investors tend to have a higher disposable income and more wealth than non-owners, these households are better placed to deal with the small negative effects of the policy change.
- The relatively small increase in rents will impact households who rent. While households that rent are found across the income distribution, low income renters are far more likely to be in housing stress than high income renters, and have less disposable income to spend on additional rent. This suggests that any increase in rents may place further pressure on these low income households.
- That said, these low income renters are more likely to benefit from the expected redistribution as a result of this policy. The ALP policy platform involves spending more on government services and transfers, which benefit lower income households to a greater extent. Cho et al (2017) find that the majority of housing, including low income renters who pay more rent, are better off from a policy which removes negative gearing and provides the additional revenue back to households as lump sum transfers.
- The reduction in existing dwelling prices will make it easier for some renters to become owner occupiers. Given the still significant hurdles to becoming a homeowner in Australia, such as the large deposit, it is likely that this relative increase in homeownership rates reflects households becoming homeowners faster than they otherwise would have, rather than otherwise lifetime renters becoming owner occupiers. This suggests the benefits will mostly accrue to middle and higher income households who currently are renters, rather than lower income renting households.
- On balance, the policy changes analysed here are likely to be of a progressive nature in the aggregate. Older and wealthier households are more likely to be worse off due to the policy change than younger and less well-off households. That said, given the relatively small changes to prices, rents and construction activity, the effects here are not particularly large.

The impact on overall economic efficiency found by the economy-wide modelling provides a reasonable picture of the aggregate impact of the policy on welfare. However, there will be important distributional effects across the population.

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These distributional implications are likely to be complex with different implications for households who are renters or owner occupiers and households who currently own (or may own in the future) investment properties. Where these groups sit on the income distribution will determine how well they are able to adjust to the change in incomes, housing costs, and wealth that result from the policy change.

On balance, the policy changes analysed here are likely to be of a progressive nature in the aggregate. Older and wealthier households are more likely to be worse off due to the policy change than younger and less well-off households. That said, given the relatively small changes to prices, rents and construction activity, the effects here are not particularly large.

This is consistent with the findings of Cho et al (2017), which find that the 'welfare' of a majority households increases following the removal of negative gearing, assuming that the increase in government revenue is provided back to households as a lump sum transfer. While the policy examined here differs in certain ways (does not include grandfathering or the change to the CGT discount), the policies examined are still broadly similar in nature and effect on the markets in question.

7.1   Effect of prices and rents

The **reduction in dwelling prices** (compared to what they would have been otherwise) results in a transfer of wealth from current homeowners to future homeowners (even accounting for grandfathering of existing arrangements). This can be summarised as a transfer of wealth from current to future generations, and from older Australians to younger Australians. This transfer in intergenerational wealth is a result of older households having a higher existing amount of housing wealth than younger households, with households aged 45 and older having around 180% more wealth in housing than households aged under 45 (Chart 7.1).

Chart 7.1 Average net housing wealth by household age cohort, 2015-16
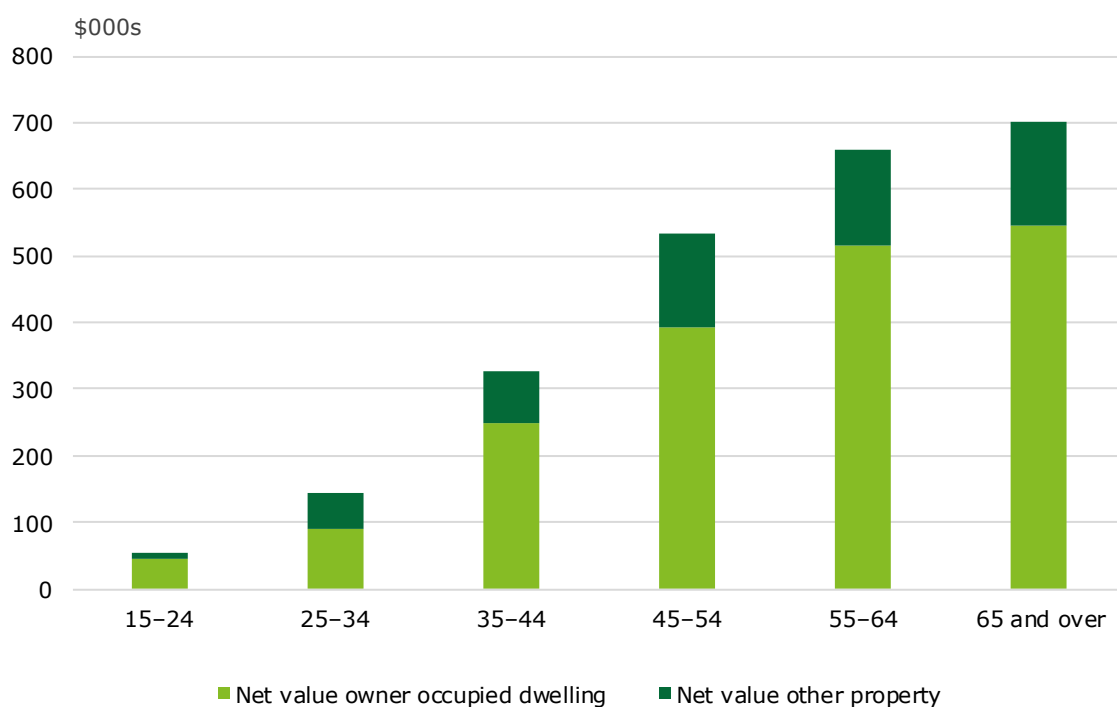
Source: ABS Cat No. 6523.0.

That said, households that have purchased a property more recently are the most likely to experience any negative consequence of the reduction in wealth. This is because they will have taken out a mortgage more recently reflecting the current value of the property, rather than at a lower purchase price from years earlier.

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On this measure, younger and middle aged households are more likely to have purchased property (particularly owner occupied housing) more recently, and are also more likely to have a larger outstanding mortgage on that property (Chart 7.2). That said, because the expected decline in prices is small, this is unlikely to have a particularly large effect.

Chart 7.2Average principal outstanding on housing loans by household age cohort, 2015-16

$000s

Legend:
■ Principal outstanding on other property loans
■ Principal outstanding on loans for owner occupied dwelling
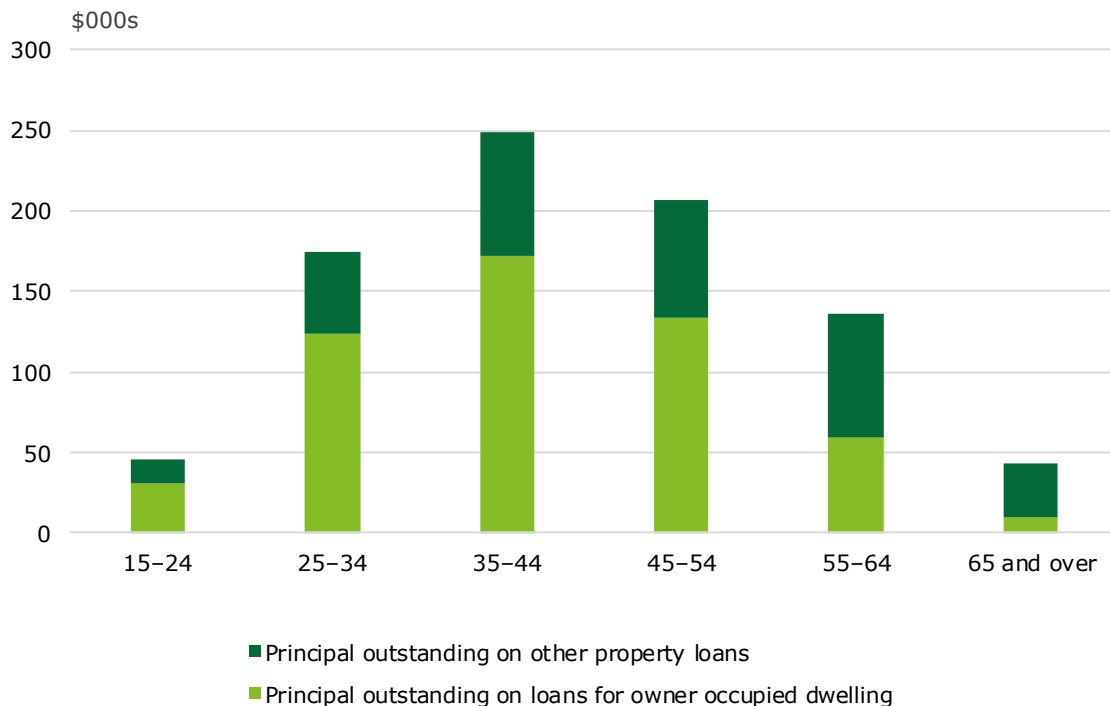
Source: ABS Cat No. 6523.0.

Future investors will also be worse off as the reduction in prices and increase in rents does not fully offset their increase in user costs (see Section 5).

Given that existing owners and future investors tend to have a higher disposable income and more wealth than non-owners, these households are better placed to deal with the small negative effects of the policy change.

This is broadly consistent with the findings of Cho et al (2017), which find that limiting the use of negative gearing results in a transfer of 'welfare' from existing owners to future owners. That said, unlike the policy scenarios considered here, they do not grandfather existing arrangements, which means that existing investors are more adversely affected than they would be under the policy changes examined in this report.

The distributional implication of the **small increase in rents** are different to those related to the increase in dwelling prices. While renters are more likely to be towards the lower end of the income distribution, there is not as large a difference between the proportion of renters as there are for owner occupied housing. For example, 20% of households in the top equivalised disposable income quintile are renters, compared to 24% for the bottom quintile (Chart 7.3).

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Chart 7.3 Tenure type by household equivalised disposable income, 2015-16

	Lowest quintile	Second quintile	Third quintile	Fourth quintile	Highest quintile
Other housing type	16%	7%	4%	3%	3%
Private landlord	24%	30%	29%	25%	20%
Owner with a mortgage	17%	28%	40%	51%	55%
Owner without a mortgage	43%	36%	27%	21%	23%

■ Owner without a mortgage ■ Owner with a mortgage ■ Private landlord ■ Other housing type
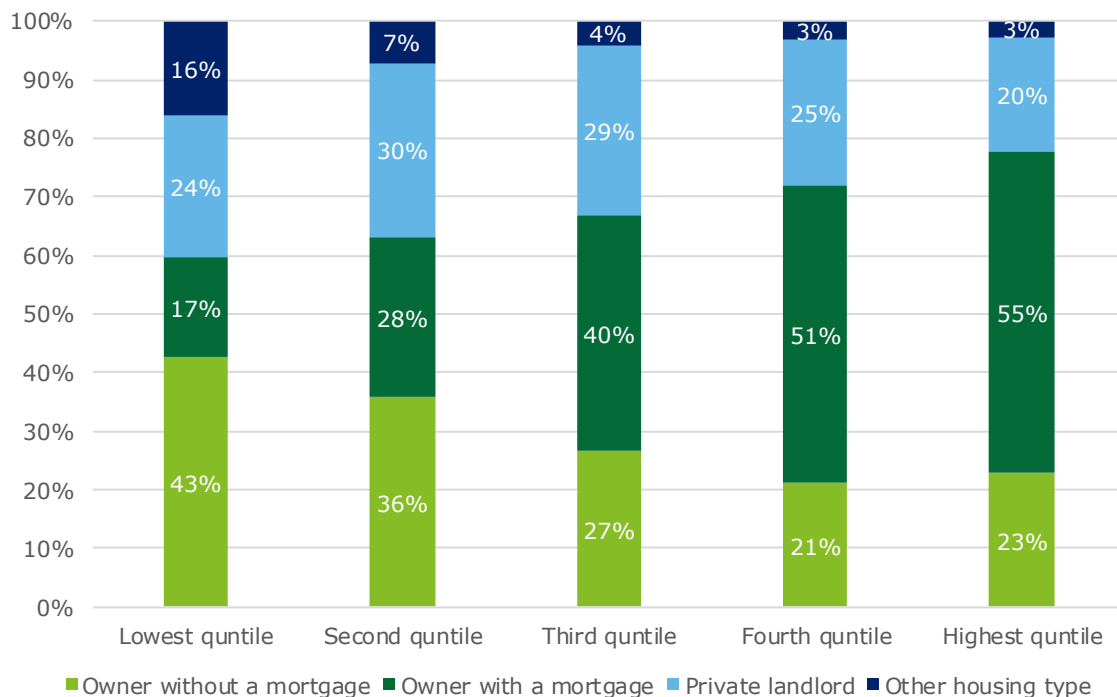
Source: ABS Cat No. 6523.0.

What is more important from a distributional standpoint is the capacity for those renters to be able to bear the cost of higher rents. Lower income renters in the private market are more likely to spend a higher share of their income on housing costs than owner occupiers. 60% of low income private renters are already classified as being in housing stress[46], with that same figure at 41% for owners with a mortgage and less than 1% for owners without a mortgage (Chart 7.4). Renters also have on average lower net wealth than owner occupiers, which further reduces their capacity to deal with higher housing costs without cutting back other consumption (as they already have lower rates of savings). This suggests that an increase in rents may place additional fiscal restraints on lower income households.

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[46] Classified as paying 30% of income in housing costs for the bottom 40% of income earners.

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Chart 7.4 Housing costs as a share of gross income, bottom 40% of income earning households, 2015-16
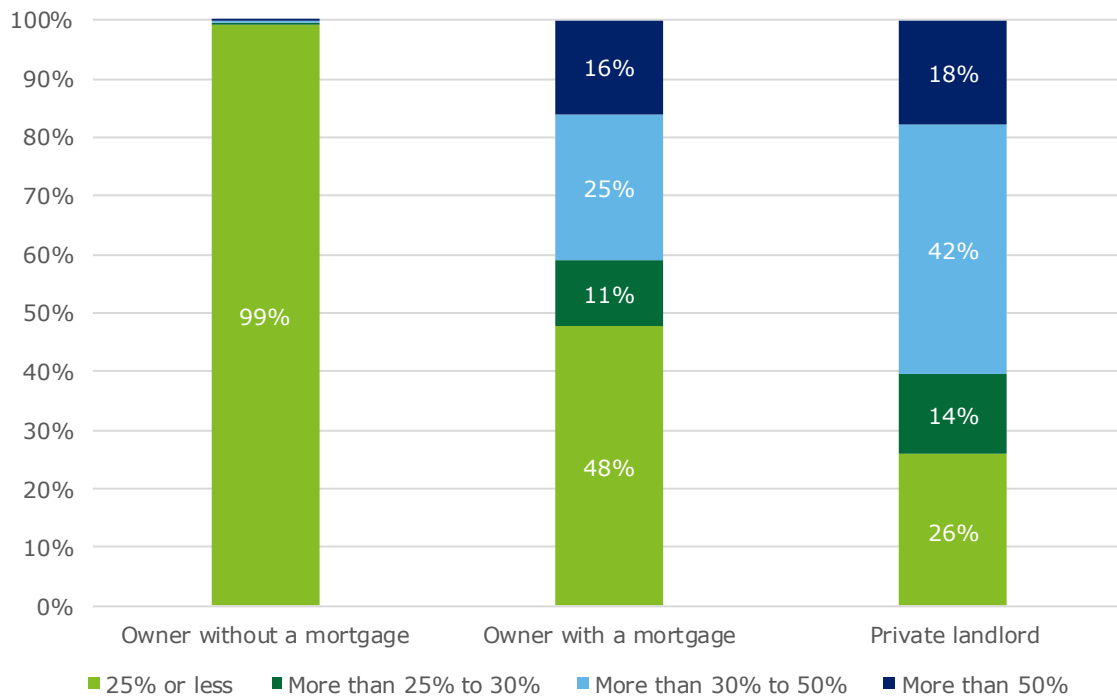
Source: ABS Cat No. 4130.0.

However, given that this increase in rents is expected to be modest and slow to materialise (see section 5), the effect is expected to be small on average. There may be effects in certain markets where investors are more prevalent, such as inner city apartment rentals. Given that these are already more expensive due to their proximity to amenities, it is likely that apartments in the private rental market in these areas are rented out by higher income households, who are better placed to pay the additional rent.

These households are also the most likely to move into owner occupied housing as a result of the policy change. Our analysis shows that there is an increase in the **rate of homeownership** relative to where it would be otherwise. Any increase in home ownership rates has other flow on benefits. There are a number of financial and non-financial benefits to homeownership. Non-financial benefits include security of tenure, freedom to renovate and pride of ownership (Fox and Tulip 2014). These provide households with additional welfare or wellbeing from their house, even if the costs of home ownership are commensurate with renting.

Household savings in the form of owner-occupied housing are also more tax advantaged than other forms of saving. Owner occupied housing is exempt from the CGT, and is excluded from the age pension assets test, which can increase income in retirement.[47] More broadly, owner occupied housing is considered to be a significant part of the third pillar of Australia's retirement income system (AFTS 2010). High homeownership rates amongst older cohorts supports Australia's existing retirement system, and can have a significant impact on a retiree's standard of living.

These benefits to owner occupied housing have led many studies to provide a higher value to consumption from owner occupied housing, compared to rental housing (Cho et al 2017). This suggests that those renters who become owner occupiers receive an additional benefit. Given the still existing significant hurdles to becoming a homeowner in Australia, such as the large deposit, it is likely that this relative increase in homeownership rates reflects households becoming

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[47] Renters on the Age pension do get access to a higher asset threshold and to rent assistance, but these concessions are not as valuable as those related to owner occupier housing.

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homeowners faster than they otherwise would have, rather than otherwise lifetime renters becoming owner occupiers. Given that, these renters are likely to earn higher incomes though, and have a higher net worth to afford the deposit. This suggests the benefits will mostly accrue to middle and higher income households who rent, rather than lower income households.

7.2   Government policy considerations

The change in tax policy is expected to contribute $32.5 billion in higher taxes to the Commonwealth Budget over the next decade.[48] The Government can decide what to do with the additional revenue, whether it is used to lower other taxes, spend more on government services, or run bigger Budget surpluses over time.

What is done with the revenue can have particularly important distributional implications. As Chart 1.1 showed, lower income households tend to pay less income tax and receive more in government transfers and services than higher income households. This suggests that if the increase in revenue was used to pay for additional government services, it is more likely to have a redistributive effect than if it was used for personal income tax cuts.

An alternative perspective would be to look at the distributional impact across generations. If the higher revenue was used to pay down debt faster (through larger surpluses), it would redistribute income across generations as future taxpayers would need to pay less tax to cover the debt accrued by current taxpayers.

Cho et al. (2017) show how this question of what to do with the additional revenue can have important equity implications. They find that removing negative gearing results in around 80% of households being better off, but that "…the redistribution of additional government revenue is the main mechanism which drives the welfare gains". That is that household welfare (measured as household consumption) is higher because the increase in taxes (from the removal of negative gearing) is handed back to households as a lump sum transfer. In the scenario where there is no redistribution, there is a reduction in "welfare", as there is no redistribution to offset the increase in rent paid by renters.

While we cannot apportion specific revenue raising policies to other spending or tax measures, on balance, the ALP policy platform suggests that the additional revenue is more likely to be used on government spending rather than other tax relief. This suggests that there will be some redistributive effect of the policy change.

[48] https://www.alp.org.au/media/1878/2019_labor_fiscal_plan.pdf

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8 Policy responses to smooth the transition

This section of the report outlines potential policy responses that could be used to moderate the short term (or transitional) effects of the policy change on Australia's housing markets and economy.

Key Findings

- The findings presented in this report suggest that, over the long term, ALP's proposed policy change will have a relatively moderate aggregate impact on Australia's housing markets and Australia's economy.
- That said, it is possible that these moderate longer term results may not reflect the short term disruption from the policy change. Short term perception, miscalculation or fear can see market participants overreact to policy and other changes that affect the housing market.
- This could result in larger short term declines in dwelling prices, which would flow through to lower construction activity and employment, as well as lower employment in related sectors.
- In addition to the normal response to developments in Australia's economy by the Reserve Bank, both Federal and State governments could consider introducing other policy measures to smooth out the transition effects.
- Federal and State governments could introduce measures to boost short term demand, such as first home buyer grants and concessions. These would provide a short term stimulus to the housing market by bringing activity forward. A variation on this policy was announced during the 2019 election campaign. The Government proposes to use the National Housing Finance and Investment Corporation to guarantee the loans of 10,000 first homebuyers. An extension to this would be for the states and territories to lower stamp duties, potentially as part of a longer term transition away from stamp duties on transactions.
- Governments could also look at measures that would boost housing supply by: increasing investment in public housing; providing additional subsidies for housing aimed at low-income renters; or via relaxing zoning laws which would make it cheaper to build new dwellings.
- While these policies may add to supply over the long term, it is unlikely they will do so dramatically in the short term, due to the significant lag between policy formulation and construction starting. This suggests that the ability for these supply side policies to provide a short term stimulus for the housing construction sector would likely be limited.
- In light of this, it may be that governments could consider a combination of both demand and supply policies to help mitigate any material short term adverse effect on the housing market and the economy – noting that some such announcements have been made in the lead up to the election.

This report has outlined our analysis of the likely impact of the policy scenarios. Our findings suggest that over the longer term, there will be a modest decline in house prices relative to where they would have otherwise been, and a smaller relative increase in rents (Chapter 5). There would also be a modest reduction in the size of Australia's economy (Chapter 6).

It is possible that these modest longer term results may not reflect the short term disruption from the policy change. Section 5 noted that in the past, 'sentiment effects' have seen markets overreact in the short term to policy and other changes that effect the housing market. This says that the short term impact may be larger, particularly given the current weakness in the housing market (see Section 2). Any increase in negative sentiment as a result of the policy change may compound this, further dampening confidence. This could see additional falls in house prices and further reduce residential construction activity over and above what we would expect based on the longer term increase in user costs.

This occurrence could contribute to a rise in the rate of unemployment in Australia in the short term, as employment in the residential construction, real estate and other industries related to

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residential property declined even if the employment impacts over the longer term more benign as indicated by the findings of the economy-wide modelling in Chapter 6. In this case, it is likely that the independent Reserve Bank of Australia (RBA) would lower interest rates, as they would normally in response to a slowdown in the Australian economy.[49] Lower interest rates would provide some stimulus to the housing market, by lowering the cost of credit, somewhat helping to soften the impact of the policy change on demand for property.

In addition to a potential policy response from the RBA to a slowdown in economic activity, both Federal and State governments could look at introducing other policies which could help to smooth the transition in the market following the introduction of the tax changes.

In this case where demand side stimulus is required, it should follow the 'timely, temporary and targeted' (TTT) mantra which was championed by former Treasury Secretary Ken Henry when designing the first tranche of stimulus in reaction to the 2009 financial crisis. The timely requirement ensures that the stimulus is applied when the economy is in a downturn and not too late as the economy begins to recover to avoid creating excess demand and fuelling higher inflation and interest rates. Secondly, the stimulus must be targeted toward policies that have the greatest multiplier effect on the economy. Thirdly, any stimulus should be temporary in order to minimise the long term effects on the budget or locking in policies that do not improve market efficiency in the long run.

A range of policies can be considered to help stimulate the property market, and broader economy, during the transition phase. There are tradeoffs associated with each of these policies that need to be carefully considered by policy makers. The remainder of this Chapter briefly considers three potential options: first home buyer concessions, changes to stamp duties and policies to encourage additional construction activity.

8.1   First home buyer concessions

In the past, governments at both the federal and state level has used first home buyer (FHB) grants and concessions (such as on stamp duties) to encourage housing market activity during downturns. This was done following both the introduction of the GST on 1 July 2000, and as a response to the financial crisis of 2009. In both cases, first home buyers received a subsidy towards the purchase of a new or existing dwelling. FHB grants and subsidies can encourage market activity by bringing forward a future purchase, as they can reduce the time taken to save for a deposit. This can lead to higher short term prices due to the increase in demand (Daley et al. 2018).

The risk with such a policy is that much of the impact of the grant is reflected in house prices without materially improving affordability. However, such a policy could help offset the expected reduction in prices and support market sentiment in the short term and help reduce the risk of a steep decline in dwelling prices and construction activity.

The current government announced a variation on a FHB grant during the 2019 election campaign, proposing to use the National Housing Finance and Investment Corporation to guarantee the loans of 10,000 first homebuyers. The policy would allow FHBs to purchase a home with only a 5% deposit without needing to purchase lenders mortgage insurance (LMI), which is usually required for purchases with a loan-to-value (LVR) ratio of less than 80%. Singles earning up to $125,000 will be eligible for the policy, with that income threshold increased to $200,000 for couples.

The policy is clearly targeted at marginal home buyers. Given that the policy is limited to 10,000 homes, access to it will most likely be temporary and could be timed to coincide with the introduction of the policy scenario. However, there are potential tradeoffs with such a policy. In particular, the scheme may have a limited impact on market demand if many of those who access the scheme would have purchased a property anyway by taking out lenders' mortgage insurance. If it does allow more buyers to access the market this would support demand in the short term,

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[49] In the Governor's statement following the May 2019 monetary policy decision, Governor Philip Lowe noted that "…the Board will be paying close attention to developments in the labour market at its upcoming meetings." (available at: https://www.rba.gov.au/media-releases/2019/mr-19-11.html)

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although by drawing in borrowers with smaller deposits it may raise the risk of default, albeit for a small part of the overall market.

8.2   Changes to property taxation

More broadly, State and Territory governments could boost short term demand by reducing taxes on the transfer of property. Stamp duties on property transactions increase the cost of property transactions (Deloitte Access Economics 2015), which results in fewer transactions, reducing market activity. Temporary reductions in stamp duty would provide a short term boost to demand in the market through reducing the deposit hurdle needed to purchase a property, in much the same way that FHB grants do. Reductions in stamp duty could also be targeted towards lower price points to reflected the larger expected impact of the policy scenario on the apartment market.

However, a reduction in stamp duties even if only temporary would likely involve a significant reduction in State government revenues. A potential option to mitigate the impact on State Government revenue would be for the Federal Government to fund the revenue shortfall in the short term.

Generally, concessions that add to demand are less beneficial than those that increase supply, as they tend to provide temporary stimulus to the market, rather than improving affordability over the longer term. That said, they do tend to have a more immediate impact as the concession can be provided to a prospective home buyer faster than it takes to plan and get approval for new construction.

8.3   Policies to encourage additional construction activity

Alternatively, governments could also look at implementing policies that would boost housing supply, which would go towards offsetting any reduction in construction activity. Both Federal and State governments could invest in new public housing, or they could provide incentives for the private sector to invest in public or other social housing. This would also have the benefit of increasing the stock of dwellings available to rent by low income households, who may be adversely affected by the policy change due to higher rents.

As noted in Chapter 1 (Box 1.1), the ALP had already announced a number of policies aimed at increasing the supply of housing available to rent for low income households in the private sector.

More broadly, governments at all levels could invest further in building infrastructure, such as large scale transport projects. This would add to the demand for construction labour, helping to provide employment to those workers who lose their job due to the downturn in housing construction, where skills are transferable between building and engineering construction sectors. This would also increase the productive capacity of Australia's economy, providing a longer term dividend to the economy provided that the investments were directed to projects with longer term net benefits.

State and local governments could also make it easier to add to the supply of dwellings in desirable areas by relaxing some zoning laws. These laws generally restrict access to new land that can be developed for residential dwellings and place restrictions on the type, size and number of dwellings that can be built in areas that are zoned as residential.

These restrictions can add to construction costs, while also limiting the profit that can be made on construction projects, which reduces the amount of newer development. Kendall and Tulip (2018) found that zoning restrictions increase the average price of a detached house by 73% in Sydney, 69% in Melbourne, 42% in Brisbane and 54% in Perth. These same figures for apartments are 85% for Sydney, 30% in Melbourne and 26% in Brisbane.

This suggests that relaxing or removing some of these restrictions could have a significant impact on improving housing affordability in Australia's large cities, while also allowing developers to better use the land available.

While these policies may add to supply over the long term, it is unlikely they will do so dramatically in the short term, due to the significant lag between policy formulation and

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construction starting. In particular, the benefits of changes to zoning laws are likely to only occur gradually.

Governments could look to structure some construction expenditure for projects that are at advanced stages of planning process to coincide with the introduction of the policy scenario but this would require significant advance planning. Given the challenges of timing infrastructure expenditure, the Federal Government, in conjunction with the States and Territories, could consider a combination of both demand and supply policies to reduce any substantial short term negative effect on the housing market and the economy from the policy scenario.

Analysis of changes to negative gearing and capital gains taxation

References

ABS (2017) 4130.0 - Housing Occupancy and Costs, 2015-16, available at:
https://www.abs.gov.au/ausstats/abs@.nsf/mf/4130.0

ABS (2017) 6523.0 - Household Income and Wealth, Australia: Summary of Results, 2015-16,
available at:
https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/6523.0~2015-
16~Main%20Features~Characteristics%20of%20Low,%20Middle%20and%20High%20Wealt
h%20Households~10.

ABS (2019) 5204.0 - Australian System of National Accounts, 2017-18, available at:
https://www.abs.gov.au/ausstats/abs@.nsf/mf/5204.0

ABS (2019) 5206.0 - Australian National Accounts: National Income, Expenditure and Product, Dec
2018, available at: https://www.abs.gov.au/ausstats/abs@.nsf/mf/5206.0

ABS (2019) 5601.0 - Lending to households and businesses, Australia, Jan 2019, available at:
http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5601.0Jan%202019?OpenDocume
nt

ABS (2019), 5506.0 – Taxation Revenue, Australia, 2017-18. Available at:
https://www.abs.gov.au/ausstats/abs@.nsf/mf/5506.0

ABS (2019), 6302.0 – Average Weekly Earnings, Australia, Nov 2018. Available at:
https://www.abs.gov.au/ausstats/abs@.nsf/latestProducts/6302.0Media%20Release0Nov%
202018

ALP (2015) Positive plan to help housing affordability, available at:
https://web.archive.org/web/20190305105528/https:/www.alp.org.au/negativegearing accessed 5
July 2019.

ATO (2019) Taxation statistics 2016–17, available at: https://www.ato.gov.au/About
ATO/Research-and-statistics/In-detail/Taxation-statistics/Taxation-statistics-2016-
17/?anchor=Individualsdetailedtables#Individualsdetailedtables

Australian Financial Review (2019), "Negative gearing, CGE changes will mean better investment
homes", available at: https://www.afr.com/real-estate/residential/negative-gearing-cgt-
changes-will-mean-better-investment-homes-20190503-p51jz8

Corelogic (2019), Various Property Market Indices.

Deloitte (2015), Mythbusting Tax Reform, Volume 2, available at:
https://www2.deloitte.com/au/en/pages/tax/articles/tax-reform-debate-mythbusting-
perspective.html

Fox and Tulip (2014) Is Housing Overvalued?, available at:
https://www.rba.gov.au/publications/rdp/2014/pdf/rdp2014-06.pdf

OECD (2019) Analytical house prices indicators, accessed on 17 March 2019

Carling (2019), Myth vs Reality: the case against increasing Capital Gains Tax, The Centre for
Independent Studies, Policy Paper 18, March 2019. Available at:
https://www.cis.org.au/app/uploads/2019/03/pp18.pdf?

Analysis of changes to negative gearing and capital gains taxation

Kendall and Tulip (2018), 'The effect of Zoning on House Prices', RBA Discussion Paper No. 2018-03.

The Australian Government the Treasury (2015), Re:Think Tax Discussion Paper, March 2015. Available at: https://treasury.gov.au/sites/default/files/2019-03/c2015-rethink-dp-TWP_combined-online.pdf

Australia's Future Tax System (2010) http://taxreview.treasury.gov.au/content/Content.aspx?doc=html/pubs_reports.htm

Deloitte (2015), Mythbusting Tax Reform, Volume 1, available at: https://www2.deloitte.com/au/en/pages/tax/articles/tax-reform-debate-mythbusting-perspective.html.

Property Council of Australia (2015), Stamp Duty Analysis, 12 June 2015, available at: https://www.propertycouncil.com.au/downloads/propsignificance/Stamp_duty.pdf

Property Council of Australia (2019), Investor Responses to Proposed Property Taxation Changes, Community Research Report.

Reserve Bank of Australia (2019), Lending Rates – F5. Available at: https://www.rba.gov.au/statistics/tables/

Reserve Bank of Australia (2019), Inflation Expectations – G3. Available at: https://www.rba.gov.au/statistics/tables/

Daley, J., Coates, B., and Wiltshire, T. (2018). Housing affordability: re-imagining the Australian dream. Grattan Institute.

Deloitte Access Economics (2015), The economic impact of stamp duty: Three reform options, Prepared for the Property Council of Australia, December 2015. Available at: https://www2.deloitte.com/au/en/pages/economics/articles/economic-impact-stamp-duty-reform-options.html

The Australian Government the Treasury (2010), Ralph Review of Business Taxation, July 1999. Available at: http://rbt.treasury.gov.au/publications/paper4/

Duca, J. V., Muellbauer, J., & Murphy, A. (2011), 'House prices and credit constraints: Making sense of the US experience', The Economic Journal, *121*(552), 533-551

Glaeser, E. L., Gyourko, J., Morales, E., & Nathanson, C. G. (2014), 'Housing dynamics: An urban approach', Journal of Urban Economics, 81, 45-56

Otto, G. (2007), 'The growth of house prices in Australian capital cities: What do economic fundamentals explain?', Australian Economic Review, *40*(3), 225-238

Oxford Economics (2016), 'Forecasting UK house prices and home ownership', November 2016.

Saunders, T., & Tulip, P. (2019), 'A Model of the Australian Housing Market', Reserve Bank of Australia Discussion Paper Series, 2019-01.

ABS (2018) 3218.0 – Regional Population Growth, Australia, 2016-17, available at: https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3218.02016-17?OpenDocument

Stapledon, N. (2016), 'Notes on Housing- No. 2 April 2016, available from: https://www.business.unsw.edu.au/research-site/centreforappliedeconomicresearch-site/researchgroups-site/Documents/Stapledon_Notes_on_Housing_No2_April_2016.pdf

Analysis of changes to negative gearing and capital gains taxation

Stapledon, N. (2007), 'Long term housing prices in Australia and some economic perspectives', available from:
http://unsworks.unsw.edu.au/fapi/datastream/unsworks:1435/SOURCE02?view=true

ABS (2019) 8752.0 - Building Activity, Australia, Sep 2018, available at:
https://www.abs.gov.au/ausstats/abs@.nsf/mf/8752.0

ABS (2019), 5609.0 – Housing Finance, Nov 2018, available at:
http://www.abs.gov.au/ausstats/abs@.nsf/mf/5609.0

ABS (2019) 6345.0 - Wage Price Index, Australia, Dec 2018, available at:
http://www.abs.gov.au/ausstats/abs@.nsf/mf/6345.0

ABS (2019) 8731.0 - Building Approvals, Australia, Jan 2019, available at:
http://www.abs.gov.au/ausstats/abs@.nsf/mf/8731.0

ABS (2019) 6202.0 - Labour Force, Australia, Feb 2019, available at:
http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6202.0Feb%202019?OpenDocument

Deloitte Access Economics (2019) Business Outlook, March 2019.

ABS (2017) Census of Population and Housing, accessed on 26 March 2019.

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Appendix A: CGE modelling

The Deloitte Access Economics regional general equilibrium model (DAE-RGEM) is a large scale, dynamic, multi-region, multi-commodity computable general equilibrium model of the world economy with bottom-up modelling of Australian regions. The model allows policy analysis in a single, robust, integrated economic framework. This model projects changes in macroeconomic aggregates such as GDP, employment, export volumes, investment and private consumption. At the sectoral level, detailed results such as output, exports, imports and employment are also produced.

The model is based upon a set of key underlying relationships between the various components of the model, each which represent a different group of agents in the economy. These relationships are solved simultaneously, and so there is no logical start or end point for describing how the model actually works. However, they can be viewed as a system of interconnected markets with appropriate specifications of demand, supply and the market clearing conditions that determine the equilibrium prices and quantity produced, consumed and traded.

DAE-RGEM is based on a substantial body of accepted microeconomic theory. Key assumptions underpinning the model are:

- The model contains a 'regional consumer' that receives all income from factor payments (labour, capital, land and natural resources), taxes and net foreign income from borrowing (lending).
- Income is allocated across household consumption, government consumption and savings so as to maximise a Cobb-Douglas (C-D) utility function.
- Household consumption for composite goods is determined by minimising expenditure via a CDE (Constant Differences of Elasticities) expenditure function. For most regions, households can source consumption goods only from domestic and imported sources. In the Australian regions, households can also source goods from interstate. In all cases, the choice of commodities by source is determined by a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function.
- Government consumption for composite goods, and goods from different sources (domestic, imported and interstate), is determined by maximising utility via a C-D utility function.
- All savings generated in each region are used to purchase bonds whose price movements reflect movements in the price of creating capital.
- Producers supply goods by combining aggregate intermediate inputs and primary factors in fixed proportions (the Leontief assumption). Composite intermediate inputs are also combined in fixed proportions, whereas individual primary factors are combined using a CES production function.
- Producers are cost minimisers, and in doing so, choose between domestic, imported and interstate intermediate inputs via a CRESH production function.
- The supply of labour is positively influenced by movements in the real wage rate governed by an elasticity of supply.
- Investment takes place in a global market and allows for different regions to have different rates of return that reflect different risk profiles and policy impediments to investment. A global investor ranks countries as investment destinations based on two factors: global investment and rates of return in a given region compared with global rates of return. Once the aggregate investment has been determined for Australia, aggregate investment in each Australian sub-region is determined by an Australian investor based on: Australian investment and rates of return in a given sub-region compared with the national rate of return.
- Once aggregate investment is determined in each region, the regional investor constructs capital goods by combining composite investment goods in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these goods via a CRESH production function.

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- Prices are determined via market-clearing conditions that require sectoral output (supply) to equal the amount sold (demand) to final users (households and government), intermediate users (firms and investors), foreigners (international exports), and other Australian regions (interstate exports).
- For internationally-traded goods (imports and exports), the Armington assumption is applied whereby the same goods produced in different countries are treated as imperfect substitutes. But, in relative terms, imported goods from different regions are treated as closer substitutes than domestically-produced goods and imported composites. Goods traded interstate within the Australian regions are assumed to be closer substitutes again.
- The model accounts for greenhouse gas emissions from fossil fuel combustion. Taxes can be applied to emissions, which are converted to good-specific sales taxes that impact on demand. Emission quotas can be set by region and these can be traded, at a value equal to the carbon tax avoided, where a region's emissions fall below or exceed their quota.

Below is a description of each component of the model and key linkages between components.

A.1.   Households

Each region in the model has a so-called representative household that receives and spends all income. The representative household allocates income across three different expenditure areas: private household consumption; government consumption; and savings.

The representative household interacts with producers in two ways. First, in allocating expenditure across household and government consumption, this sustains demand for production. Second, the representative household owns and receives all income from factor payments (labour, capital, land and natural resources) as well as net taxes. Factors of production are used by producers as inputs into production along with intermediate inputs. The level of production, as well as supply of factors, determines the amount of income generated in each region.

The representative household's relationship with investors is through the supply of investable funds – savings. The relationship between the representative household and the international sector is twofold. First, importers compete with domestic producers in consumption markets. Second, other regions in the model can lend (borrow) money from each other.

- The representative household allocates income across three different expenditure areas – private household consumption; government consumption; and savings – to maximise a Cobb-Douglas utility function.
- Private household consumption on composite goods is determined by minimising a CDE (Constant Differences of Elasticities) expenditure function. Private household consumption on composite goods from different sources is determined is determined by a CRESH (Constant Ratios of Elasticities Substitution, Homothetic) utility function.
- Government consumption on composite goods, and composite goods from different sources, is determined by maximising a Cobb-Douglas utility function.
- All savings generated in each region is used to purchase bonds whose price movements reflect movements in the price of generating capital.

A.2.   Producers

Apart from selling goods and services to households and government, producers sell products to each other (intermediate usage) and to investors. Intermediate usage is where one producer supplies inputs to another's production. For example, coal producers supply inputs to the electricity sector.

Capital is an input into production. Investors react to the conditions facing producers in a region to determine the amount of investment. Generally, increases in production are accompanied by increased investment. In addition, the production of machinery, construction of buildings and the like that forms the basis of a region's capital stock, is undertaken by producers. In other words, investment demand adds to household and government expenditure from the representative household, to determine the demand for goods and services in a region.

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Producers interact with international markets in two main ways. First, they compete with producers in overseas regions for export markets, as well as in their own region. Second, they use inputs from overseas in their production.

- Sectoral output equals the amount demanded by consumers (households and government) and intermediate users (firms and investors) as well as exports.
- Intermediate inputs are assumed to be combined in fixed proportions at the composite level. As mentioned above, the exception to this is the electricity sector that is able to substitute different technologies (brown coal, black coal, oil, gas, hydropower and other renewables) using the 'technology bundle' approach developed by ABARE (1996).
- To minimise costs, producers substitute between domestic and imported intermediate inputs is governed by the Armington assumption as well as between primary factors of production (through a CES aggregator). Substitution between skilled and unskilled labour is also allowed (again via a CES function).
- The supply of labour is positively influenced by movements in the wage rate governed by an elasticity of supply is (assumed to be 0.2). This implies that changes influencing the demand for labour, positively or negatively, will impact both the level of employment and the wage rate. This is a typical labour market specification for a dynamic model such as DAE-RGEM. There are other labour market 'settings' that can be used. First, the labour market could take on long-run characteristics with aggregate employment being fixed and any changes to labour demand changes being absorbed through movements in the wage rate. Second, the labour market could take on short-run characteristics with fixed wages and flexible employment levels.

A.3.   Investors

Investment takes place in a global market and allows for different regions to have different rates of return that reflect different risk profiles and policy impediments to investment. The global investor ranks countries as investment destination based on two factors: current economic growth and rates of return in a given region compared with global rates of return.

- Once aggregate investment is determined in each region, the regional investor constructs capital goods by combining composite investment goods in fixed proportions, and minimises costs by choosing between domestic, imported and interstate sources for these goods via a CRESH production function.

A.4.   International

Each of the components outlined above operate, simultaneously, in each region of the model. That is, for any simulation the model forecasts changes to trade and investment flows within, and between, regions subject to optimising behaviour by producers, consumers and investors. Of course, this implies some global conditions that must be met, such as global exports and global imports, are the same and that global debt repayment equals global debt receipts each year.

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Appendix B: Econometrics

This section presents the data and results from the econometric estimations.

B.1. Prices

Prices are estimated as a function of rents, lagged prices and user cost. User cost both directly impacts price, as a measure of interest constraint, and indirectly impacts price through rental return. The price estimation is given as follows[50]:

$$\Delta p_t = \alpha_1 + \alpha_2(r_{t-1} - p_{t-1} - uc_{t-1}) + \sum_{i=1}^{2} \alpha_{3i}\Delta p_{t-i} + \alpha_4 \Delta uc_{t-1}^{I} + \alpha_5 \Delta GST_t + \epsilon$$

Where:

- p is real hedonic dwelling prices
- r is CPI rents
- uc^I is investor user cost
- uc is total user cost, calculated as the weighted average user cost of investors and owner-occupiers
- $(r_{t-1} - p_{t-1} - uc_{t-1})$ is the rental return, representing the difference between rental yields and user cost.
- GST is a dummy equal to one in the quarter of September 2000 and zero otherwise

Table B.1 Price equation estimates - dwellings

Regressor	Coefficient (dwellings)
Average rental return $(r_{t-1} - p_{t-1} - uc_{t-1})$	0.01604***
Change in prices – first lag (Δp_{t-1})	1.11571***
second lag (Δp_{t-2})	-0.44295***
Investor user cost (Δuc_{t-1}^{I})	-0.03801***
GST (ΔGST_t)	-0.01302***
Intercept	0.08670***
Time period	1986q1-2018q3
Observations	130
R-squared	0.7635
	*** p<0.01, ** p<0.05, * p<0.1

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[50] A separate relationship for house prices and units was tested, both yielding similar results.

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B.2.   Commencements

Commencements are estimated as:

$$\Delta com_t = \gamma_1 + \sum_{i=1}^{3} \gamma_{2i}\Delta p_{t-i} + \sum_{i=1}^{5} \gamma_{3i}\Delta com_{t-i} + \sum_{i=1}^{4} \gamma_{5i}\Delta M_{t-i} + \sum_{i=0}^{2} \gamma_{6i}\Delta GST_{t-i} + \gamma_7\Delta gdi_{t-4} + \gamma_8\Delta cpi_t + \epsilon$$

Where:

- com is housing commencements
- M is the variable mortgage rates
- cpi is trimmed CPI
- gdi is real Gross Domestic Income

The estimation is run after the 1987, when Australia introduced the imputation system.

Table B.2 Commencement equation estimates – dwellings, houses and units

Regressor	Coefficient		
	Dwellings	**Houses**	**Units**
Change in prices – first lag (Δp_{t-1})	2.20881***	2.00712***	2.80791***
Change in prices – second lag (Δp_{t-2})	-1.73747**	-1.62953**	-1.57490
Change in prices – third lag (Δp_{t-3})	1.08765*	1.43979**	0.78453
Chance in commencements – first lag (Δcom_{t-1})	0.00185	0.006806	-0.31618***
second lag (Δcom_{t-2})	-0.06308	-0.04911	-0.14492
third lag (Δcom_{t-3})	0.03677	-0.10623	0.03264
fourth lag (Δcom_{t-4})	-0.26169****	-0.2368****	-0.14673
fifth lag (Δcom_{t-4})	-0.0656263	-0.14936**	-0.07918
Change in the VMR – first lag (ΔM_{t-1})	-3.59701**	-5.26498	-0.12432
second lag (ΔM_{t-2})	-1.72470	-1.57956	-1.47101
third lag (ΔM_{t-3})	-2.87788*	-2.59662	-3.94616
fourth lag (ΔM_{t-4})	-2.06788	-1.87856	-7.13204*
GST – first lag (ΔGST_{t-i})	-0.28352***	-0.32145***	-0.17252**
GST – second lag (ΔGST_{t-1})	-0.12106	-0.09884	-0.13282**
Change in GDI – fourth lag (Δgdi_{t-4})	0.70756**	0.824592**	0.614689
Change in trimmed CPI (Δcpi)	1.37647	0.926163	3.382862
Intercept	-0.02779**	-0.03179	-0.03744

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Time period	1988q1-2018q3	1988q1-2018q3	1988q1-2018q3
Observations	123	123	123
R-squared	0.6042	0.6436	0.3946
			*** p<0.01, ** p<0.05, * p<0.1

The joint significance of lagged commencements was tested and found significant at the 1% level.

B.3.   Completions

The flow of commencements to completions is estimated as:

$$\Delta comp_t = \omega_1 + \sum_{i=1}^{6} \omega_{2i}\Delta com_{t-i} + \epsilon$$

Where:

- *comp* is housing completions

Table B.3 Completions equation estimates – dwellings, houses and units

Regressor	Coefficient		
	Dwellings	**Houses**	**Units**
Chance in completions– first lag ($\Delta comp_{t-1}$)	0.42557***	0.472919***	0.141685**
second lag ($\Delta comp_{t-2}$)	0.05322	0.136373**	0.129848*
third lag ($\Delta comp_{t-3}$)	0.24905**	0.18907	0.193983*
fourth lag ($\Delta comp_{t-4}$)	-0.03062	-0.00364	0.213199
fifth lag ($\Delta comp_{t-5}$)	0.18243*	0.060853	0.148804
sixth lag ($\Delta comp_{t-6}$)	-0.00746	0.045043	0.051144
Intercept	1.327143	1.004556	1.096622

Time period	1988q1-2018q3	1988q1-2018q3	1988q1-2018q3
Observations	123	123	123
R-squared	0.8939	0.8423	0.9003
Level of significance			*** p<0.01, ** p<0.05, * p<0.1

The joint significance of lags was tested and found significant at the 1% level.

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B.4.   Rents

Rents driven by the availability of rental properties. Changes in rents can therefore be considered a function of changes in availability of property—the level of excess stock in a given period. This relationship is estimated as:

$$r_t = \beta_1 + \beta_2 ES_t + \sum_{i=1}^{4} \beta_{3i} \Delta r_{t-i} + \sum_{i=1}^{3} \beta_{4i} \Delta pop_{t-i} + \beta_5 \Delta UE_{t-1} + \epsilon$$

Where:

- pop is total Australian population
- UE is the unemployment rate

Note that the same series of CPI rents is applied across all estimations. Separate rental price time series for units and rents could not be estimated, as available data only dated back to 2002. However, a comparison of the time series available showed very similar trends.

Table B.4 Rent equation estimates – dwellings, houses and units

Regressor	Coefficient		
	Dwellings	**Houses**	**Units**
Excess stock (ES_t)	-0.39299**	-0.24173	-0.65554**
Chance in rents – first lag (Δr_{t-1})	0.39493***	0.39471***	0.35933***
second lag (Δr_{t-1})	0.28863***	0.29833***	0.25710***
Change in population – first lag (Δpop_{t-1})	0.91763**	1.00248**	0.91439**
second lag (Δpop_{t-2})	0.41230	0.52400*	0.44256
third lag (Δpop_{t-3})	-0.88444**	-0.92246**	-0.80259**
Change in unemployment (ΔUE_{t-1})	-0.16727*	-0.22293*	-0.13693
Intercept	-0.00106	-0.0021267	-0.0038895
Time period	1984q3-2018q2	1984q3-2018q2	1984q3-2018q2
Observations	136	136	136
R-squared	0.6264	0.5970	0.6353
Level of significance		*** p<0.01, ** p<0.05, * p<0.1	

B.5.   Share of owner-occupiers

Changes to the housing market change the purchasing decisions of both owner-occupiers and investors. This share is impacted by the relative return of ownership for each stakeholders, as well as different responses to changes in rents and price. The share of owner occupiers is given by:

$$OO_t = \phi_1 + \phi_2(r_{t-1} - p_{t-1} - uc_t^{OO}) + \phi_3(r_{t-1} - p_{t-1} - uc_t^{l}) + \phi_4 \Delta p_{t-1} + \phi_6 T_t$$

Where:

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- uc^{OO} is the user cost of owner-occupiers
- uc^{I} is the user cost of investors
- T_t is an indicator for the time period

Estimates were ran from 1997 to 2018 due to the large decrease in the share of owner-occupiers that occurred in the early 1990s. The share of owner-occupiers then settled, fluctuating between 60-70% of home ownership.

Table B.5 Share of owner-occupier equation estimates – dwellings, houses and units

Regressor	Coefficient (dwellings)
Owner-occupier rental return ($r_{t-1} - p_{t-1} - uc_t^{OO}$)	-0.41706***
Investor rental return ($r_{t-1} - p_{t-1} - uc_t^{I}$)	0.31381***
Change in prices (Δp_{t-i})	-0.85653***
Date	-0.00001***
Intercept	0.26030
Time period	1997q1-2018q4
Observations	88
R-squared	0.5321
Robust p-value in parentheses	*** p<0.01, ** p<0.05, * p<0.1

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Appendix C: User costs

C.1.   Overview of user costs

User cost refers to the annual cost of owning property (net of any expected capital gains). Adapting the model set out by Stapledon (2016), user costs for owner-occupiers (UC^{OO}) and investors (UC^{I}) is defined as follows.

$$UC^{OO} = P\left[\overline{\phi_a}i(1 - t_{oo}) + (1 - \overline{\phi_a})M_{oo} + \delta + \overline{exp} - \overline{\Delta P}\right]$$

$$UC^{I} = P\left[\overline{\phi_a}i(1 - t_i) + (1 - \phi_n)M_i + \bar{\delta} + \overline{exp} + \overline{lt} + (\phi_n - \overline{\phi_a})M_i.(1 - t_i) - \overline{\Delta P}(1 - 0.5t_i)\right]$$

Where P is price, $\overline{\phi_a}$ is the equity share in the property, i is the interest rate on alternative investments, M is the average mortgage rate, $\bar{\delta}$ is the depreciation rate, exp are other costs (including maintenance, stamp duties, and transaction costs), $\overline{\Delta P}$ is the expected capital gains appreciation, $\overline{lt}$ is the land tax.

The term ϕ_n is the neutral equity share for the property (where ongoing costs equals the rental yield), and is defined as:

$$\phi_n = 1 - \frac{\frac{R}{P} - \bar{\delta} - \overline{exp} - \overline{lt}}{m_i}$$

User cost will differ for owner-occupiers and investors due to differing tax arrangements, including the CGT discount and the availability of negative gearing. Under current tax arrangements, the difference in user costs between owner-occupiers and investors is given by the terms:

- $(\phi_n - \overline{\phi_a})Mt$, which represents the ability for investors to negatively gear and deduct their losses against income.
- $-\overline{\Delta P}(0.5t)$, which represents the CGT that only applies for investors selling properties.

Total user cost for the market is estimated as the weighted average of UC^{OO} and UC^{I} based on the shares of owner-occupiers and investors at a point in time.

C.2.   Parameterisation

Table C.1 summarises the sources used to parameterise user costs. In estimating the various components of user costs, a number of parameters are held constant over time, included expected capital appreciation. This was done using a time series back to 1985, as a longer time series (back to 1980) could not be generated with confidence due to limited data on inflation expectations in the early 1980s.

While there are a range of other components that would vary user costs for owner-occupiers and investors, they have not been included given the lack of reliable data (either at a regional level, or over time). This includes stamp duty exemptions etc. for first home owners, and changes to the tax treatment of fixtures for investment properties.

Table C.1 Parameterising user cost

Variable	Source
Time variant components	
Average mortgage rate (M_i, M_{oo})	Reserve Bank of Australia (2019), Lending rates, average outstanding rate (principal & interest), and standard rate
Interest rate on alternative investments (i)	Reserve Bank of Australia (2019), Nominal 10-year Australian government bond

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Inflation expectations	Reserve Bank of Australia (2019), Break-even 10-year inflation rate
Stamp duties (exp)	Deloitte Access Economics estimates using CoreLogic median dwelling prices, and historic stamp duty rates (Property Council of Australia, 2015).
Share of owner-occupiers	ABS Census of Population and Housing from 1981 to 2016
Marginal tax rate (t_i, t_{oo})	Deloitte Access Economics estimates using ATO Australian taxation statistics, and ABS series on Average Weekly Earnings (6302.0)
Rental yield	Deloitte Access Economics using the median hedonic rents and price series from CoreLogic
Select past policy changes on the property market	Introduction of CGT in 1986, removal of negative gearing from 1985 to 1987, and changes to the CGT discount in 1999
Constants	
Expected capital appreciation	Long term average from 1955 to 2006 for Australia, Melbourne and Sydney (Stapledon, 2007), and average from 1993 to 2019 for other markets using CoreLogic hedonic price series
Depreciation	Depreciation from Brown (2011)
Average equity share	Average from 1980 to 2019, calculated using CoreLogic median property prices, and ABS series on average loan sizes (5609.0)
Maintenance expenditure (exp)	Maintenance costs and transaction costs from Fox and Tulip (2014)
Land taxes	Deloitte Access Economics estimates using ABS series on Tax Revenue (5506.0) and Value of Land (5204.0)

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