

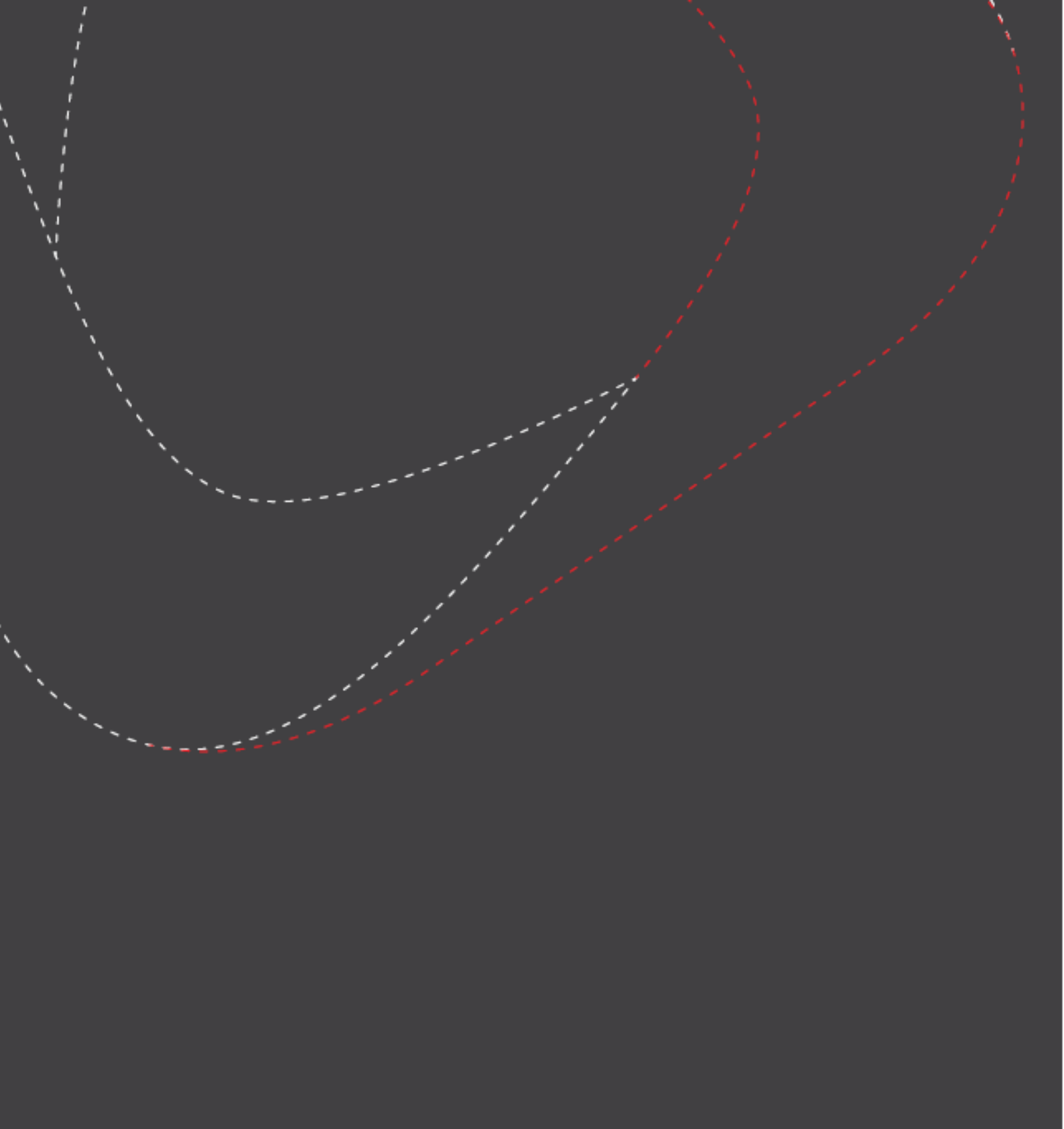


April 2018

STAFF RESEARCH PAPER

# Housing in Queensland: Affordability and Preferences

Matt Geck & Sean Mackay



© Queensland Productivity Commission 2018

The Queensland Productivity Commission supports and encourages the dissemination and exchange of information. However, copyright protects this document.

The Queensland Productivity Commission has no objection to this material being reproduced, made available online or electronically but only if it is recognised as the owner of the copyright and this material remains unaltered.

## Preamble

One of the legislated functions of the Queensland Productivity Commission is to conduct self-initiated research on productivity, economic development or industry in Queensland. This is a staff research paper, aimed at informing rather than prescribing specific policy solutions. The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Queensland Productivity Commission.

The authors would like to thank Richard Clarke and Kristy Bogaards for their assistance with ideas, feedback on earlier drafts and kind words of encouragement.

### About the Queensland Productivity Commission

The Queensland Productivity Commission is an independent statutory body that provides policy advice on complex economic and regulatory issues.

The Commission has an advisory role and operates independently from the Queensland Government—its views, findings and recommendations are based on its own analysis and judgments.

Further information on the Commission and its functions can be obtained from the Commission's website [www.qpc.qld.gov.au](http://www.qpc.qld.gov.au)

# Contents

Preamble	i
Summary	1
1. Introduction	2
2. Trends in house prices	3
2.1. Capital city house prices	3
2.2. Queensland house prices	4
3. Housing affordability	6
3.1. House price to income ratios	7
3.2. Proportion of income spent on housing	10
3.3. Rents	10
3.4. Mortgage payments	13
3.5. Deposit requirements	14
4. Home ownership	15
4.1. Home ownership across age groups	16
4.2. Home ownership across income levels	18
4.3. Home ownership across regions	19
5. Housing types	20
5.1. Dwelling types and size	21
5.2. Housing choice and age	22
5.3. Housing choice and household composition	24
5.4. Housing choice and regional location	25
5.5. Housing choice and income	27
5.6. Does the housing stock match consumers' preferences?	28
6. Influences on housing availability and affordability	29
6.1. Supply side factors	29
6.2. Demand side factors	37
6.3. Taxation policy	39
7. Policy principles	43
8. Conclusion	44
References	46

## Summary

*This paper investigates affordability of housing in Queensland; changes in the housing stock and people's preferences; and factors influencing outcomes in housing markets.*

### Key points

- Brisbane house prices have increased about 299 per cent in real terms since 1986 (a bigger increase than the Australian capital city average), primarily driven by the cost of land rather than the quality of housing. However, real prices have changed little since 2009, and, outside of south east Queensland, they have generally fallen.
- Housing affordability in Queensland:
  - measured as the ratio of income to house prices, deteriorated considerably from the 1980s, but has roughly stabilised since about 2010
  - measured as a proportion of income, has improved over the last five years for the median household, both in terms of rents and mortgage repayments. This is a bigger improvement than in Australia as a whole.
- Housing affordability varies considerably across Queensland—Gold Coast, Sunshine Coast and Wide Bay are the least affordable in terms of rents and house prices to incomes, and Central Queensland, Mackay and Queensland Outback the most.
- Compared to major international markets, housing affordability in Queensland's urban markets remains low.
- Housing affordability problems are most acute for younger people and lower income earners. More than a third of low-income households (37 per cent) are in rental stress. These households have the most to gain from improvements in the functioning of housing markets.
- Most Queensland households (65 per cent) own their home. However, this proportion is lower than in other states and has fallen more over the last 20 years.
  - Home ownership is lower among younger and lower-income households, and is falling, but it remains unchanged for households over 65 years of age.
  - Deposit requirements are the greatest barrier to home ownership, rather than the ongoing costs of mortgage repayments.
- Queensland's housing stock is dominated by houses (74 per cent) but this is slowly changing. Younger people, families and couples are increasingly living in townhouses and apartments, while older households tend to stay in houses rather than downsizing.
- Although it is difficult to determine how well the housing supply meets people's preferences, the available evidence suggests that with realistic budget constraints but more choice, more households would choose townhouses and apartments in different locations.
- Governments significantly affect how housing markets operate and their outcomes. As housing markets are complex, no single measure will address housing affordability issues. Efforts are best focused on ensuring policies do not unduly affect housing supply and demand. Key policies include tax and planning.

# 1. Introduction

Adequate housing is a basic human need. As well as providing shelter and security, housing can provide a sense of identity.

Housing performs both a consumption and an investment function. It is the largest single item of expenditure for the average household. On average, a fifth of Queensland household expenditure goes towards housing costs (ABS 2017f). Queensland home owners with a mortgage, and renters, spend higher proportions of their income on housing than other Australian households (ABS 2017e).

For many people, owning a home is a way to accumulate wealth—residential land and dwellings account for more than half of total household assets in Australia (PC 2015, p. 3). However, there are concerns that access to home ownership is making the distribution of wealth—particularly between generations—less equal and there is a growing divide in terms of access to housing market opportunity (CEDA 2017, pp. 80–85). In a recent national poll, Australians ranked housing affordability as their second most important economic issue (Essential Research 2017).

If housing of adequate quality is unavailable or unaffordable, quality of life can be adversely impacted, with consequences ranging from poor health outcomes to increased crime (Friedman 2010). The Australian Productivity Commission (2017), in its review of the productivity challenges facing Australia, identified the efficiency of cities, including access to housing, as one of the five most important productivity and welfare policy issues.

Poorly matched housing preferences and supply can impact the spatial structure and functioning of cities—including transport costs, labour markets and access to services and amenities. Where the housing stock is poorly utilised, it can reduce productivity by wasting scarce resources. And because housing is the largest source of both household wealth and debt (ABS 2017h), the housing market is an important factor in economic stability.

Housing policy is a complex area, in which all three levels of government play a role. Governments are under pressure to 'fix' issues, as demonstrated by the provision of grants to first home buyers and housing packages. Yet progress in resolving the issues is slow.

This paper focuses on the housing market in Queensland. It examines:

- trends in house prices and whether housing has become less affordable in Queensland generally or in parts of the state
- whether home ownership is falling
- whether the types of housing are changing and whether these changes match people's preferences
- influences of housing availability and affordability
- some principles for good policy.

Housing markets are diverse, comprising many different interconnected segments based on location, quality, dwelling and tenure—from homelessness through to home ownership (AHURI 2017). This paper focuses on home ownership and the private rental market. While problems with the availability and affordability of housing in private rental and ownership markets flow through to social housing, crisis accommodation and homelessness, this is outside of the scope of this paper.

## 2. Trends in house prices

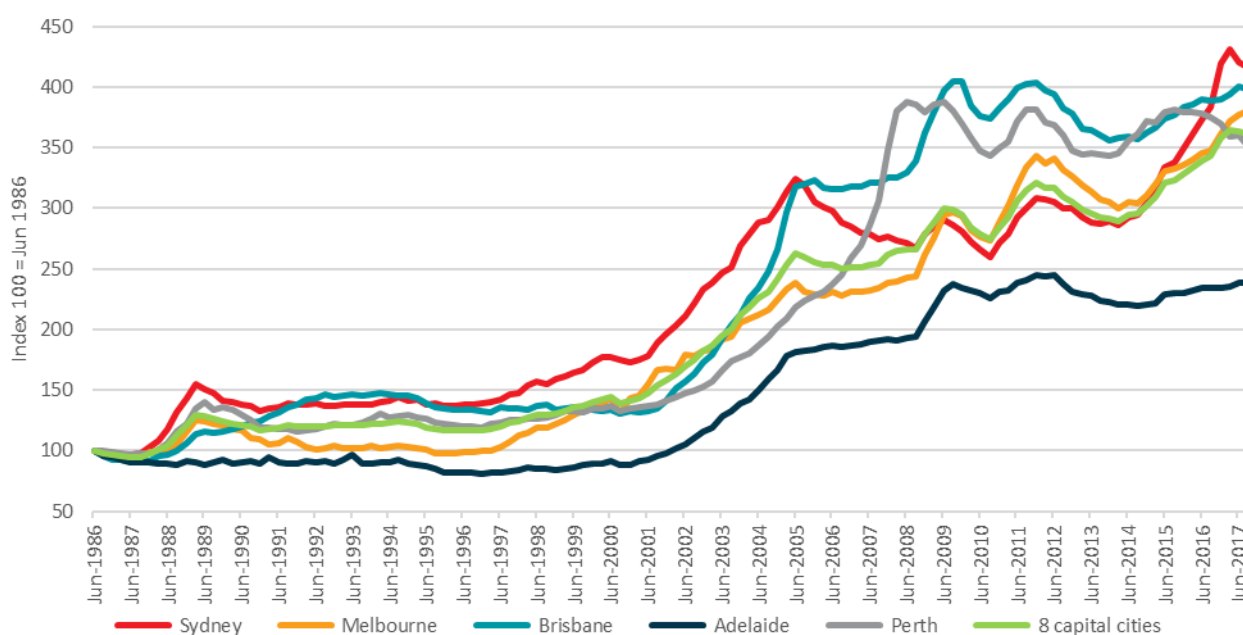
Since the 1960s, there has been a sustained rise in house prices in all capital cities, in contrast with the previous 70 years, in which real house prices did not increase in Sydney and Melbourne and generally internationally (CEDA 2017, pp. 36–38). However, the rate of increase in prices during the last 30 years has varied considerably between capital cities, between regional areas and across different dwelling types.

### 2.1. Capital city house prices

House prices in Australia's eight capital cities have increased by about 262 per cent in real terms since 1986 (Figure 1). The price index of houses<sup>1</sup> in Brisbane has increased 299 per cent in real terms; second only to Sydney over this period and above the average of the eight capital cities. Most of the increase in Brisbane house prices occurred in two bursts, between 1987 and 1992, and particularly between 2001 and 2009.

Brisbane prices were broadly the same in real terms in 2017 as their peak in 2009. Since 2014, real prices have generally increased, after a period of real price decreases.

**Figure 1 Capital city house price indices, real**



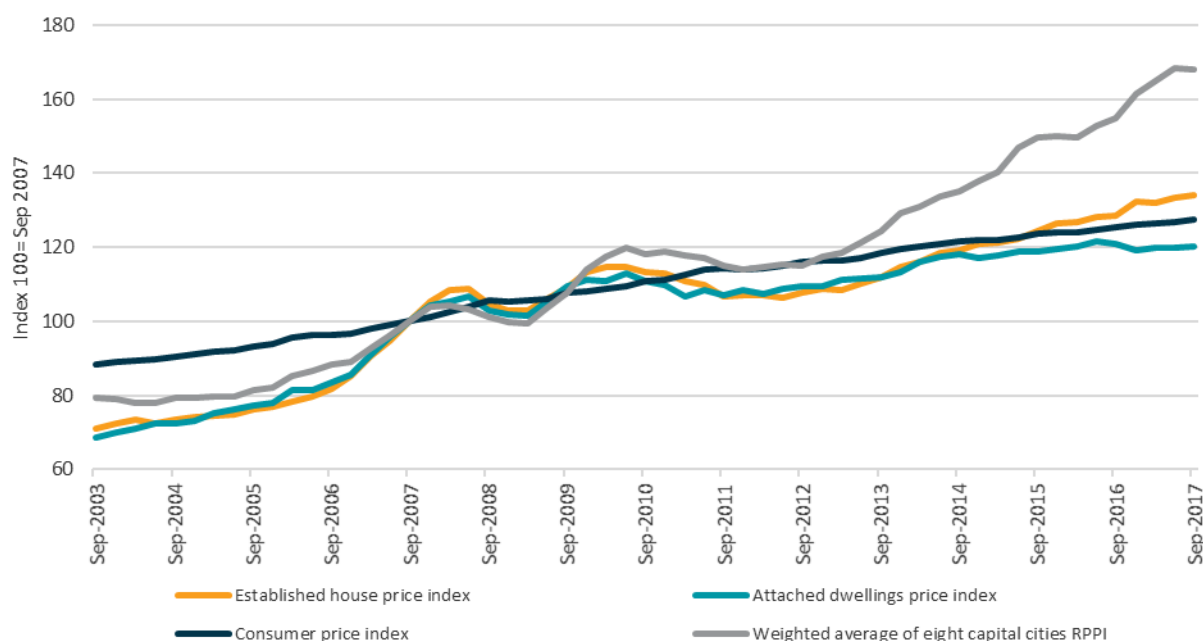
*Notes: The current house price indexes between 2003 and 2017 have been spliced together with older house price indices between 1986 and 2003 to produce a longer time series. The two sets of house price indexes use different methodologies. The ABS did not produce older townhouse and apartment price indexes. Capital city price indices have been deflated by the Australian consumer price index.*

*Sources: ABS 2017a, 2017b; authors' calculations.*

<sup>1</sup> Publications use different naming conventions. In this paper, the term 'houses' refers to detached or separate houses. The term 'townhouses and apartments' refers to semi attached and attached housing, including flats, apartments, townhouses and similar types of dwellings.

Figure 2 illustrates differences between the price movements of different types of dwellings in Brisbane. Since 2007 the nominal price of houses in Brisbane (measured by the established house price index), rose faster than the consumer price index (CPI) and about 67 per cent faster than the price of apartments and townhouses. Prices for apartments and townhouses fell in real terms (that is, the nominal price index increased more slowly than the CPI). This may be linked to the substantial increase in apartment construction, particularly in inner city Brisbane.

**Figure 2 Brisbane price indices, nominal**



Notes: RPPI stands for Residential Property Price Index. Greater capital city geographies are used.

Source: ABS 2017a, 2017b; authors' calculations.

International data illustrate that real house prices do not consistently increase in all markets. House prices in Germany and Switzerland have been broadly stable for 40 years, unlike in Great Britain, Australia and Canada, where prices have risen substantially. In Ireland and the United States, house prices rose rapidly before the global financial crisis, but subsequently lost much of their gains (The Economist 2016).

## 2.2. Queensland house prices

House prices and their rate of change have varied considerably across Queensland and between types of housing. House prices have increased in real terms across Queensland since 2000. Prices and their rate of increases tend to be higher in more urbanised areas (Figure 3 and Figure 4).

Since 2007, 11 of the 12 LGAs that experienced the strongest house price growth are in south east Queensland.<sup>2</sup> Prices increased most in the Brisbane local government area (LGA) (Figure 3). Though not shown in Figure 3, the outer and less populous and urbanised areas of south east Queensland, such as Lockyer Valley, Somerset and Scenic Rim, experienced lower than average price growth than the overall region. However, house prices fell in

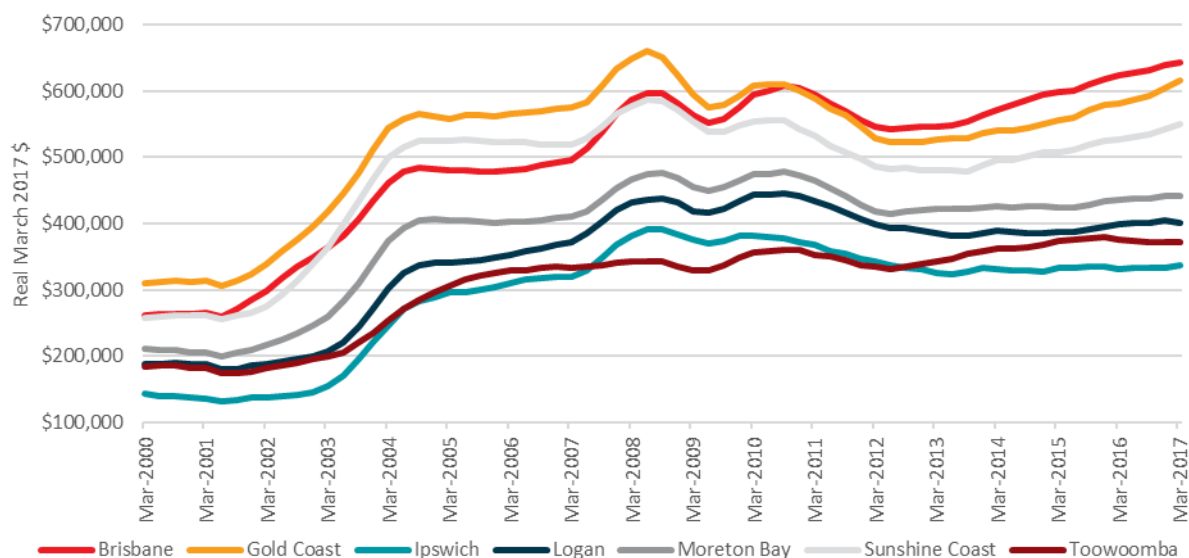
<sup>2</sup> The non-urban area of Toowoomba Regional Council (not within south east Queensland) was the other strongly growing area.



real terms over the last decade in all LGAs in regional Queensland, except for Toowoomba (non-urban) and Southern Downs.

In the largest apartment markets, Brisbane, Gold Coast and Sunshine Coast, the median prices of detached houses were 44, 50 and 40 per cent higher respectively than the median prices of apartments and townhouses, over the year to March 2017.<sup>3</sup> In most regions where there is data, price growth over the last 18 years was stronger for houses than for townhouses and apartments.

**Figure 3 House prices, by selected LGA, real annual average**



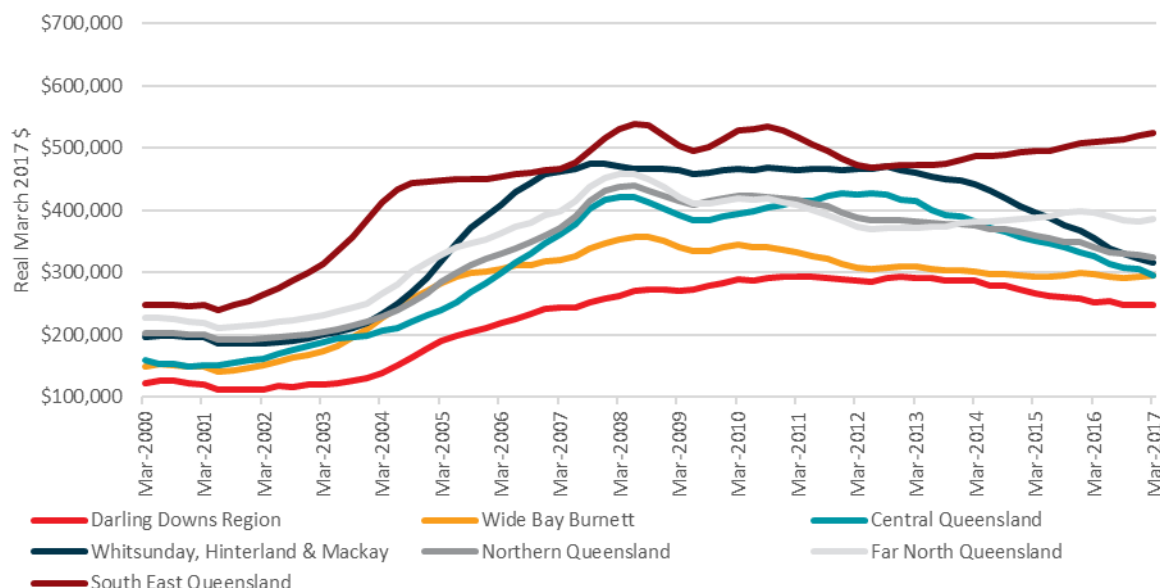
*Notes: Toowoomba includes the city part of the Toowoomba Regional Council. Real prices are deflated by the Brisbane Consumer Price Index, and are shown in March 2017 dollars. Real prices are averaged over four quarters.*

*Sources: QGSO 2017, ABS 2017b; QPC calculations.*

Median real house prices have increased more in south east Queensland than in any other planning region since 2000. Except for south east Queensland and Darling Downs, real prices have generally declined over the last decade (Figure 4). In most regions, real prices peaked in 2007 or 2008, apart from Darling Downs and Central Queensland, which peaked in 2011 and 2012. In areas in which the resources sector is an important employer (such as central Queensland), the resources cycle may have contributed to price movements in housing markets.

<sup>3</sup> On average, the median price of houses in the same LGA market was 35 per cent higher than townhouses and apartments. However, across monitored Queensland markets the median sale price of houses (\$480,000) was only 20 per cent higher than townhouses and apartments (\$400,000). The relative median prices across all markets are skewed by the higher proportion of townhouses and apartments in the larger and more expensive Brisbane, Gold Coast and Sunshine Coast markets.

**Figure 4 House prices, by Queensland planning region, real annual average**



Notes: Planning regions encompassing multiple local government authorities. These regions are defined by the Queensland Government for regional planning purposes. Toowoomba includes the city part of the Toowoomba Regional Council. Real prices are deflated by the Brisbane Consumer Price Index, and are shown in March 2017 dollars. Real prices are averaged over four quarters. Sources: QGSO 2017, ABS 2017b; QPC calculations.

### 3. Housing affordability

Increasing house prices have fuelled community concern about declining housing affordability. However, house prices alone are not a reliable indicator of housing affordability. It is more meaningful to think about housing affordability in terms of the relationship between the amount households spend on housing and their incomes. If incomes and capacity to pay increase faster than the cost of housing, affordability may improve even though house prices are rising.

Housing can also be considered unaffordable where excessive proportions of households' incomes are spent on housing. Affordability problems may also manifest where the only affordable housing options poorly meet a household's needs. This second element of housing affordability is less easily measured.

The costs of housing for owners include its purchase price, the costs of servicing housing loans, rates and taxes, insurance, repairs and maintenance and strata levies. These costs also influence rents, as the owner-occupier and private rental markets are closely related (Martin 2018).

Ideally, measures of affordability should take account of changes in housing quality. It is possible that affordability measures have deteriorated because to some extent Queenslanders are choosing to pay more for housing, in the form of dwellings that are larger or of better quality.

There are many different approaches to measuring housing affordability. This section reports measures for home owners and renters:

- the ratio of median house prices to median household income
- the proportion of household income spent on housing
- the proportion of median rents to median income

- the proportion of median mortgage repayments to median income
- housing deposit requirements.

While these indicators do not reveal a uniform picture, they broadly suggest that:

- affordability in Australia and Queensland has deteriorated considerably since the 1970s and 1980s, but has roughly stabilised in Queensland since about 2010
- affordability in Brisbane has declined less than in Sydney in Melbourne
- there are large variations in affordability across Queensland
- some households will be exposed if interest rates increase from their current low levels
- the affordability of rental housing has improved recently but a significant proportion of households remain in rental stress
- affordability is low by international comparison.

### 3.1. House price to income ratios

Household income is a major determinant of how much a household can afford to pay for housing; therefore, the ratio of median dwelling prices to median household income is often used to measure affordability (Demographia 2017, p. 1).<sup>4</sup>

The ratio of median dwelling prices<sup>5</sup> to median incomes in Australia was relatively stable in the 1970s and early 1980s, but then doubled from around 3 in the late 1980s to over 6 in the 2000s<sup>6</sup> (Fox & Finlay 2012, p. 15).

For Brisbane, the ratio was 3.7 in 2001, reached 5.9 in 2011 and fell slightly to 5.7 in 2016 (CoreLogic 2016). This was below the average for all Australian capital cities (6.7), and considerably below Sydney and Melbourne (8.4 and 7.1, respectively) (Table 1). The exuberance of the Sydney and Melbourne property markets over the last decade has not been matched in Brisbane.

Prima facie, these figures indicate that housing has become less affordable in Australia's capital cities, although the reduction has been less in Brisbane than in Sydney and Melbourne. This measure does not take account of changes in financing costs.

<sup>4</sup> Medians may be more representative of a typical household than are averages, which are skewed by very high wealth and income households (Fox & Finlay 2012 p. 15).

<sup>5</sup> Dwellings refers to both houses and apartments (and townhouses).

<sup>6</sup> This is measured using survey data. If national accounts income data is used, the ratio shifts from around 2 in the late 1980s to 4 in early 2012. The evolution of the ratio is approximately the same, using different measures of income.

**Table 1 Ratio of median dwelling price to median annual household income, 2016**

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Canberra	Capital cities
Median dwelling price	\$785,000	\$566,000	\$467,500	\$415,000	\$499,000	\$540,000	
Median household income	\$93,593	\$79,266	\$81,922	\$66,642	\$90,012	\$104,298	
Dwelling price to income ratio	8.4	7.1	5.7	6.2	5.5	5.2	6.7

Source: CoreLogic 2016.

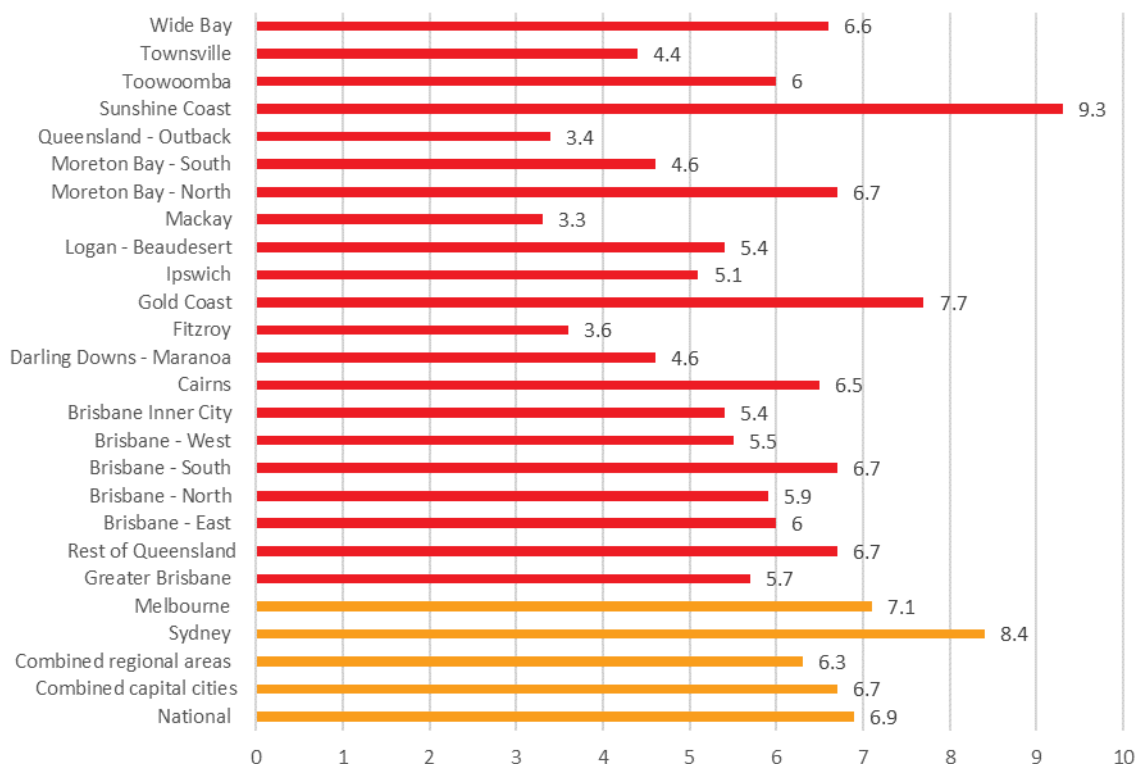
The ratio of median dwelling prices to median incomes varies considerably across Queensland. In Brisbane, the inner city and the outer suburban regions (Moreton Bay South, Ipswich and Logan–Beaudesert) have lower ratios than the middle suburban regions of Brisbane (north, south, west and east) (Figure 6).

The relative affordability of housing in inner city Brisbane may be surprising, given that land prices are usually higher closer to the central business district (CBD)—owing to agglomeration benefits, better amenity and lower transport costs (Kulisch et al. 2011; van den Nouwelant et al., 2016, p. 8). However, the low ratio could be evidence that more apartments and density in this area offset higher land values to maintain affordability.

The ratio for the rest of Queensland (outside greater Brisbane) has changed little over the last five years, increasing from 6.6 to 6.7, but is much higher than it was in 2001 (4.1) and exceeds other states' non-capital regions. Sunshine Coast (9.3) with a higher ratio than Sydney (8.4), and Gold Coast (7.7) with a higher ratio than Melbourne (7.1), help to explain this result.<sup>7</sup> Cairns, Toowoomba and Wide Bay also had higher ratios than Brisbane. However, regional areas such as Queensland Outback (3.4), Mackay (3.3) and Fitzroy (3.6) were relatively affordable.

<sup>7</sup> These ratios reflect regionwide averages, including some rural areas. There are inner city regions within Sydney and Melbourne with ratios higher than the Sunshine Coast and Gold Coast regions.

**Figure 6 Ratio of dwelling price to income, Queensland regions, 2016**



Source: CoreLogic 2016.

International studies using 'house price to income' ratios suggest that housing in Queensland is relatively unaffordable. The Demographia International Housing Affordability Survey (2018) found Brisbane's urban housing market to be less affordable than major markets in Singapore, Canada (except for Toronto and Vancouver), Ireland, the United Kingdom (except for London, Bournemouth and Dorset and Bristol-Bath), the United States (except for Miami, several Californian cities and Honolulu) and Japan, but more affordable than Hong Kong and Auckland. Toowoomba, Bundaberg, Cairns, Brisbane, Fraser Coast, Gold Coast and Sunshine Coast were all ranked as severely unaffordable housing markets.<sup>8</sup> Sunshine Coast and Gold Coast were the 14th and 16th most unaffordable markets out of 293 markets.

The lack of affordability in the Gold Coast and Sunshine Coasts regions may be overstated, to the extent that these regions have relatively older populations, who are comparatively income-poor but asset-rich.

<sup>8</sup> Demographia International Housing Affordability Survey (2018) regards a median multiple of 3 or under as affordable, 3.1 to 4 as moderately unaffordable, 4.1 to 5 as seriously unaffordable and 5.1 and over as severely unaffordable. The methodology Demographia uses differs from CoreLogic's methodology, and therefore the ratios are not directly comparable.

## 3.2. Proportion of income spent on housing

Another common measure of housing affordability is the proportion of household income spent on housing costs. A common rule of thumb is that housing is affordable if the proportion is below 30 per cent (Borrowman et al. 2015, p. 2).

In 2015–16, 17.4 per cent of Queensland households paid more than 30 per cent of their income in housing costs—a similar proportion to Australia. This is up from 15.4 per cent 20 years ago (Table 2). During the same period, the proportion of households paying 25 per cent or less has fallen. In more recent years, between 2011–12 and 2015–16, the proportion paying more than 30 per cent fell in Queensland.

**Table 2 Proportion of Queensland and Australian households, by proportion of housing cost to gross household income**

Housing costs as a proportion of gross household income		1995–96	2005–06	2011–12	2015–16
Queensland	25% or less	78.6	76.2	74.1	73.7
	More than 25% to 30%	6.1	7.8	7.4	8.9
	More than 30% to 50%	9.8	11.2	12.2	12.3
	More than 50%	5.6	4.7	7.2	5.1
	Total more than 30%	15.4	15.9	18.5	17.4
Australia	25% or less	80.3	76.5	75.0	75.3
	More than 25% to 30%	5.6	7.0	7.0	7.4
	More than 30% to 50%	9.7	11.4	12.4	11.8
	More than 50%	4.3	5.1	5.6	5.5
	Total more than 30%	14	16.5	18	17.3

Source: ABS 2017e.

As wealthier or higher income households may be able to sustain housing costs above 30 per cent of their income, a household is commonly considered to be in stress if its housing costs exceed 30 per cent of household income and the household is in the bottom 40 per cent of the income distribution (AHURI 2016). Alternatively, a household could be said to face an affordability problem if it has insufficient residual income to meet other normal expenses (Borrowman et al. 2015, p. 2).

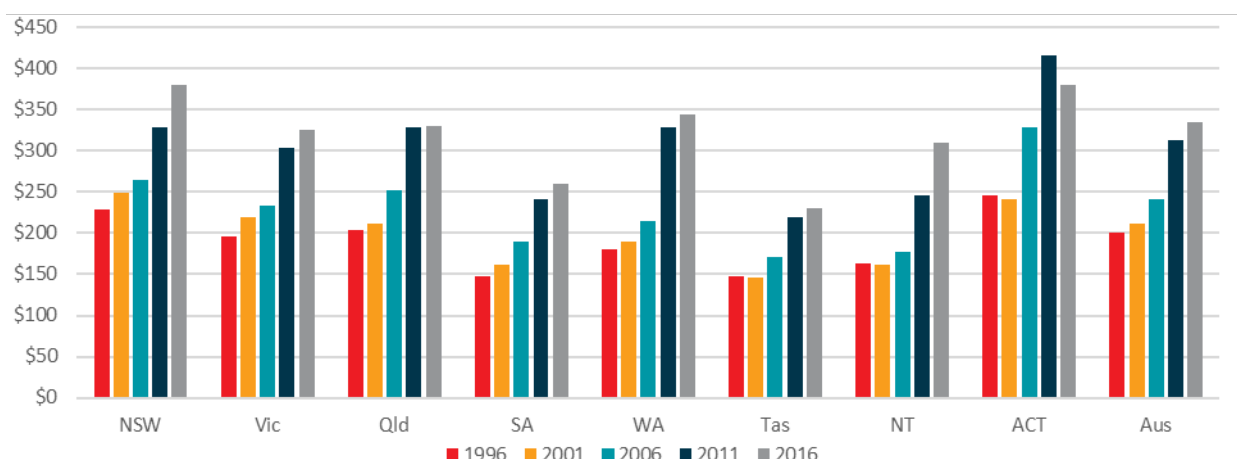
Over the last 20 years, the proportion of income spent on housing has remained relatively steady for those in the top three income quintiles in Queensland. However, for the two lowest income quintiles housing costs have increased substantially relative to income (ABS 2017e). Housing costs as a proportion of income have declined for owners with a mortgage but not for renters.

## 3.3. Rents

In 2016 median weekly real rents in Queensland were \$330, relatively unchanged from 2011 (Figure 7). Over the same period, median rents fell from 24.3 per cent to 23.7 per cent of as a proportion of all households' median income (Figure 8). In Australia as a whole, real median rents rose, absorbing a marginally higher proportion of median income (23.2 to 23.4 per cent).

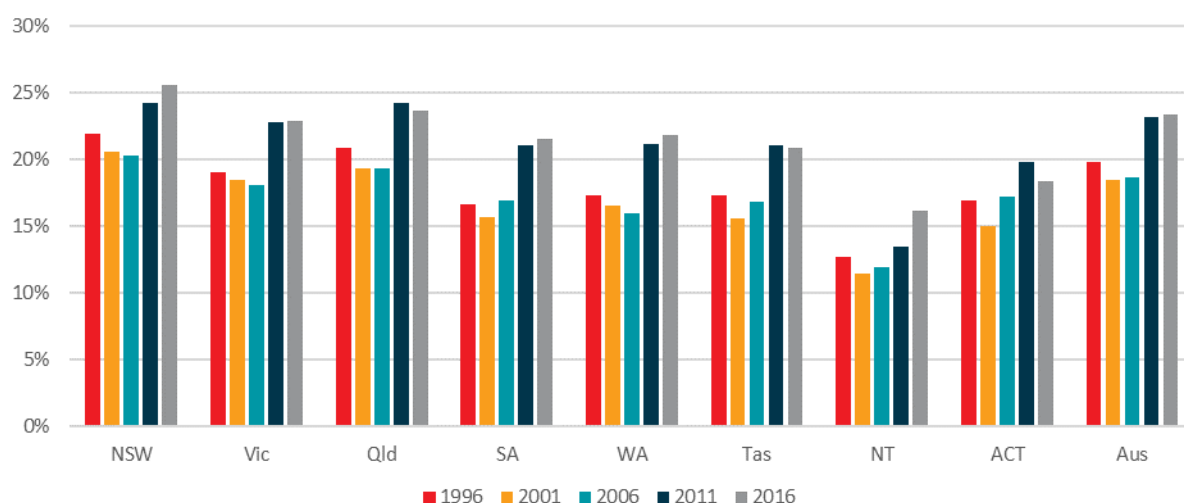
However, recent falls are modest relative to earlier historical increases and rents remain high relative to 1996, 2001 and 2006. Between 2006 and 2011 real rents rose faster than real incomes. In Queensland, median rents rose as a proportion of median incomes from 19.4 per cent to 24.3 per cent. In Australia as a whole, the proportion rose from 18.6 per cent to 23.2 per cent.

**Figure 7 Median household weekly rents, by state, real**



Note: 2011 rents were deflated by the Australian CPI to make them equivalent in real terms with the August 2016 census.  
Sources: ABS 1996, 2001, 2006, 2011, 2016, 2017b; QPC calculations.

**Figure 8 Median household rents as a proportion of median household income, by state**



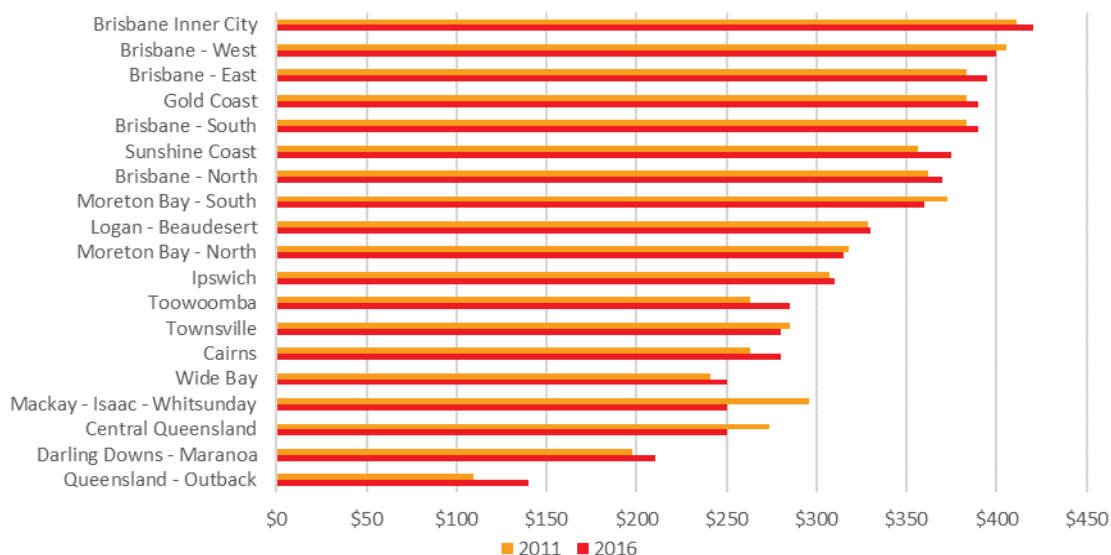
Notes: Median income is for all households and therefore includes home owners as well as renters. Home owners on average have higher incomes than renters, therefore the proportions are lower than they would be using actual median renters' incomes.  
Sources: ABS 1996, 2001, 2006, 2011, 2016, 2017b; QPC calculations.

Rents vary substantially across Queensland. While median real rents have fallen in most areas since 2011, they have increased in parts of Brisbane, and in Gold Coast, Sunshine Coast, Cairns, Wide Bay and Darling Downs–Maranoa (Figure 9). The largest increase was in Queensland Outback, where rents increased in real terms by more than a quarter, although they remain the lowest in the state.

Rents were greatest as a proportion of income Sunshine Coast, Gold Coast and Wide Bay (Figure 10). In parts of regional Queensland, including Central Queensland, Mackay–Isaac–Whitsunday and Queensland Outback rents

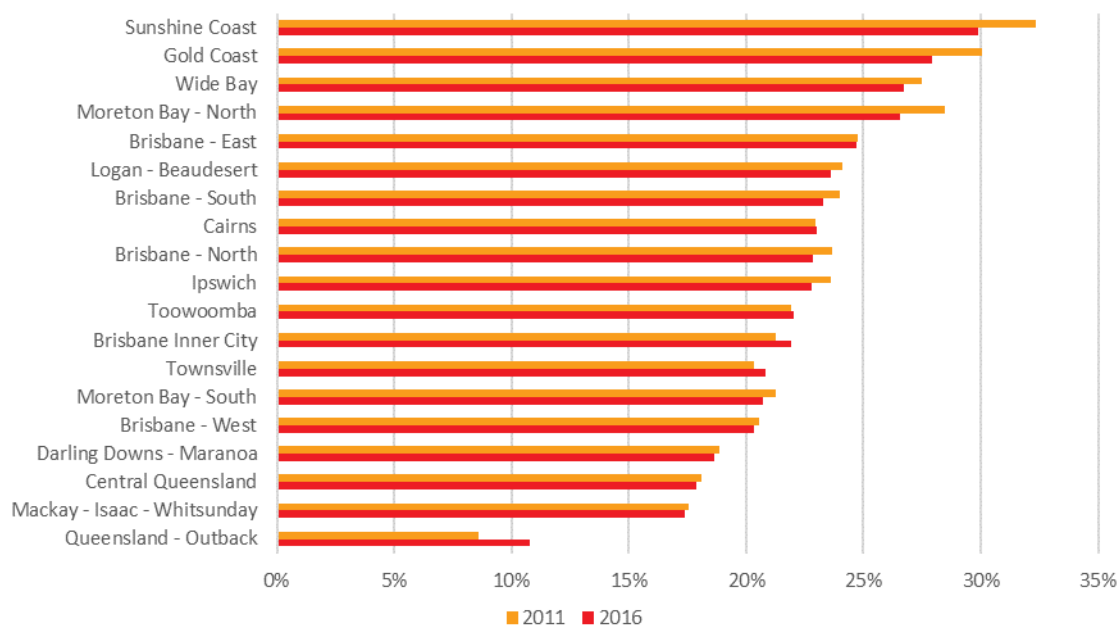
are lowest as a proportion of income. In most regions rents decreased as a proportion of income between 2011 and 2016.

**Figure 9 Median household weekly rents, by region, real**



*Note: 2011 rents were deflated by the Australian CPI to make them equivalent in real terms with the August 2016 census.  
Sources: ABS 2011, 2016; QPC calculations.*

**Figure 10 Median household weekly rents as a proportion of median household income, by region**



*Notes: Median income is for all households and therefore includes home owners as well as renters. Home owners on average have higher incomes than renters, therefore the proportions are lower than they would be using actual median renters' incomes.  
Sources: ABS 2011, 2016; QPC calculations.*

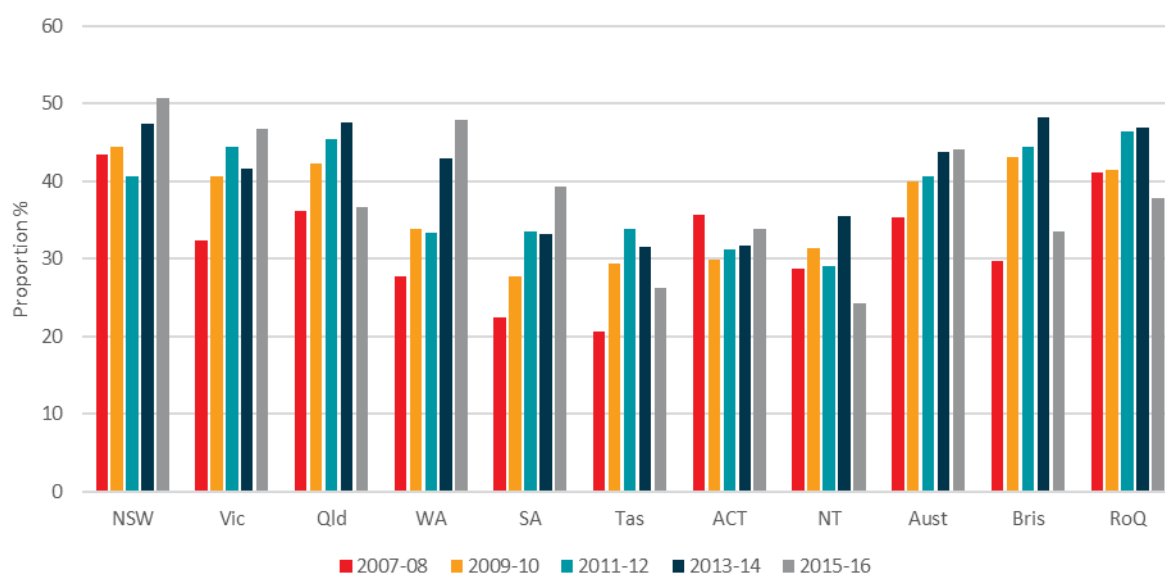


The National Shelter, Community Sector Banking and SGS estimated in its Rental Affordability Index (measuring affordability for all rental households) that in 2017 (quarter 2) affordability increased in greater Brisbane and was stable in the rest of Queensland (SGS Economics and Planning 2017, pp. 4–5, 10).

In 2015–16, the Australian Productivity Commission estimated that Queensland (36.6 per cent of lower-income households) had less rental stress than the whole of Australia (44.2 per cent). Rental stress has fallen from 2013–14, when Queensland was the state with the most rental stress (47.6 per cent) (Figure 11). It remains marginally higher than in 2007–08. Between 2007–08 and 2015–16, the proportion of households in stress increased in Brisbane but fell in the rest of Queensland.

However, other studies suggest rental stress may have increased in Queensland over the long term. Queensland had the highest proportion of rental stress in Australia in 2010 and the incidence had risen 4 percentage points since 2001, to 10 per cent of all households (Rowley and Ong 2012, p. 43)<sup>9</sup>. Analysis of recent census data found that the proportion of households in rental stress has increased in all capital cities (apart from Darwin) between 2011 and 2016 (Le Cava et al. 2017, p. 27).

**Figure 11 Proportion of low-income households in rental stress**



Sources: PC 2018; ABS (unpublished) Survey of Income and Housing.

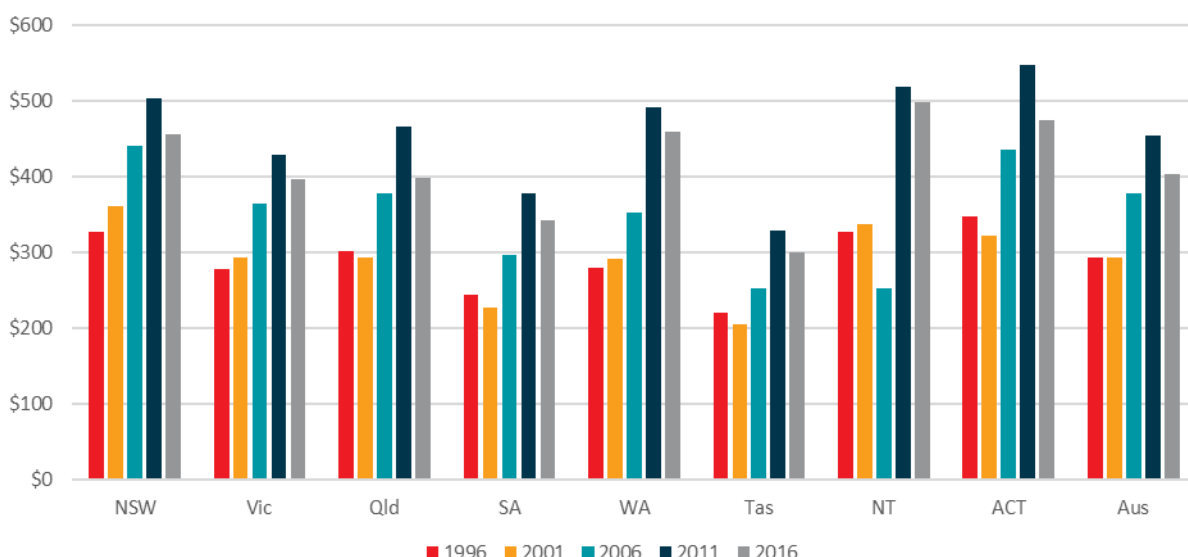
## 3.4. Mortgage payments

Between 2011 and 2016 median weekly mortgage payments in Queensland fell from \$426 to \$399 in nominal terms and from \$467 to \$399 in real terms. Payments fell by more in Queensland than in any other state (though not the ACT) (Figure 12), which could signal an improvement in affordability. As a proportion of household median income, median mortgage payments (28.7 per cent) are lower than in 2011 (34.5 per cent), but similar to 2006 (29 per cent). Research by the Reserve Bank of Australia (RBA) found that current mortgage affordability is around the long-run average in Queensland, due to current low interest rates (La Cava et al. 2017, p. 21).

<sup>9</sup> Using as the threshold 30 per cent of household income and the household being in the bottom 40 per cent of the income distribution.

However, lower payments could also partially reflect changes in the duration of loans, which would reduce weekly repayments, but not the lifetime costs of housing. In 2015–16, the average principal outstanding on owner occupied dwellings in Queensland (\$93,000) was the same as the Australian average (ABS 2017h). The value of those dwellings, though, was about \$90,000 less in Queensland (\$365,000 in Queensland and \$456,000 in Australia)—Queensland households have approximately the same level of liabilities as the whole of Australia, but lower-value assets.

**Figure 12 Median household weekly mortgage repayments, by state, real**



*Note: 2011 mortgage payments were deflated by the Australian CPI to make them equivalent in real terms with the August 2016 census.*

*Sources: ABS 1996, 2001, 2006, 2011, 2016, 2017b; QPC calculations.*

If monetary policy tightens towards historical norms, some households with existing mortgages will be exposed to financial difficulty.<sup>10</sup> For example, one study estimated that a 2.5 percentage point increase in interest rates would mean that the average household would spend an additional 1.8 per cent of its disposable income (from 6.3 per cent to 8.1 per cent) to meet the increase in repayments. For the 10 per cent of households with the most debt, repayments would rise from 37.3 per cent of disposable income to 52.7 per cent (AMP NATSEM 2015, p. 17).

## 3.5. Deposit requirements

For those who have not purchased a home, it is an inability to enter home ownership rather than mortgage stress, that creates the affordability problem (Rowley & Ong 2012, pp. 41–42). As housing prices have increased, so too have deposits. Over the last 50 years, the gap between incomes and required deposits has increased significantly (Yates 2011, p. 281). On average, households require 1.1 years of household income to generate a

<sup>10</sup>However, higher interest rates would (all else being equal) put some downward pressure on house prices (Atkin & La Cava 2017, p. 6).

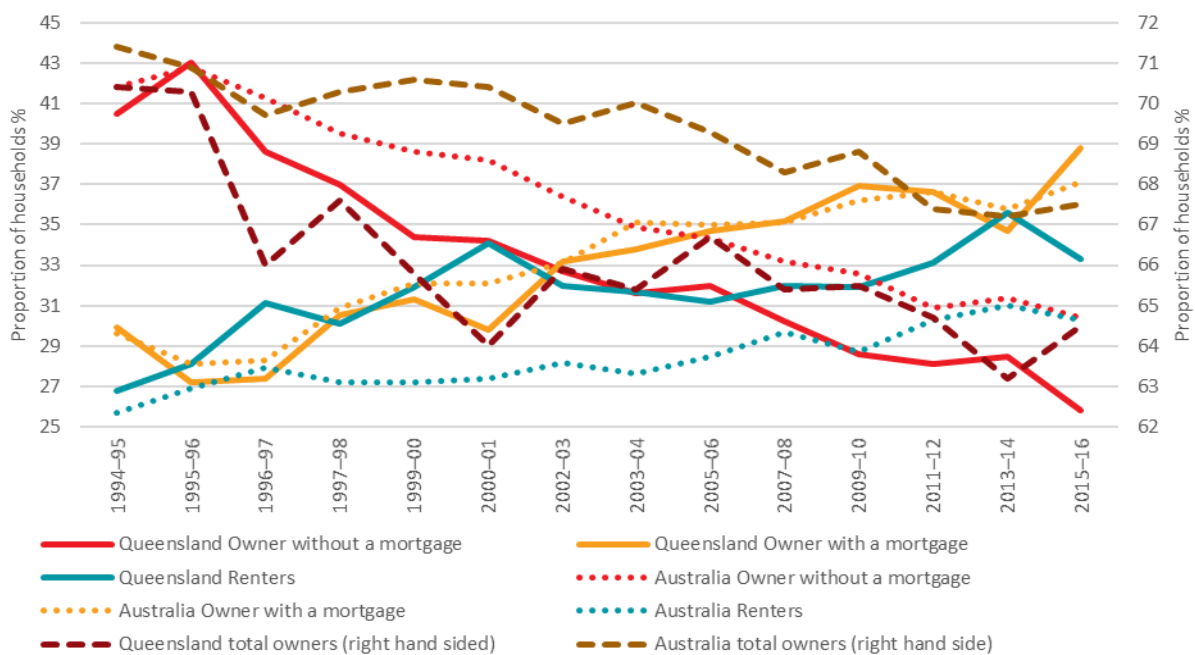
20 per cent deposit in Brisbane, and 1.3 years in the rest of Queensland, up from around 0.7 years and 0.8 years 15 years earlier (CoreLogic 2016, pp. 18–19).

## 4. Home ownership

Home ownership in Australia has been reasonably constant, at about 70 per cent of households, for most of the last 50 years (ABS 2012), although since about 1994–95 there have been signs of a trend decline. The proportion of Queensland households that own their home fell from 70.4 per cent in 1994–95 to 64.5 per cent in 2015–16 (Figure 13), which is a bigger decline than for Australia as a whole (from 71.4 per cent to 67.5 per cent). The home ownership rate was around the average of developed countries (70 per cent in 2014), but it is now well below (OECD 2016).

Outright home ownership was the most common tenure type in Queensland in 1994–95, but by 2015–16 had become less common than both owning with a mortgage and renting. Owning while paying off a mortgage is now the most common tenure type in Queensland. The proportion of households that rent has risen from about a quarter (26.8 per cent) to one third (33.3 per cent). The data also show that the increase in rental housing has been provided by private landlords rather than public housing.

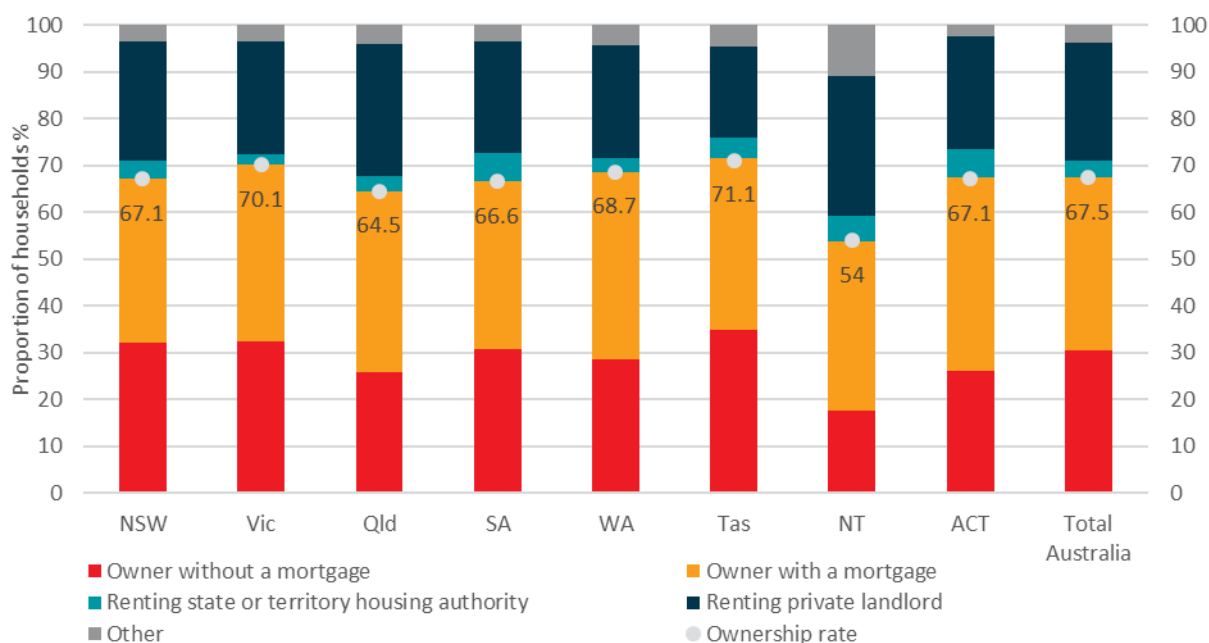
**Figure 13 Tenure type, Queensland and Australia**



Source: ABS 2017e.

Home ownership rates in Queensland are lower than in all other states and territories, apart from the Northern Territory (Figure 14).

**Figure 14 Household tenure type, state and territories, 2015–16**

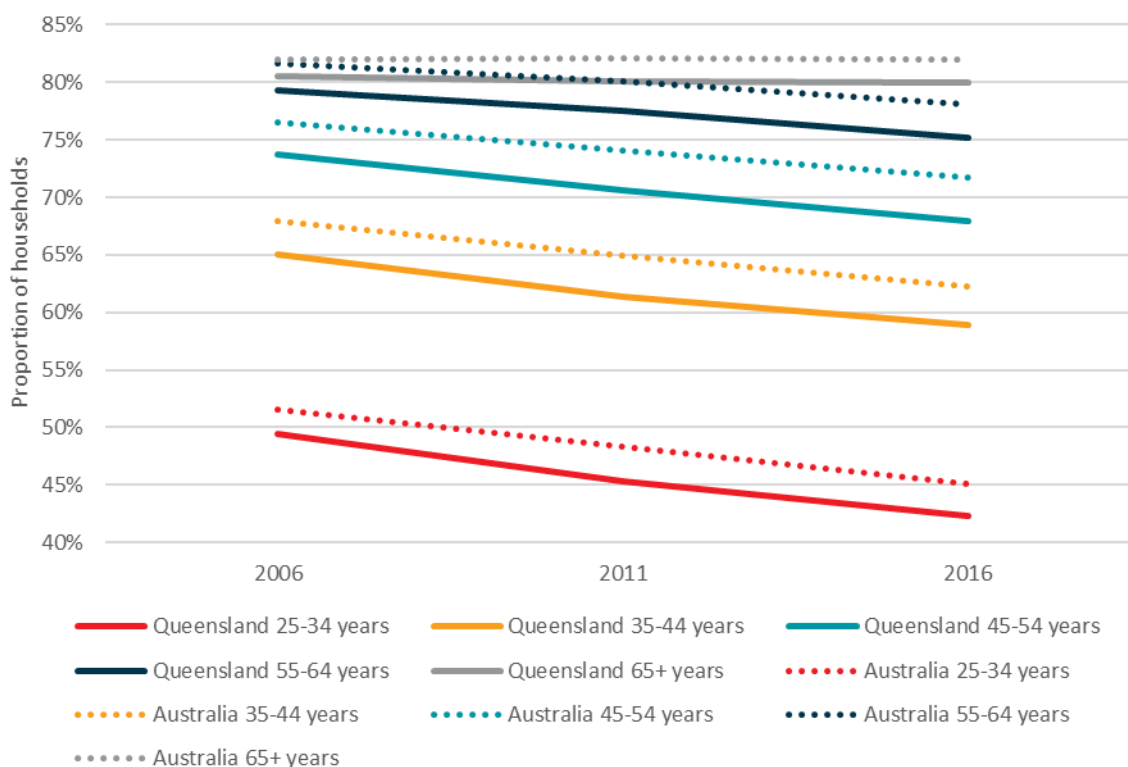


Source: ABS 2017e.

## 4.1. Home ownership across age groups

The decline in home ownership in Queensland, and Australia (Daley & Wood 2014, p. 14; Burke et al. 2014) has been most evident among younger people. Households aged 65 and over are the only age group in both Queensland and Australia for which home ownership has not fallen since 2006 (Figure 15). The fall in home ownership in Queensland was largest among households aged 25 to 34, for which home ownership fell from 49.4 per cent to 42.4 per cent. Among households aged 35 to 44, home ownership fell from 65.1 per cent to 59 per cent. Home ownership is lower in Queensland than in Australia overall in all age groups, and has fallen more since 2006.

**Figure 15 Home ownership, by age of reference person**



*Note: In this paper, we refer to the age of households based on the reference person in the household. The reference person is the person aged 15 or over who is the primary person on the Census survey.*

*The accuracy of the data may be reduced, because the reference person is not always the owner. In other households, there may be multiple owners of different ages.*

*Sources: ABS 2006, 2011 & 2016; authors' calculations.*

The experience of the last 10 years continues a longer-term trend. Between 1981 and 2016, home ownership in Australia for the 25–34 age group fell from about 60 per cent to 45 per cent, and from 75 per cent to 62 per cent for those aged between 35 and 44 years. Home ownership increased from 78 per cent to 82 per cent for households aged 65 and over (CEDA 2017, p. 19).

Housing prices and deposit requirements are not the only reasons for falling home ownership among younger people. Other possible contributors include delayed partnering and child-rearing, higher rates of full-time and part-time study delaying entry into full time employment, higher rates of part-time employment and underemployment, and some younger people placing a higher premium on mobility, which renting makes possible.

## 4.2. Home ownership across income levels

Households with higher equivalised income<sup>11</sup> are more likely to own their homes (Figure 16). For example, for households less than 64 years old, 82 per cent of those with weekly equivalised income of between \$2,500 and \$2,999 owned their homes—more than double the 37 per cent of households with equivalised income of between \$300 and \$399, which had the lowest rates of home ownership.

The decline in home ownership has been most significant for lower-income younger households, where economic constraints are greater (Yates 2015, p. 76). By contrast, Figure 15 shows that the impact of income on home ownership is less pronounced for older households. This may be because although many older households have lower levels of workforce participation and income, they have accumulated more wealth, often held as equity in their homes.

**Figure 16 Queensland home ownership, by household weekly equivalised income, by age, 2016**



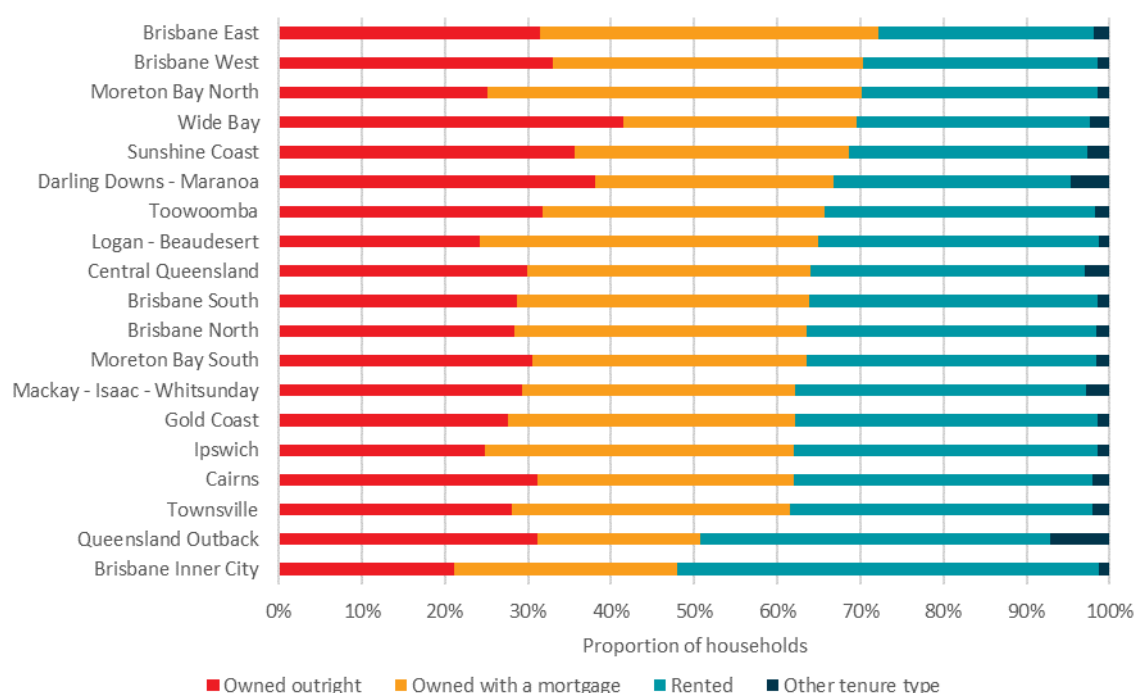
Sources: ABS 2016; authors' calculations.

<sup>11</sup> Equivalised household income is adjusted by the application of an equivalence scale to facilitate comparisons between households of differing size and composition. This reflects that larger households normally need more income than smaller households.

## 4.3. Home ownership across regions

Statewide figures for home ownership and renting mask significant regional variations (Figure 17). Brisbane East, Brisbane West, Moreton Bay North, Wide Bay and Sunshine Coast have Queensland's highest proportions of home ownership—around 70 per cent. This is significantly higher than Brisbane inner city and the Queensland Outback, which have Queensland's lowest proportions of home ownership (around 50 per cent) and the highest proportions of renters.

Figure 17 Tenure type by region, 2016



Note: Regions are based on Australian Standard Geographical Classification's Statistical Area Level 4. Other tenure type includes 'occupied rent-free', 'occupied under a life tenure scheme' and 'other tenure type'. The category 'being purchased under a shared equity scheme', makes up a small proportion of households and is included in 'owned with a mortgage'.

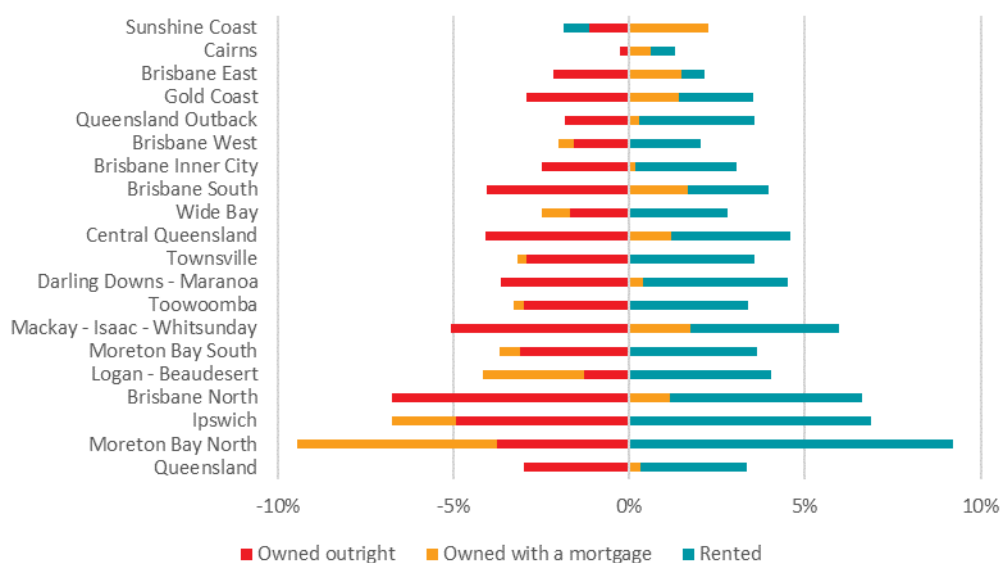
Source ABS 2016; authors' calculations.

The statewide decline in outright home ownership has been experienced across Queensland. Between 2006 and 2016, it fell in all Queensland regions (Figure 18). In some regions, ownership with a mortgage increased, and in most regions renting increased. The outer regions of Greater Brisbane (Moreton Bay North, Ipswich, Logan–Beaudesert and Moreton Bay South) experienced the largest fall in home ownership and the largest increase in renting in Queensland (apart from Brisbane North). Home ownership increased in Cairns and the Sunshine Coast.

In 2006, home ownership rates in Greater Brisbane were higher than in the rest of Queensland (67.4 and 65.8 per cent respectively), but by 2016 they were lower than in the rest of Queensland (63.6 and 64.2 per cent respectively).

Regional changes in ownership rates may be driven in part, by the affordability of well-located housing. Yates (CEDA 2017, p. 19) noted a tendency for middle- and higher-income households, which cannot afford to buy properties where they would choose to live, renting instead in these areas. A consequence is that rental properties that are affordable for lower-income households are being pushed towards the city fringes.

Figure 18 Change in tenure type, by region, 2006 to 2016



Note: Regions are based on Australian Standard Geographical Classification's Statistical Area Level 4. Data from 2006 and 2011 was concorded to 2016 geographic definitions. Other tenure type includes occupied rent-free, occupied under a life tenure scheme and other tenure type. Being purchased under a shared equity scheme is small proportion of tenure types and is included in owned with a mortgage.

Source ABS 2006, 2011, 2016; authors' calculations.

## 5. Housing types

The pressures on affordability might also be expected to lead to changes in the composition of the housing stock. The 'Australian dream' of owning a large house on a quarter-acre block accessible to the city centre (Kelly & Donegan 2015, pp. 77–80) may be becoming increasingly out of reach. However, not everyone aspires to this dream—there is a diverse array of preferences. More younger people and families are choosing to live in townhouses and apartments. Income levels do not clearly influence the types of dwellings people choose.

People's preferences for different types of housing depend on factors such as where they work, family composition, cultural background, lifecycle stage, budget and priorities. The priority people place on various housing characteristics (such as physical features including number of rooms, living space and garden; proximity to neighbours and flexibility in renovating; location and access to work, transport, shopping, schools and leisure; and the local environment) differ (Kelly et al. 2011).

The small ratio of new builds to the total housing stock means that housing markets respond slowly to changes in people's preferences. There are differences in the composition of dwelling types across regions. It is, however, difficult to tell how closely the composition of the housing stock reflects people's preferences.

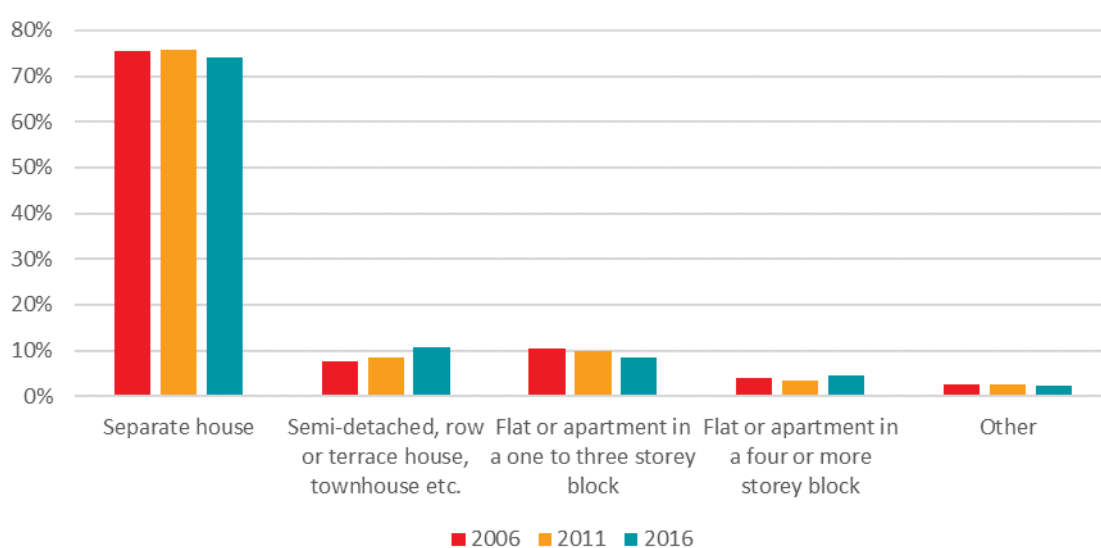


## 5.1. Dwelling types and size

The composition of dwelling types has changed little over the last decade. Separate houses remain most common, accounting for 74 per cent of dwellings in 2016, from 75 per cent in 2006. The two biggest changes have been in townhouses and other semi-detached housing, which increased from 7.6 to 10.8 per cent, and one-to three-storey apartments, which fell from 10 per cent to 8.4 per cent of dwellings. The share of four-or-more-storey block apartments (4.4 per cent) increased slightly (Figure 19).

A smaller proportion of Queensland households live in townhouses and apartments than in Australia overall (23.7 and 27.1 per cent respectively). Between 2006 and 2016 the proportion of households living in townhouses and apartments increased 1.8 per cent in Queensland and 3.1 per cent in Australia.

**Figure 19 Proportion of Queensland households, by dwelling type**



*Notes: Other includes flat or apartment attached to a house, shop or office; caravan, cabin, houseboat, improvised home or tent.*  
*Sources: ABS 2006, 2011, 2016; authors' calculations.*

Over the past 60 years in Australia, home sizes increased and the average number of persons per dwelling fell (Stephan & Crawford 2016). It is difficult to determine whether this is occurring because people want more space or whether the housing stock is being poorly utilised. There is mixed evidence on whether the trend in house sizes has continued over the last decade.

The average number of bedrooms per dwelling in Queensland has increased since 1994–95 (Table 3). The average number of people per dwelling decreased until 2003–04, but has risen slightly since then. In 2015–16, there were 2.6 people per household and 3.3 bedrooms per dwelling, or 0.7 more bedrooms than occupants per dwelling (up from 0.2 in 1994–95). The trends are similar across Australia.

Based on Australian data (ABS 2017e), the largest difference between average bedrooms and people per household is among owners without a mortgage, where households have on average more than one extra bedroom. This is probably because a higher proportion of households that have paid off their mortgages are 'empty nesters'. Households owning their homes without a mortgage tend to be older (60 per cent are 65 or over), work less (56 per cent have no employed people), and have fewer people (2.1 persons per households) but more bedrooms (49 per cent have three bedrooms and 36 per cent have four or more).

**Table 3 Dwelling size, Queensland**

	1994–95	1999–2000	2005–06	2009–10	2015–16
People per dwelling	2.7	2.6	2.5	2.6	2.6
Bedrooms per dwelling	2.9	3.0	3.1	3.2	3.3
Surplus bedrooms per dwelling <sup>12</sup>	0.2	0.4	0.6	0.6	0.7

Source: ABS 2017e.

On the other hand, research by CommSec (2017), using ABS data, found that Australian new dwellings have fallen in average floor area since peaking in 2008–09, largely due to increasing apartment construction. Nevertheless, new dwellings remain on average bigger than 30 years ago and are the world's second-largest (after the United States), and new houses are still bigger than the ones built 20 years ago. Changes in the size of new dwellings may not reflect trends in the whole stock of dwellings.<sup>13</sup>

## 5.2. Housing choice and age

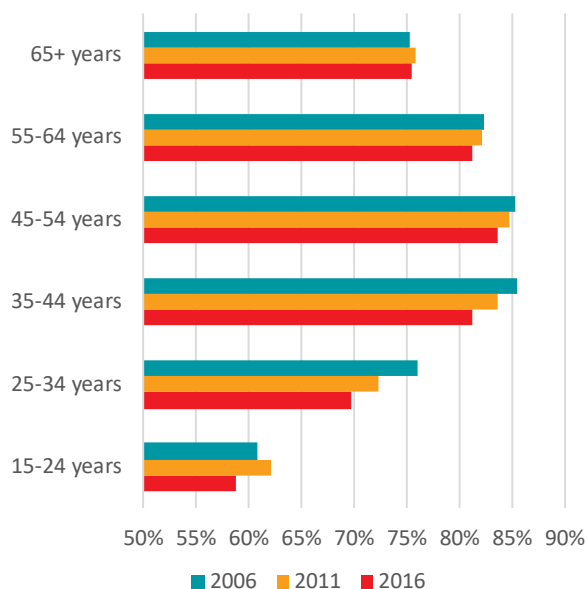
Older households disproportionately favour detached houses, though this may change as younger generations get older. The proportion of households 35 years or older that live in houses exceeds the Queensland average of 74 per cent. The proportion exceeds 80 per cent for households aged 35 and 64 years. In younger households (between 15 and 34 years) the proportion is below the state average.

However, the proportion of households living in houses is falling for all age groups, except for those 65 or older (Figure 20). The largest declines were for those aged 25 to 34 and 35 to 44 (6.3 and 4.3 percentage points respectively). Younger households are becoming more likely to live in townhouses and apartments—the proportions of households aged 25 to 34 years and 35 to 44 years living in townhouses and apartments increased by 6.8 and 4.9 percentage points respectively between 2006 and 2016 (Figure 21). The trends in Australia are similar across age cohorts, though more pronounced.

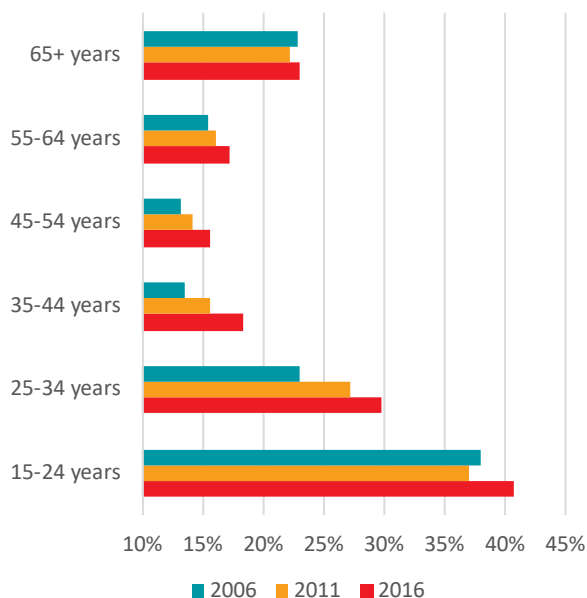
<sup>12</sup> 'Surplus bedrooms' refers to the average number of bedrooms a dwelling has minus the average number of people.

<sup>13</sup> Estimates of floor size may seem inconsistent with the those of the number of bedrooms. Given the CommSec report only refers to new homes, the average size of homes could increase even if the new homes are smaller than in 2009, as long as the new homes are larger than the average of existing homes. It may be that houses have increased the number of bedrooms while decreasing other living space. Removing older smaller homes for infill development and renovations could also increase average floor space, while not being reflected in new house statistics.

**Figure 20 Proportion of Queensland households living in houses, by age of reference person**



**Figure 21 Proportion of Queensland households living in townhouses or apartments housing, by age of reference person**



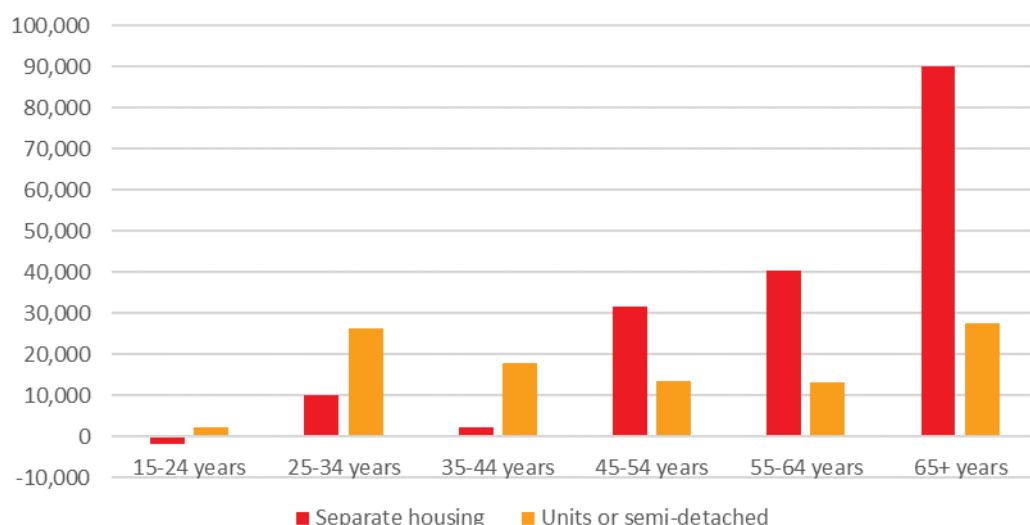
*Note: Age cohort is based on the age of the household reference person. The reference person is not always the head of house or owner and there may be multiple co-owners within the household.*

*Sources: ABS 2006, 2011, 2016; authors' calculations.*

It is sometimes assumed that as the population ages, older households will downsize and reduce their housing costs. However, figures 20 and 21 suggest that older generations are mostly staying in their family homes rather than downsizing into townhouses and apartments. This is consistent with the Australian Productivity Commission (2015, p. 5) study, which found that older people prefer to age in place and that housing mobility declines with age.

The number of households aged over 65 is rising much faster than younger households. Correspondingly, the number of households in this cohort living in houses has increased from 211,000 to 301,000 between 2006 and 2016 (Figure 22). Younger generations are increasingly living in townhouses and apartments.

**Figure 22 Change in number of Queensland households, by dwellings type and age cohort of reference person, 2006 to 2016**



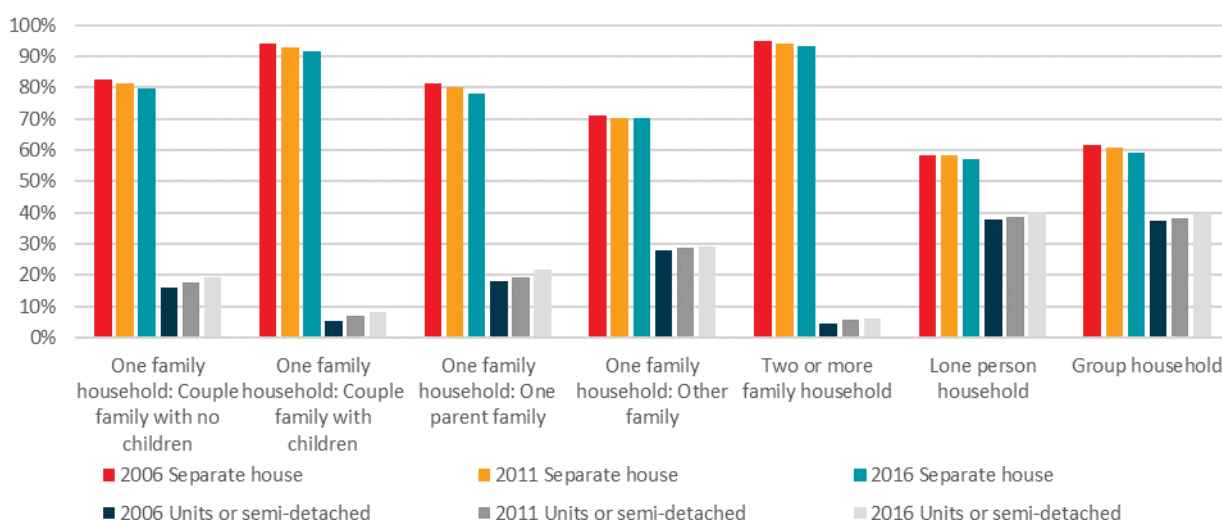
Sources: ABS 2006, 2011, 2016; authors' calculations.

## 5.3. Housing choice and household composition

Greater proportions of lone person households, group households and other family households live in townhouses or apartments, than families with children and couples (Figure 23). Younger lone person households tend to place greater importance on location rather than on a dwelling's physical features (Kelly et al. 2011, p. 12). Lone person and group households are an increasing proportion of Queensland households.

The proportions of all household compositions living in townhouses and apartments increased between 2006 and 2016. The increases were greatest for one-parent households, couples without children and couples with children (3.7, 3.1 and 2.7 percentage points respectively).

**Figure 23 Proportion of Queensland households, by dwelling structure and household composition**



*Note: 'One family households: other family' includes a range of family combinations, but none of these households include children. In multiple family households, only the family composition of the primary family is recorded. Some but not all these households include children in either the primary or secondary or other families.*  
*Sources: ABS 2006, 2016; authors' calculations.*

## 5.4. Housing choice and regional location

Where people locate has an impact on the types of dwelling that are available.

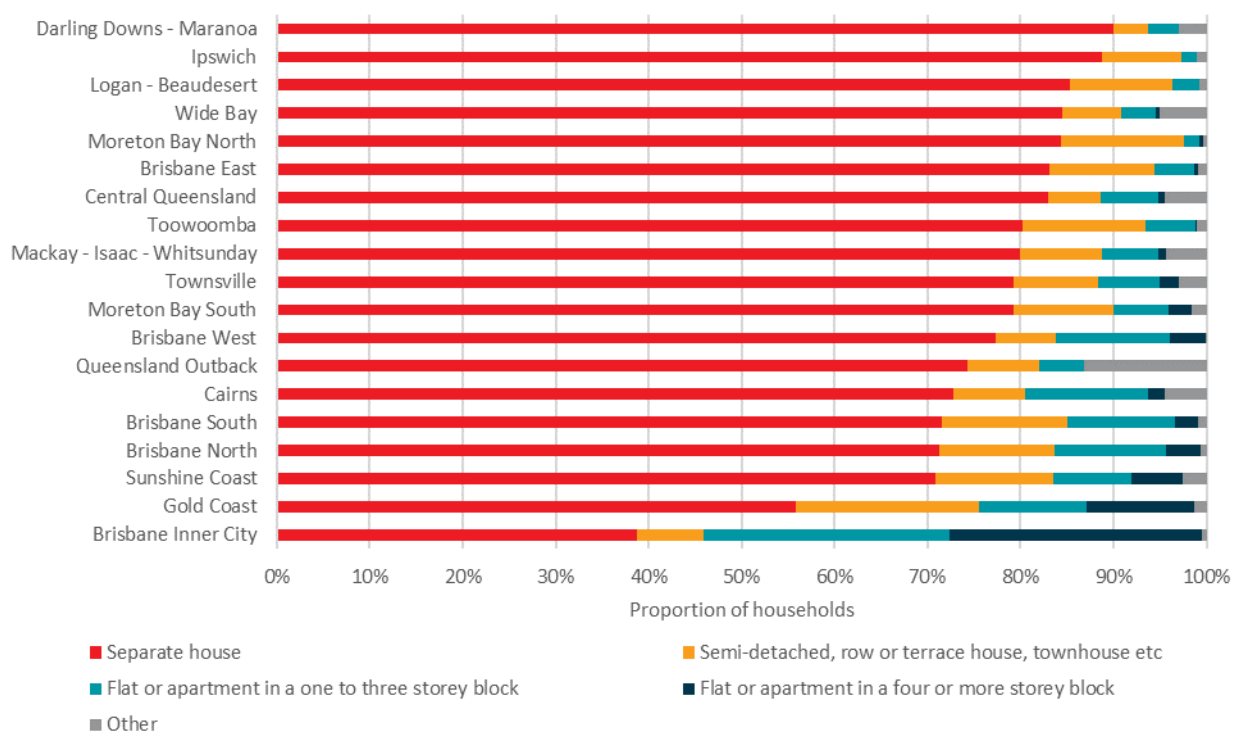
Brisbane inner city is the only region where most households' dwellings (61 per cent) are townhouses and apartments (Figure 24). Gold Coast and Sunshine Coast also have relatively high proportions of townhouses and apartments (43 and 27 per cent respectively in 2016). Brisbane inner city, Gold Coast and Sunshine Coast together host four-fifths of Queensland households living in four-storey or higher buildings in Queensland (37, 32 and 10 per cent respectively).

Dwellings in greater Brisbane's outer regions are predominantly houses (85 per cent), with relatively few townhouses and apartments. Regional Queensland<sup>14</sup> has a relatively high proportion of houses (81 per cent)—though some regions, such as Cairns, have relatively fewer (73 per cent). Brisbane's middle suburbs<sup>15</sup> have a similar proportion (75 per cent) of houses as Queensland (74 per cent).

<sup>14</sup> Regional Queensland includes all regions outside of south east Queensland: Cairns, Darling Downs-Maranoa, Central Queensland, Mackay–Isaac–Whitsunday, Queensland Outback, Townsville and Wide Bay.

<sup>15</sup> Brisbane's middle suburbs includes the SA4s of Brisbane South, Brisbane West, Brisbane North and Brisbane East.

**Figure 24 Dwelling structure by Queensland region, 2016**



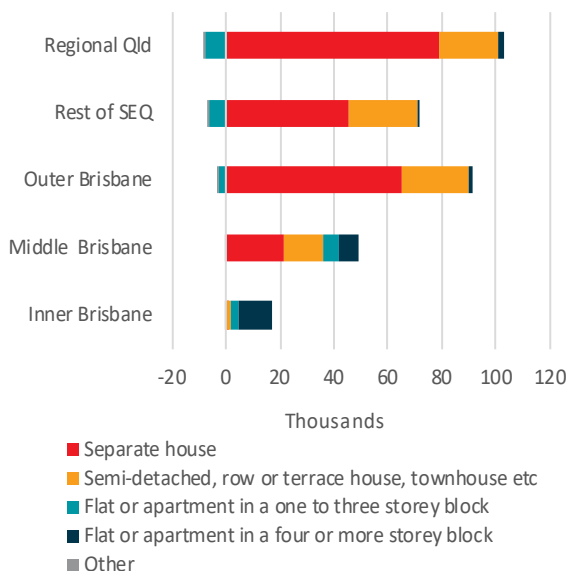
*Note: Regions are based on Australian Standard Geographical Classification's Statistical Area Level 4.*

*Sources: ABS 2016; authors' calculation.*

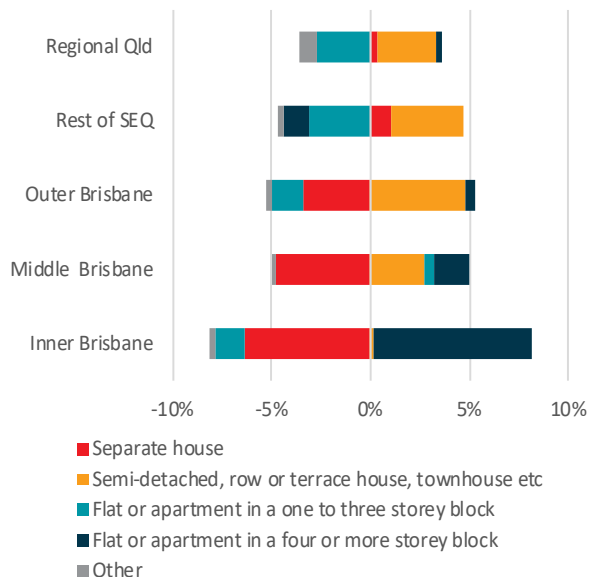
Houses dominate additional dwellings in most regions, except for inner Brisbane and middle Brisbane (Figure 25). The larger number of additional townhouses and apartments in these two areas may be the result of households economising, given the costs and scarcity of well-located land.

Townhouses and apartments form an increasing proportion of the outer Brisbane housing supply, even though most additional housing in outer Brisbane is houses (Figure 26). Outside Brisbane, the proportion of households in houses has increased, largely due to increases in the Sunshine Coast, Mackay, Cairns and Gold Coast.

**Figure 25 Change in the number of households between 2006 and 2016, by dwelling type and region**



**Figure 26 Change in the proportion of households between 2006 and 2016, by dwelling type and region**



*Note: Regions are based on Australian Standard Geographical Classification's Statistical Area Level 4. Data from 2006 and 2011 was concorded to 2016 geographic definitions. Inner Brisbane includes inner city Brisbane; Middle Brisbane includes Brisbane north, south, east and west; Outer Brisbane includes Morton Bay north and south, Logan and Ipswich; Rest of SEQ includes Gold Coast, Sunshine Coast and Toowoomba; Regional Queensland includes all other Queensland regions.*

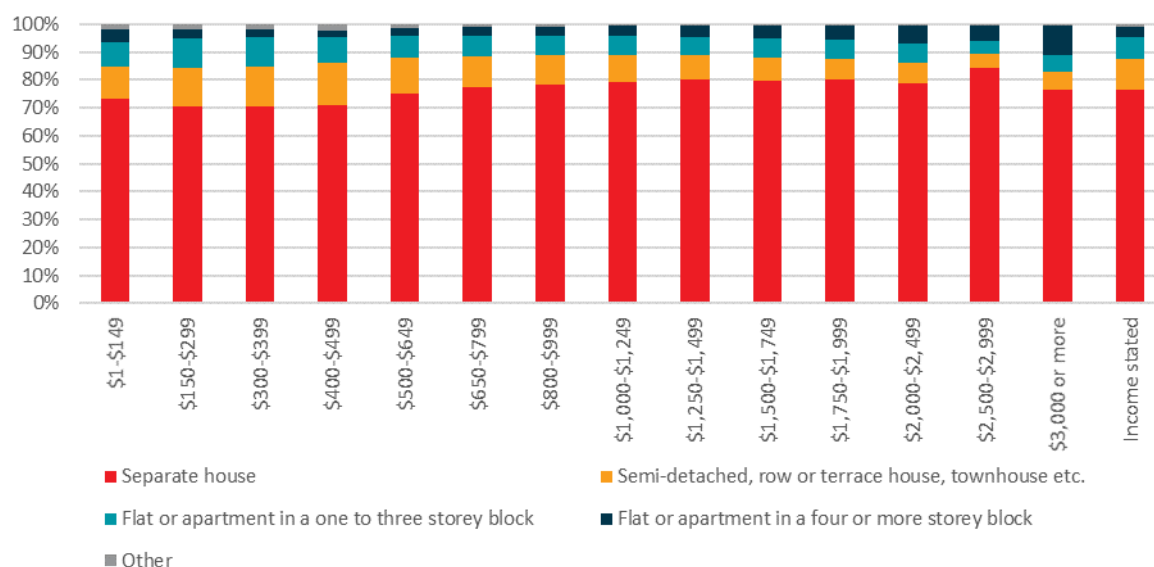
*Sources: ABS 2006, 2011, 2016; authors' calculations.*

## 5.5. Housing choice and income

The choice between different types of dwellings does not appear to be influenced as much by income as it is by age, household composition or region. In general, households with higher equivalised incomes are slightly more likely to live in houses (Figure 27). However, the impact is not large, which suggests that income constraints may have a bigger impact on where people can afford to live rather than on the type of dwelling they choose.

At the highest weekly income levels (\$3,000 and over), households are no more likely than other income groups to live in houses. The proportion of highest income households (\$3,000 and over) living in apartments in four-storey or higher buildings is almost triple that of all households. This suggests that higher-density dwellings are not catering only for low-income households.

Figure 27 Queensland household dwelling structure, by equivalised weekly income, 2016



Note: Income stated includes all households that had an income and all members had stated their income.  
Sources: ABS 2016; authors' calculations.

## 5.6. Does the housing stock match consumers' preferences?

While the types of housing in which people live are influenced by their family type, where they live and, to a smaller extent, their income, this does not necessarily mean that these types of housing best match their current preferences. There are several reasons for this:

- Most housing was built 20 or more years ago.
- Many people stay in the same house over long periods, even though household needs may have changed.
- Only a small proportion of housing is available at any time, and this can lead movers to choose a second-best option.
- Limited choice of housing types in some locations means that some people cannot live in the preferred type of housing or location (Kelley et al. 2011, p. 13).

There is little data about the types of housing people would prefer to live in, when faced with realistic constraints on their choices, such as location and cost (Kelly & Donegan 2015, p. 79). It is unknown to what extent people prefer to trade off the benefits of a house for lower costs and/or closer proximity to jobs and education, health and recreation amenities.

To help to fill this gap, Kelly et al. (2011) used surveys to elicit respondents' housing preferences, while requiring them to make explicit trade-offs based on current housing costs and how much they could spend. This research found a mismatch between the housing supply and the housing respondents say they would choose. In Sydney and Melbourne, it indicated an undersupply of semi-detached housing (13 and 15 percent of housing, respectively) and apartments in buildings of four stories or more (10 percent in both cities), and an offsetting oversupply of detached housing (Kelly et al. 2011, p. 20). The undersupply was greatest in middle and outer suburbs. Later work revealed that in Perth, a shift from separate houses to semi-detached housing would better match the preferences of 23 per cent of households (Western Australia Planning Department 2013, pp. 45–46).



Based on current information, it is difficult to go further than to conclude that the composition of dwellings is evolving, and preferences may be changing. Further research could identify the extent to which the housing stock matches Queenslanders' preferences.

Poor housing affordability and a housing stock that is inconsistent with consumer preferences can affect productivity and employment. For example, if lower-income households are pushed into outer suburbs, a long way from the jobs that cluster towards the centre of cities, this can lead to long commuting times and congestion costs, while making it more difficult for employers to find suitable labour.

## 6. Influences on housing availability and affordability

Previous sections have demonstrated the complexity of the housing market. Indeed, even to refer to a 'Queensland housing market' is to oversimplify; the state has many (to differing extents over-lapping) housing markets. The drivers of housing availability and price in these various markets are diverse and may have varying impacts, at different times, in different parts of Australia (The Senate (2015) Economics References Committee, p 43). To bring some order to this diversity, it is helpful to organise the key drivers into categories. One approach is to categorise them into:

- 'supply side' factors, such as the availability and cost of land and construction, and the impacts of regulation on the supply of land and dwellings
- 'demand side' factors, such as population and employment growth, amenity, the availability of finance and consumer preferences
- taxation policies and concessions (National Housing Supply Council (NHSC) 2009, p. 6).

Rising house prices may indicate that the supply of housing is not keeping up with demand. The causes are likely to be found on both sides of housing markets. Different diagnoses of the causes of rising prices lead to different remedies (PC 2004, p. xvii).

This section's summary of some of these factors shows that housing market outcomes are the result of complex interactions between private sector actions and direct and indirect government interventions.

### 6.1. Supply side factors

Supply side factors affect the cost of providing housing and the responsiveness of suppliers to changes in demand. As noted earlier, the increasing cost of land is a significant contributor to the rising price of housing. Hence, factors that affect the supply of land, as well as those affecting construction costs, are both significant.

Although the supply of new dwellings as a proportion of the dwelling stock in Australia is amongst the highest in developed countries, Australia also has one of the lowest ratios of dwellings per person in the developed world (OECD 2016).

The supply of housing refers not only to numbers of dwellings, but also to their type, quality and location. A misunderstanding by planners and developers of what people want can lead to mismatches between the housing stock and what people would prefer, which may last for many years.

Experts debate whether the supply is adequate, given diminished housing affordability. One view is that the inadequate supply of land available for development is constraining new housing supply (Stanford cited in CEDA 2017, p. 57). The evidence of a long-run relationship between the size of the dwelling stock and price level is

strong (CEDA 2017, p. 62). However, in the short run the relationship between the annual change in new housing supply and the housing price level is much weaker and lagged, because housing is long-lived and takes time to construct (CEDA 2017, p. 62).

## Building costs

Building costs can be influenced by the competitiveness of the building industry, the costs of materials and labour, and by regulatory requirements (PC 2004, p. 182). Cost increases are either absorbed by the builder/developer and/or recouped from consumers through higher house prices (COAG 2012, p. 30).

### *Building Codes and Regulations*

The design and construction of dwellings are subject to codes, regulations and other restrictions such as:

- the National Construction Code (NCC), which aims to achieve nationally consistent, minimum requirements for the design, construction and performance of buildings throughout Australia (Master Builders Queensland, n.d.)
- minimum energy efficiency ratings (such as 6-star standard), which may also require specific energy efficient installations in dwellings (Queensland Government 2014)
- licensing requirements for people working in the building and construction industry. Excessive requirements may create unnecessary barriers to entry into an occupation, leading to increased costs and/or result in a skills shortage in an industry (PC 2004, pp. 186–188)
- administrative processes imposed on small contracting businesses (HIA 2014, p. 13).

Other regulations imposed on owners of existing properties at the time of sale may increase dwelling prices or housing costs. While regulatory requirements are introduced to achieve specific policy outcomes (for example, safety or consumer protection), some are also likely to increase costs. In addition, frequent changes can increase regulatory and administrative burdens (HIA 2014, p. 12).

Estimates of the costs of building regulations vary. For example, the Victorian Competition and Efficiency Commission's (VCEC 2005) survey of 20 building practitioners indicated that the costs of regulatory compliance added between 2 and 20 per cent to the cost of a new home in Victoria. This compared with other estimates at the time that suggested regulation added between 5 per cent and 11 per cent to cost.

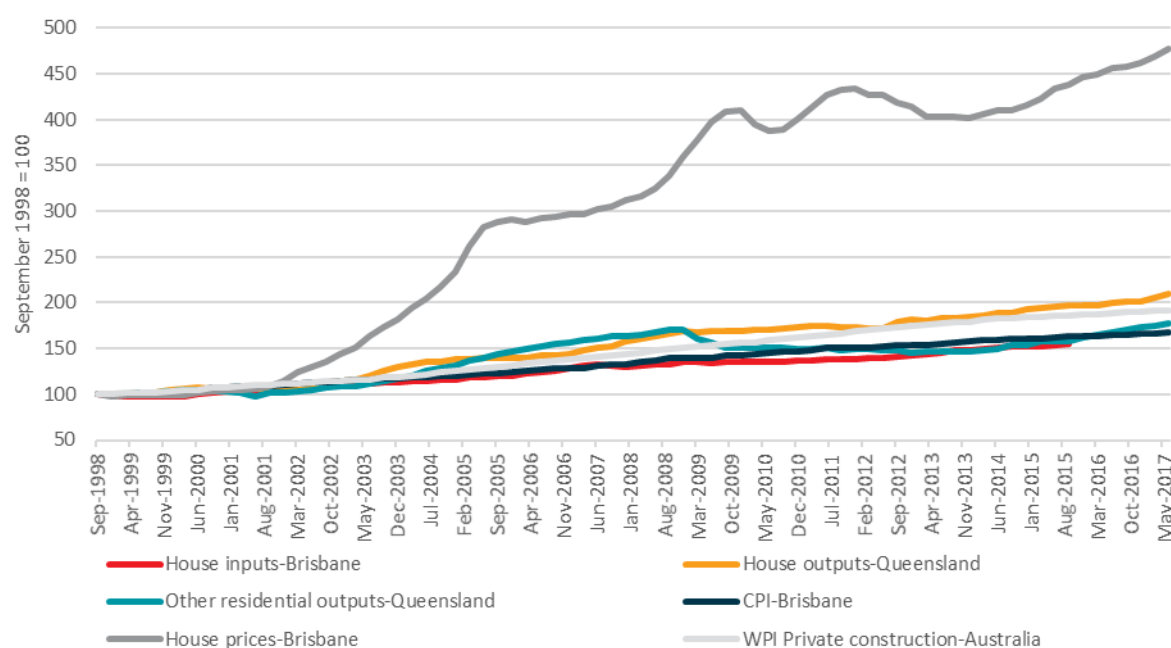
### *Construction costs*

Construction is a large component of new housing costs—URBIS (2011, pp. 2–4) estimated that construction costs made up around half of the cost to buyers for both new greenfield and infill developments in Brisbane.

Recent reports suggest that real construction costs are not a significant driver of escalating house prices (NHSC 2013, p. 90; Stanford 2016). Construction price have only slightly exceeded inflation—they cannot explain most of the increase in the price or cost of Queensland housing. Since 1998, Brisbane house prices have grown several times faster than measures of construction prices (Figure 28). Comparisons of price indices reveal that:

- construction input prices grew by less than inflation
- Australian private construction wage prices index grew slightly slower than the Queensland and Australian house price output indices—suggesting labour inputs are not a large driver of house prices
- townhouse and apartment construction output prices grew at a similar rate as CPI
- Brisbane house prices grew five times faster than house construction output prices.

**Figure 28 Selected price indices, nominal**



Notes: The wage price index covers Australian private construction, including commercial and civil construction and therefore is indicative only. Queensland and Brisbane trends may not be identical, but due to data limitations they have been compared in the above figure. Other residential outputs refer to townhouse and apartment construction.

Sources: ABS 2017a, 2017b, 2017i, 2017j; authors' calculations.

## Supply of land

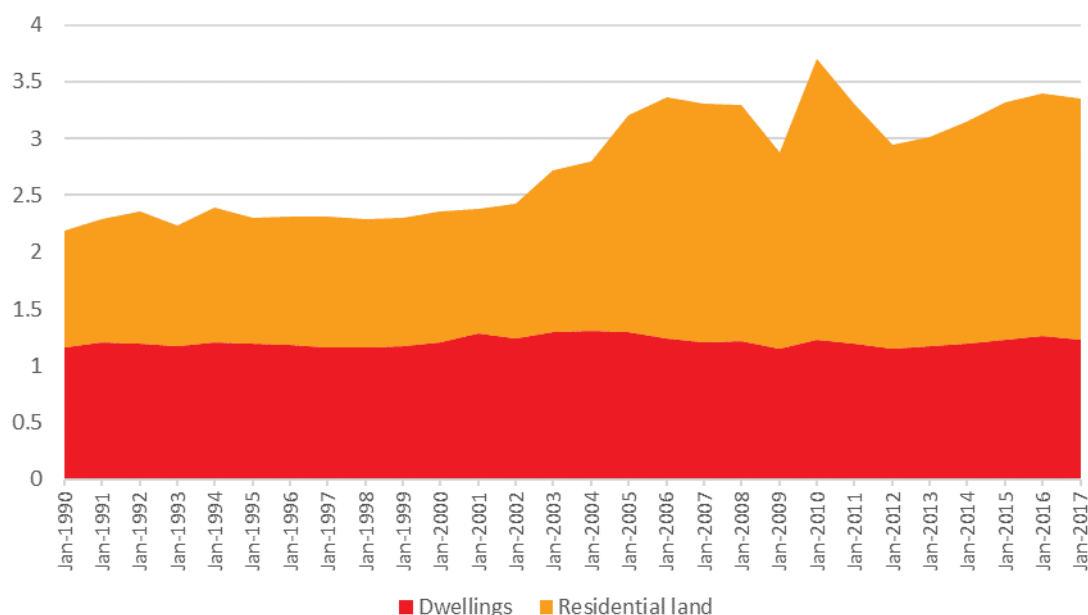
There are two sources of land for new housing: greenfield development on undeveloped land or infill development in established areas. Thus, the supply of new dwellings can be restricted by the availability of land and/or how land can be used.

One view is that the increasing cost of land, particularly in urban areas, is the 'most significant driver of increasing costs' in housing (Yates 2011, p. 271).

The increase in house prices appears to have been caused more by changes in the value of land than by improvements in the quality of dwellings or increases in construction costs. Since 1990, the ratio of the value of dwellings to gross state product (GSP) has changed little, while the ratio of residential land value to GSP has approximately doubled (Figure 29). That is, GSP has grown by 3.9 per cent per year in real terms, and the value of dwellings (excluding land) has increased by 3.3 per cent per year, but the value of residential land has increased by 6.6 per cent per year. This reflects the price per square metre of land increasing, rather than the area of land per dwelling increasing.<sup>16</sup>

<sup>16</sup> The faster growth in residential land value could in theory be caused by an increase in the area of land per dwelling, or because the price per square metre of residential land is rising. Given that the composition of housing types is moving slowly towards townhouses and apartments (see below), an increase in the land per dwelling seems unlikely. This is also supported by changes to planning guidelines decreasing minimum lot sizes, observed long-term decreases in median lot sizes and

**Figure 29 Ratio of dwelling and residential land value to gross state product, Queensland**



Sources: ABS 2017c, 2017d; authors' calculations.

Most of Queensland's population (84.5 per cent) live in areas the ABS classifies as urban—accounting for just 0.7 per cent of land in the state (authors' calculations based on ABS 2017g). While land overall is not scarce in Queensland, well-located land is. The supply of certain types of land, such as land close to the CBD, infrastructure, the coast or a river, is often in short supply.

Possible constraints on the supply of land for residential development include:

- geographic barriers to development, such as coastlines, conservation areas and steep slopes (RBA 2014, p. 7).
- planning and regulatory processes, which may affect the amount and location of land available for development, how long developers take to release individual lots for sale or development project viability (PC 2011, pp. 99–104; COAG 2012, p. 25).
- the competitiveness of the development market and the staged release of land by developers (Sánchez & Johansson 2011p. 25; NZPC 2015, pp. 71–74).

## Constraints on the type and intensity of land use

State and local governments use planning processes and land use regulations to control when and where land is made available for development, and how it can be used. This can include zoning areas or parcels of land. The intention is to avoid market failures when land use affects other parties or the environment, to achieve social or distributional objectives (CIE 2013, p. 15), or to respond to local concerns (COAG 2012, p. 13). Land use planning decisions are also the result of locals' objections to development, which may change the character and feel of

increases in the price of land per square meter (HIA CoreLogic 2017, pp. 7, 12 & 22). This is consistent with observations above, that house prices (which require more land) have grown faster than townhouse and apartment prices, and that prices in southeast Queensland (where undeveloped land is scarcer) have grown faster than regional areas.

neighbourhoods and increase congestion. Such regulations can, however, constrain the supply of land or types of development permissible, contributing to land costs and ultimately to the cost of dwellings (NZPC 2015, p. 94). A range of regulations govern the stages of housing development from land release through to the house sale to the end owner. Regulation may contribute to supply constraints through:

- regulation that limits the land available for development in an area, which is likely to increase its price (Jaeger 2006, p. 106).
- restrictions on types and intensity of development, including prescribing land uses, lot sizes, allowable heights and densities for certain areas (RBA 2014, p. 7). In large areas of Brisbane's inner and middle suburbs, for example, character zoning is used to preserve the aesthetics of areas with clusters of well-located low-density housing built in 1946 or before. These clusters often surround some of Queensland's highest-capacity public transport infrastructure, such as Park Road, Buranda, Dutton Park, Newmarket and Eagle Junction train stations (BCC 2018).
- financial costs caused by complexity, delays and uncertainty in planning approvals for new developments (House of Representatives Standing Committee on Economics (HoR) 2016, p. 6; RBA 2014, p. 7), including third-party objection and appeal rights (The Senate 2015, pp. 105–107), state and Commonwealth environmental assessment (COAG 2012, p. 30) and additional 'triggers' for state assessment of particular developments
- additional requirements imposed on development; for example, minimum car-space requirements (COAG 2012, p. 13), which may increase the amount of land that is required for a development, or increase construction costs

Governments can increase the supply of land by, for example, releasing land for development at the city fringe. However, this may not reduce the cost of well-located land unless there are complementary policies, such as ensuring that there is an affordable and fast transport connection between the land and where jobs are available (CEDA 2017, p. 25). To allow more medium-density housing in established suburbs close to jobs and along transport corridors the Grattan Institute (Daley et al. 2018, p. 3) recommended that:

*the appropriate height of development (say between 4 and 8 storeys) needs to be determined up-front and declared to be 'as of right'.*

In practice, planning does not always achieve its stated goals, and state and local governments are not always aligned in their understanding of or approach to planning. For example, a recent review by the Victorian Auditor General (2017, p. 31) found that some local government plans inhibiting denser development were not consistent with the economic, social and environmental objectives of state planning policies.

Kulish et al. (2011) modelled the impact that restrictions on housing density have on the functioning of urban housing markets. Their model showed that zoning changes could have large impacts on housing prices at all distances from the CBD, by reducing the supply of well-located housing. The result was that house prices at all distance from the CBD were higher when density was restricted. Many international studies also provide evidence of the relationship between housing affordability and excessive restrictions on the use of land (Demographia 2018, pp. 27–33; Glaeser & Gyourko 2002; Kendall & Tulip 2018; Glaeser & Gyourko 2018).<sup>17</sup>

<sup>17</sup> Kulish et al. (2011) model results suggest land prices close to the city would rise due to greater amount of development allowed, but this would flow through to lower prices as land could be economised. In outer suburbs land costs would fall as demand shifts to central location. Glaeser & Gyourko (2002) estimate that in most United States markets, housing prices are close to the marginal cost of new construction, those with higher prices correlate with stricter land use controls.

A recent study by Kendall & Tulip (2018), estimates that zoning restrictions increased Brisbane house and apartment prices by \$159,000 and \$110,000, respectively. They estimated that restrictions increased average house prices by 42 per cent relative to supply costs and apartment prices by 26 per cent relative to marginal costs. They estimated that costs increased between 1999 and 2006, but were broadly unchanged thereafter to 2016.

## Withholding land from development

The supply of housing depends not just on availability of land but also how fast it is developed. The New Zealand Productivity Commission (2015, p. 80) found the practice of withholding land from development widespread and with many causes.

A 2014 analysis of the eight Australian Stock Exchange listed developers, estimated that in total they held 14.9 years of land supply (Fitzgerald).<sup>18</sup> Burke (as cited in The Senate 2015, p. 38) argued that Australia's 'contract building system', under which new dwellings are 'commissioned' by a customer before construction commences, rather than building stock in anticipation of buyers, impedes supply.

One estimate of land supply available for development is broadhectare land, which encompasses land planned for residential development and excludes land that could not be developed, such as protected vegetation. Planners estimate the number of dwellings that this land would likely yield based on likely density of housing that the planning scheme and other constraints would allow (QGSO 2018).

There is almost 15 years broadhectare land supply in Queensland, but supply varies substantially across the state (Figure 30). In some LGAs, such as Maranoa, more broadhectare land has been zoned suitable for residential development than would be needed for the next 100 years, if population growth continues at recent rates. Across south east Queensland there is about 12 years supply, but in Noosa, Moreton Bay, Brisbane and Gold Coast the land supply is smaller relative to recent population growth, with between 2.7 and 6.6 years of supply. In Brisbane, infill development rather than greenfield is likely to account for most future growth—QGSO (2018, p. 8) estimates that in Brisbane broadhectare will yield only 1732 dwellings in next the 2 years.

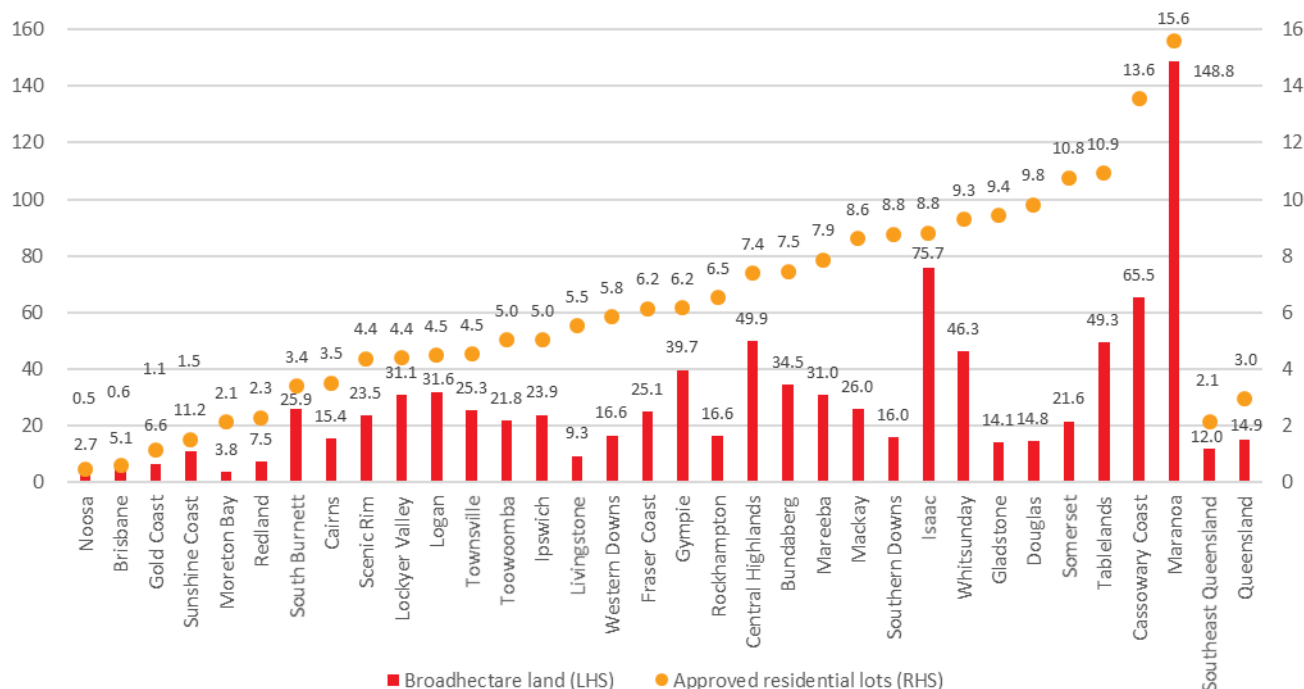
Apart from developers, much of the land supply is owned by farmers, investors and other private land owners that may not sell their land to make way for housing development or may want to hold it to realize a higher price. The number of residential lots approved for development by councils is much smaller than broadhectare land. About 18 per cent of Queensland's and 16 per cent of southeast Queensland's land supply is approved for development.

In south east Queensland approved lots are more plentiful in fringe areas, in Scenic Rim, Lockyer Valley, Ipswich and Somerset (with 4.4, 4.4, 5 and 10.8 years supply, respectively). However, Brisbane accounted for more than double the combined population growth of these four councils between 2006 and 2016. In the more expensive Brisbane, Noosa, Gold Coast and Sunshine Coast markets years supply is much lower (0.5, 0.6, 1.1 and 1.5 years, respectively). In these LGAs, approved lots are low relative to land supply, with between 12 and 18 per cent approved for development. On the other hand, most (54 per cent) of high growth Moreton Bay's modest broadhectare supply is approved, yet there is just 2.1 years of approved lot supply.

---

<sup>18</sup> Calculated as lots in development divided by annual lots settled.

**Figure 30 Years supply of broadhectare land and approved residential lots, by LGA**



Notes: Broadhectare land refer to land suitable and potentially available for residential development.

The dwelling yield of broadhectare land and approved residential lots is taken from the most recent stock estimates in 2017. Supply is estimated by multiplying the dwelling yield of broadhectare land and approved residential lots by 2.6 (the average household size). Years supply refers to the number of years it would take for population growth to fully occupy the available supply. Population is assumed to grow by the average growth rate of each council between 2006 and 2016.

The analysis may overestimate years of supply. The housing stock is generally not fully utilised, some housing will be unoccupied due to turnover in home ownership or renting or because it is used as a holiday or second home or for providing short term accommodation. South east Queensland includes the entire Toowoomba council, rather than only the urban part.

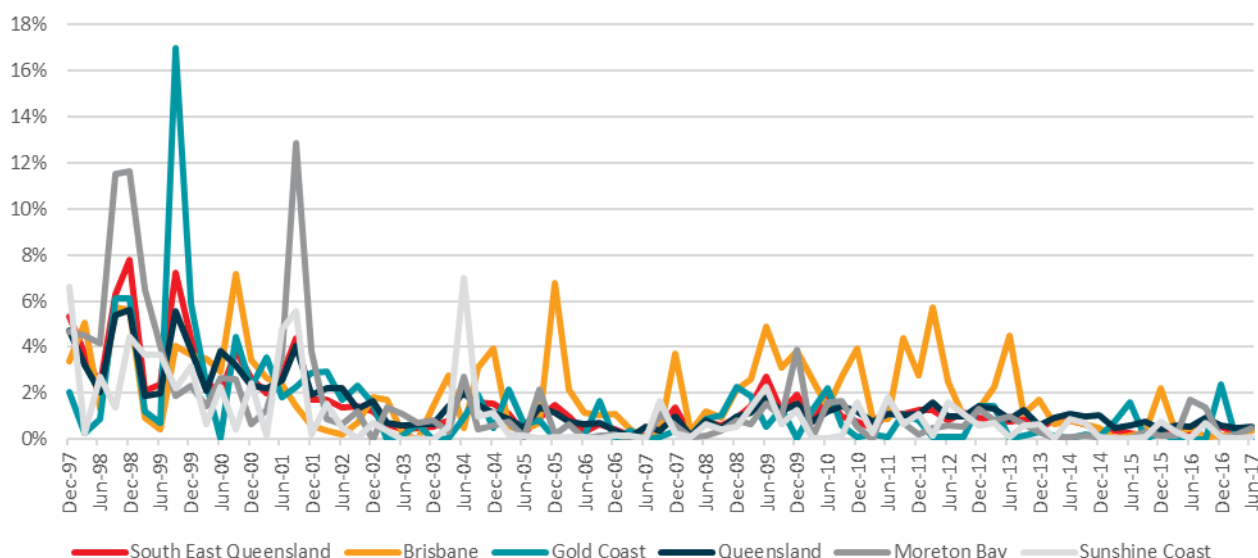
Sources: QGSO 2017; ABS 2017g; authors' calculations.

Most approved residential lots appear to get developed in Queensland. On average since 2010, 0.9 per cent of approved residential lots lapsed in Queensland, down from the 1.8 per cent between 1998 and 2009 (Figure 31). Increases in lots lapsed might indicate speculative behaviour or difficulties making a profit at the current market price (QGSO 2018, p. 16).

In individual LGAs the lapsing of lots can be quite large and volatile. For example, in the first half of 2002, 94 per cent of approved lots lapsed in Somerset. It is not clear whether the lots lapsed due to ownership concentration, diverse owners acting in a similar manner or administrative reasons. Subsequently, as prices rose 50 per cent in real terms over the next 18 months in Somerset, there was very little supply available (QGSO 2017; authors' calculations).



Figure 31 Lapsed residential lots as a proportion of prior month's closing stock, by LGA



Sources: QGSO 2017; ABS 2017g; authors' calculations.

Differing perspectives on housing costs and who bears them may to some extent reflect differing market segments within the supply of housing. Leishman (CEDA 2017, pp. 64-65) argues that a relatively small number of land developers hold significant market power. But the housing builders and developers they supply:

*Are in the weakest position of all that they must purchase development land from the few land developers in the local market, and have weak market power as a result, but must supply finished housing to a market dominated by established or second-hand housing units, and thus have weak market power in that market also.*

Developers and builders cite the high cost of land as one of the greatest impediments to delivering more housing despite the high prices (Urbis 2012, p. 11). Many attribute this to a finite supply of developable land and planning restrictions. Others cite land banking, with one large builder saying:

*We're becoming our own land developer because we're sick to death of their hold and release strategy. (Urbis 2012, p. 15).*

Withholding land to profit maximise and restrictive planning are not necessarily mutually exclusive explanations. As Fitzgerald (2014) explains:

*Planning constraints, like urban growth boundaries, reduce contestability and the ability of competition (or the threat of competition) to hold down prices. They effectively allow oligopolistic returns by conferring market power upon landowners.... While developers can rightly argue they are constrained by government planning controls, in practice ... It provides an extremely high barrier to entry, confining development activity to those with deep, patient capital and the expertise to negotiate effectively with government - over years in some cases.*

Recent research by Kendell and Tulip (2018, p. 24) provides a list of examples of the effects of zoning and planning on land prices, including rezoning decisions that have provided developers and other landowners large windfall gains. Murray and Firjters (2015, cited in Kendell and Tulip) estimated that the rezoning of 13,000 hectares of land in south east Queensland from rural to residential between 2008 and 2010 increased land



values by \$700 million. They also found that relationship networks improved the likelihood of favourable rezoning decisions.

The New Zealand Productivity Commission (2015, p. 4) suggested strategies to encourage development of housing rather than holding should focus on:

- increasing certainty about what can be developed
- reducing the scarcity value of land
- influencing holding costs, to reduce expected returns on delaying development.

## 6.2. Demand side factors

It is unlikely that housing markets would have remained strong for so long in the absence of Australia's sustained economic growth, low rates of unemployment and low interest rates, although these impacts will have been offset to some extent by the low wage growth in recent years.

Population growth and changes in household composition are key determinants of the demand for housing. Other demand factors include changes in households' preferences for different types and characteristics of dwellings, which are influenced by a range of factors, including their income and borrowing capacity, interest rates and other social factors. Many people are willing to pay more to live in vibrant and economically prosperous areas.

### Population and dwelling growth

Population growth influences the number of new households that need a dwelling. As population grows, demand for dwellings increases and prices (all else being equal) rise (Angus 2017, p. 56). Australia's population growth has been high in recent years compared with other developed nations, due to a high rate of immigration. This is borne out by net overseas migration over the last decade well above the historical average<sup>19</sup> (PC 2016, pp. 339–340) and both the third highest proportion (27.7 per cent) of the population born overseas (OECD 2017, p. 37) and population growth rate (OECD 2018) of developed nations.

If average household size falls—as it has in Australia, from 3.1 in 1976 to 2.6 in 2016 (ABS 2012, ABS 2017e)—the number of dwellings demanded increases faster than the population. Lower birth rates and increasing life expectancy, which have led to an ageing population and smaller families, combined with other changes such as an increase in sole person households, have contributed to this change (Baker et al. 2013, p. 17).

Shortages in the stock of housing can arise even if it keeps up with changes in population, because some households are willing and able own secondary or holiday homes (Yates 2011, p. 276). In addition, the rise of serviced apartments and accommodation providers through new mediums such as AirBNB can increase the proportion of dwellings unavailable for long term residents. About 90 per cent of private dwellings in Queensland are occupied (Harding et al. 2017, p. 32).

---

<sup>19</sup> Since 1920 net overseas migration was on average about 0.6 per cent of the population, but in recent years has average 1 per cent. The PC projected the population to more than double to almost 50 million by 2060 if these rates were maintained, rather than 40 million at the lower rate. At zero net overseas migration the population would roughly stabilise at 27 million. The Grattan Institute recommended that net overseas migration be reduced if governments cannot improve infrastructure and housing supply policies (Daley et al. 2018, p. 107). Though they noted there would be social and economic impacts.

The impacts of these factors differ between local housing markets. For example, population growth is unevenly distributed<sup>20</sup>, with people tending to move or migrate to areas with better employment possibilities and amenity and to be near to friends and family. The age distribution of the population also differs: Brisbane has had more population growth through younger people, who are more likely to form new households, compared with Adelaide and Hobart, where growth has been strongest in the over-60 age group (CEDA 2017, p. 71).

Other factors may affect household size and the number of dwellings demanded:

- Diminishing housing affordability may see some households adjust and grow larger, with young adults delaying buying their first home or renting in shared accommodation, or households renting out a spare room.
- The household composition and household size of recent migrants is likely to be different compared to Australian-born persons, with migrants more likely to live in family households and households with two or more families (Khoo et al. 2012, p. 4).

## Housing preferences

Increased demand for housing in favoured locations also drives house prices. For example, a locality's accessibility to employment, recreation, shopping and entertainment, crime rates, the performance of local schools and physical environment can all affect property values (MacDonald et al. 2013).

Increasing urbanisation demonstrates that many Australians prefer to live in large cities to take advantage of the economic opportunities and amenities. Jobs have shifted towards the inner cities of Australia's largest cities (Daley et al. 2018, p. 29). The benefits cities offer mean that location matters, which pushes up well-located house prices (CEDA 2017, p. 18; Stillwell, cited in The Senate 2015, p. 102).

High transaction costs, both financial and personal, impede or slow the process of people moving house to match their preferences with the appropriate dwelling. This can contribute to under- or oversupply of types of dwellings in housing markets and reduced efficiency of matching people with employment.

## Capacity to pay

Household capacity to pay for housing exerts a strong influence on the demand for dwellings and house prices (NHSC 2009, p. 24). Influences on capacity to pay include:

- the growth in incomes and employment, including dual income households (Yates 2017, p. 18)
- financial deregulation, which has increased access to credit and allowed households to increase their leverage (Kirchner 2013, p. 13). The RBA (cited in The Senate 2015, p. 41) described the impact of financial deregulation and the decline in inflation as a once off structural shift in housing prices.
- the adoption of inflation targeting in monetary policy since the mid-1990s, which has contributed to a fall in interest rates and has therefore increased people's capacity to afford borrowing costs (CEDA 2017, p. 17). In recent years interest rates have been, historically, very low.
- existing households 'upgrading' and moving to better-located housing (NHSC 2009, p. 24).

---

<sup>20</sup> Queensland and its five largest cities (significant urban areas), Brisbane, Gold Coast, Sunshine Coast, Townsville and Cairns, all grew faster than Australia between 2006 and 2016, however rural and some smaller urban areas have not grown as fast (ABS 2017g; QPC calculations).

State and federal governments have introduced schemes to increase the purchasing power of first home buyers, including First Home Owner Grants (FHOGs), stamp duty concessions and shared equity schemes.

‘The FHOG shortens the time that it takes to save for a deposit and/or enable home buyers to increase their deposit, consequently increasing their borrowing capacity. A range of FHOGs have been offered at different times, both at state and federal levels generally to stimulate construction and/or home ownership. In Queensland the FHOG has, since 2012, only been available for first home buyers purchasing newly constructed dwellings (Queensland Government 2016a). However, it has been suggested that the FHOG:

- mainly brought forward home purchase decisions (CEDA 2017, p. 76; PC 2014, p. 71).
- increased aggregate house prices in both the short and long term (COAG 2012, p. 26).

The PC considered that in the extreme example where supply was unresponsive, the FHOG would be fully capitalised into house prices (likely in the short term). In the longer term, though, the grant is likely to have less of an impact on prices and encourage some additional supply (PC 2004, pp. 72–73; COAG 2012, p. 26). The benefits of the grants would be shared between buyers and sellers. While first home buyers may financially benefit through lower real (including the grant) house prices, both COAG (2012, p. 26) and the PC (2004, pp. 207, 220) concluded that FHOGs are not the most cost-effective way of improving housing supply and affordability.

## Foreign investment

Foreign direct investment (FDI) in real estate in Australia (as a share of total FDI) increased by 36.8 per cent in 2015–16. Three-quarters of residential real estate investment approvals in 2015–16 were in New South Wales and Victoria (FIRB 2017a).

Some have expressed concerns that increasing investment in residential property by foreign non-residents may increase house prices and reduce affordability. Such investment must generally be approved by the Australian Government’s Foreign Investment Review Board (FIRB), and is confined to new (rather than existing) dwellings and vacant land (FIRB 2017b). Recent changes by state and Australian government to taxes on foreign owned residential property are likely to reduce the attractiveness of investing—for example imposing fees on unoccupied property, exclusion from the main residence capital gain tax exemption (Treasury 2017) and additional transfer duties (Queensland Government 2017b).

A recent study suggests that foreign investment is only responsible for a small proportion of recent property price growth (Wokker & Swieringa 2016, p. 25).

## 6.3. Taxation policy

A range of taxes, tax concessions and subsidies affect housing in Australia. Those most commonly discussed, in the context of housing affordability, are negative gearing, capital gains tax concessions, and stamp duty.

### Personal tax regime

The personal taxation regime affects expenditure on housing, and therefore house prices and affordability, both owner–occupiers and investors benefit from tax concessions:

*[E]stablished home owners are advantaged by the exemption of the principal residence from capital gains tax and the non-taxation of ‘imputed’ rental income from owner-occupied dwellings — potentially leading to over-investment in housing... Other aspects of the personal taxation regime — including negative gearing rules, ‘capital works’ deductions for buildings, the 1999 change to capital gains tax for assets held by individuals, and high marginal income tax rates — have combined to magnify the attractiveness of investing in*

*residential property during the recent upswing in house prices, thereby adding to price pressures. (PC 2004, p. xxiv)*

Exemptions on capital gains, land tax and imputed rent<sup>21</sup> makes home ownership financially beneficial and an important goal for many. Due to the exemption of the principal residence from means testing the pension, selling the family home can result in losing pension benefits—which is a strong financial deterrent to moving or downsizing in older age (PC 2015, p. 20).

The RBA's (2015, p. 23) submission to the 2016 Home Ownership Inquiry said that concessions to property investors were at the more generous end of the range of practice in industrialised countries. Tax deduction of interest costs of investment is also available for other investments and is common internationally. The ability to deduct this expense against other income is available in some but not all countries (Martin et al. 2018 pp. 39–42). Murray et al. (2014, p. 278) concluded that capital gains concessions:

*provide incentives to invest in assets for which anticipated capital gains are a larger component of returns. Reducing these concessions would lead to a more efficient allocation of funding in the economy ... The tax treatment of investor housing, in particular, tends to encourage leveraged and speculative investment.*

The impact of tax policies is still being debated. For example, some submissions to recent Commonwealth Parliamentary committee inquiries have argued that the removal of concessional arrangements may dampen investment, result in asset retention and further increase house prices (The Senate 2015, p. 151; HoR 2016, p. 29). ACIL Allen Consulting (2015, p. 8) argued that removing capital gains and negative gearing concessions would reduce rental affordability, as in the short to medium term investors would seek to recover their lost after-tax revenue by increasing rents.

Notwithstanding these distortions, the Australian Productivity Commission (2004, p. xxv) recommended that the housing market not be looked at in isolation, but that the whole personal taxation system be reviewed. The Henry tax review (Treasury 2010, p. 218) argued that removing tax distortions in the absence of housing supply reform could in the short to medium term reduce residential investment. The Grattan Institute (Daley et al. 2018, pp. 97–98) advocating for reform to negative gearing and capital gains, estimated that the impact on prices (around 2 per cent lower) and rents (slightly higher) would be modest.

If concessions were removed, house prices would likely decrease (all else being equal), but this would be because the expected after-tax returns on housing had decreased. As reform would result in increases in tax receipts, a broader tax reform with offsetting reductions in other taxes (such as income) and targeted transfers and expenditures (such as affordable housing) would be possible. Some households may find it easier to enter into home ownership, but others (depending on the type of reform) may receive lower investment returns or pensions. A tax neutral removal of distortions would likely improve economic efficiency and housing affordability, but it would also face opposition from those who lose or perceive they would lose.

---

<sup>21</sup> It should be noted that while owner occupier imputed rent is not taxed nor are interest or other capital expenses tax deductible. Taxing imputed rent would likely mean that interest and other costs would become deductible. Some owner occupiers could be negatively geared and may receive income tax credits. Questions over compensating positively geared low income households for higher housing costs would arise. Other assets owned by households producing for own consumption are generally not taxed. Given this complexity and its unpopularity, imputed rent is not commonly taxed internationally and tax reviews tend not to recommend their introduction (Treasury 2010, p. 13).

## Stamp duties and land tax

Stamp duty is imposed by state and territory governments on the transfer of property, usually at a percentage rate of the purchase price, so that the amount levied rises as the purchase price increases. Queensland charged the lowest stamp duty on a median price dwelling in 2015 (\$6,000) (HoR 2016, p. 31). Stamp duty concessions are available for owner-occupiers. First home buyers are exempt from stamp duty for homes valued at \$500,000 or less (Queensland Government 2018).

While stamp duty payments are a small part of the purchase price, they can substantially increase the initial deposit that is required. Stamp duties are generally levied in a progressive way, so that as house prices increase, buyers creep into higher tax brackets and pay higher average tax rates. However, economic theory suggests that despite buyers paying the tax, sellers are likely to bare most of the incidence of stamp duties by receiving lower prices, depending on how responsive housing supply is (Davidoff & Leigh 2013; PC 2004, p. 88).

Over a person's lifetime, how much stamp duty a person pays depends on how often they have bought and sold properties. Stamp duties discourage housing turnover and matching of people's preferences with appropriate housing—which reduces labour mobility and matching, transport efficiency, productivity and incentives to downsize (Treasury 2010, p. 255). Stamp duties tax the value of land and its capital improvements, discouraging owners in investing in property improvements, particularly if they are likely to sell in the near future.

Broad-based land taxes are, in principle, preferred to stamp duties because they do not have the same distorting effect on decisions. The amount of land tax paid does not depend on how often a person moves, and many would regard this as fairer. Taxes could be paid over a longer period (HoR 2016, p. 36)—reducing upfront costs and improving opportunities for first home buyers to enter the market.

Stilwell (The Senate 2015, p. 80) argued that uniform land tax would drive out the speculative element of the market and bring land price inflation under control. Poghosyan (2016) found a statistically significant correlation between higher property taxes and lower housing price volatility.

Broad based land tax is considered to be one of the most efficient taxes, because land has fixed supply and is an immobile input into production—owners cannot change supply to avoid paying tax—therefore any increases in the tax rate does not reduce the incentive to supply. Economic theory suggests that an increase in the tax on land would result in a once-off decrease in the value of land, without distorting other economic incentives and decisions (Treasury 2010, p. 249; KPMG Econtech 2011, p. 26).

In reality, due to exemptions and concessions, existing land taxes are narrow and not as efficient as possible (QPC 2017, p. 183). Most residential property is exempt from land tax, with the exception of higher-value investments—as a result, institutional investors (which may be well-placed to meet the long-term needs of renters, pool bad tenant risk and invest at scale), are discouraged from the private and affordable rental markets (Wood et al. 2012 p. 334). Land usage is distorted, because the existing tax can be avoided by altering usage or capital structure.

Removing this distortion through the imposition of a broad-based land tax, would promote more efficient land use by imposing a holding cost or opportunity cost on land. This cost on owners reduces the viability of withdrawing or holding back supply from the market. It also incentivises higher density in well-located areas, as the burden of the tax can be spread across more dwellings.

Reviews of the Australian taxation system (Treasury 2010), and the Australian Productivity Commission (2004, 2017) are amongst those to have recommended replacing stamp duties with a broad-based land tax. The Commission (2017) in its manufacturing report, and the Queensland Competition Authority (2015) made similar recommendations. The Commission also observed that other inefficient taxes, such as insurance duties, which also impact housing costs, could also be abolished in switching to land taxes.

The Queensland Government collected \$1.4 billion in land taxes in 2015–16. Including exemptions, such as those to primary place of residences, the Queensland Government provided approximately \$13.4 billion in land tax concessions and exemptions<sup>22</sup> (authors' calculations; ABS 2017d).

Land taxes can be unpopular, because they are more difficult to avoid and there are concerns about the ability of some households to pay land tax. Options are available to mitigate the impacts for asset-rich but cashflow-poor households. Financial markets already offer products, such as reverse mortgages, that could finance land taxes. Alternatively, state governments could in some instances delay collection of land taxes until the home is sold or inherited. In the latter case, the burden of the tax would predominantly fall on those inheriting property estates, rather than on low-income or pensioner households. A move to swap inefficient taxes for land tax would likely be a gradual process—phased in over a decade or more, as illustrated by the Australian Capital Territory's tax reform.

## Infrastructure charges

Local governments often require developers to contribute to the provision of infrastructure in new developments, such as roads or water and sewerage reticulation. Developers may also be required to help fund:

- broader infrastructure upgrades or augmentations required when developments increase demand on, for example, water treatment plants and arterial roads (COAG 2012, p. 14)
- community and regional infrastructure items that may be additional to the direct provision of housing and provide a benefit to the broader community, such as parks and libraries (HIA 2014, p. 8).

Infrastructure charges are a substantial component of development and construction costs. Developers will seek to pass these charges on to consumers through new house prices.

There is a strong case for users of infrastructure services to pay for efficient costs attributable to them. A charge on users, if it represents the true costs of supply, ensures that demand is not excessive and resources are not wasted (PC 2004, p. xxix). Efficient user charges promote efficient locational choices for housing development and reduce the need for prescriptive regulation determining where development may occur (Treasury 2010, p. 423).

There is some debate about who bears the incidence of infrastructure charges.

Murray (2016) found that changes in infrastructure charges in Brisbane and Gold Coast fell on the land owner, with no impact on dwelling prices. Murray argued that the relationship between prices and charges was

---

<sup>22</sup> A theoretical broad-based tax of 2 per cent on the value of Queensland residential, commercial and rural land (\$718 billion) would yield \$14.4 billion in 2015–16. Subtracting actual land tax (\$1.4 billion) from a theoretical broad land tax indicates concessions and exemption of around \$13.4 billion. Total state-based taxes were \$12.5 billion in 2015–16 (Queensland Government 2017a, p. 221).

Two per cent is the current highest marginal tax rate for companies, trustees and absentees and therefore is used for illustrative purposes. It is not assumed that this is the optimal tax rate. Reform would likely involve lower tax rates. To remove only property stamp duties and insurance taxes, would imply a land tax rate of 0.67 per cent. Higher land tax implies lower land values, but removal of stamp duties would increase land values and partially offset this impact—therefore actual tax rates may be higher.

Queensland Treasury (Queensland Government 2017a, p. 216) estimated that tax exemptions amounted to \$1.4 billion in 2015–16—however, these estimates do not include a range of exemptions, such as for commercial and residential property below tax thresholds, and for primary place of residence and primary production.



mechanistic—methods of calculating infrastructure charges result in more valuable property facing higher charges, rather than charges driving prices.

Abelson (1999) argued that charges have no effect on the quantity of new houses produced, which are dependent on planning decisions. Buyers can substitute between new and old houses. Changes to charges do not impact buyers' capacity or willingness to pay. Therefore, the incidence is flows back to undeveloped land owners by way of lower land prices. If charges change while developers are holding land, they would bear the incidence, and where farmers hold land that will be developed in the future they will bear the incidence through lower land prices.

It has been argued that some infrastructure charging policies have 'priced home buyers out of developments that would otherwise be affordable' (Eslake, cited in The Senate 2015, p. 88). Developers argue that they pass these charges on to consumers (HIA 2014, p. 8). Some empirical studies from the United State support the view that charges are passed through to house prices (Bryant and Eves 2012, p. 4). Bryant (2015) using data from south east Queensland estimated that charges were passed on to both new and existing houses and by multiples of the amount charged.

The Productivity Commission (2004, p. xxx) concluded that the incidence of excessive infrastructure charges would tend to fall most heavily on owners of undeveloped land. It argued that if infrastructure charges aligned with the infrastructure benefits the home buyer would be willing to pay the charges, however they would not be willing to pay any excess (PC 2004, p. 164). Where charges are too high or low it would be passed back to land values.

In practice there can be problems with the way infrastructure charges are actually implemented. Industry bodies have suggested that some charges are too high and are levied on an inappropriate basis (NHSC 2009, p. 54). A lack of transparency and rational apportionment of costs could allow 'gold-plating' of infrastructure, inequitable charging and development in high cost locations (CIE 2013, pp. 73-74).

The Queensland Government places upper limits on the amounts councils can charge—\$28,000 for a three-or-more-bedroom dwelling and \$20,000 for a one- or two-bedroom dwelling (Queensland Government 2016b). Wright et al. (2014) considered that the capped framework would under recover infrastructure costs and not encourage economically efficient settlement patterns.

The Henry tax review argued that poorly targeted infrastructure charges, can impose a range of unintended distortions on housing markets:

*Applying infrastructure charges through use of simple flat prices that do not well approximate actual avoidable costs can sometimes reduce housing supply. For example, where charges are levied at a flat rate per dwelling, high-density developments are likely to face higher prices for the infrastructure they require, compared to lower density developments. (Treasury 2010, p. 426)*

COAG (2012, pp. 13–14) found a lack of consistency and recommended that charges be efficient, transparent, predictable and equitable.

## 7. Policy principles

The previous section demonstrates that governments are inextricably involved in housing markets and that this significantly affects how these markets operate and housing outcomes. Government actions that influence housing markets take many forms, often outside what would normally be considered housing policy (for example, fiscal and monetary policy, immigration policy and transport policy), and have developed over many years. The private sector has often adjusted the way it conducts business in response to the form of government

involvement. However, while governments influence housing markets, these markets are complicated, and there is unlikely to be any single measure through which governments can address concerns about housing affordability.

Discussing policy initiatives is outside this paper's scope, but the earlier sections suggest some principles for policy development.

First, governments need to develop their interventions holistically, based on analysis of the interactions within housing markets. Policies and market conditions in one market are transmitted into others. For example, policies that give preferential treatment to owner-occupied housing will have flow-on effects on the private rental sector, and vice versa, where investors are preferred (Martin 2018).

Second, all levels of government control some policy levers. Ideally, approaches to housing policy would be developed jointly, to ensure that the policies of different governments reinforce each other, or at least do not conflict. State governments are in a position to lead the way and address some of the housing supply and demand drivers, while encouraging the Australian Government to follow with complimentary policies.

Third, governments should concentrate their efforts on ensuring policies do not unduly inflate demand or constrain supply over time. Removing existing distortions may be more effective than additional responses.

Fourth, the standard principles for good policymaking are critical for policies affecting or related to housing:

- Policymakers need to identify the nature of the problem they are seeking to solve before designing policies.
- If a policy solution involves a new regulation, this should only be implemented after policymakers have applied the principles of regulatory impact analysis, to ensure that for each proposed regulation:
  - the benefits exceed the costs
  - the proposed regulatory approach is likely to be the best option for achieving the desired outcome
  - the impact on housing affordability is understood.
- Recognise that not all policies will succeed. Regular and transparent evaluation can indicate whether initiatives are working and provide a basis for stopping those that are not.

## 8. Conclusion

Housing affordability in Australia and Queensland has deteriorated considerably since the 1970s and 1980s, but has roughly stabilised since about 2010. Rental affordability has improved recently in Queensland, but a significant proportion of households remain in rental stress.

Home ownership has fallen across Queensland to levels below much of the rest of Australia. The proportion of people who own their houses outright has fallen and more are paying off their mortgages or renting. The decline in home ownership is particularly noticeable among younger people.

The composition of dwelling types is dominated by houses and is slow to change, given the long lives of housing stock. Older people continue to live in houses, while younger people, families with children and couples are increasingly living in townhouses and apartments. It is difficult to tell how closely the composition of the housing stock reflects people's preferences.

Housing affordability has been measured in many ways, but there are a few measures of the extent to which the housing supply matches households' preferences, when faced with realistic constraints such as budget and location. A fuller understanding of demand and supply would enable smarter policymaking, planning and



development. Further work could be undertaken to quantify the extent to which the various supply and demand drivers contribute to housing affordability.

Housing market outcomes are the result of complex interactions between private actions and direct and indirect government interventions. Governments are inextricably involved in housing markets and significantly affect the way these markets operate, and housing outcomes. However, housing markets are complicated and there is unlikely to be any single measure through which governments can address concerns about housing. Robust principles should guide policy development in this area.

## References

Abelson, P 1999, 'The Real Incidence of Imposts on Residential Land Development and Building', *Economic Papers*, vol. 18, no. 3, pp. 85–89.

ABS (Australian Bureau of Statistics) 1996, *Census of Population and Housing*.

— 2001, *Census of Population and Housing*.

— 2006, *Census of Population and Housing*.

— 2011, *Census of Population and Housing*.

— 2012, *Year Book Australia, 2012*, cat. no. 1301.

— 2016, *Census of Population and Housing*.

— 2017a, *Residential Property Price Indexes: Eight Capital Cities*, cat no. 6416.0.

— 2017b, *Consumer Price Index*, cat. no. 6401.0.

— 2017c, *Australian System of National Accounts, 2016–17*, cat. no. 5204.0.

— 2017d, *Australian National Accounts: State accounts, 2016–17*, cat. no. 5220.0.

— 2017e, *Housing Occupancy and Costs, 2015–16*, cat. no. 4130.0.

— 2017f, *Household Expenditure Survey, Australia: Summary of Result, 2015–16*, cat. no. 6530.0.

— 2017g, *Regional Population Growth, Australia*, cat. no. 3218.0.

— 2017h, *Household Income and Wealth*, cat. no. 6523.0.

— 2017i, *Producer Price Indexes, Australia*, cat. no. 6427.0.

— 2017j, *Wage Price Index, Australia*, cat. no. 6345.0.

ACIL Allen Consulting 2015, *Australian Housing Investment: Analysis of Negative Gearing and CGT Discount for Residential Property*, final report, prepared for the Property Council of Australia and Real Estate Institute of Australia.

AHURI (Australian Housing and Urban Research Institute) 2016, *Understanding the 30:40 Indicator of Housing Affordability Stress*, AHURI brief, viewed 17 December 2017 <https://www.ahuri.edu.au/policy/ahuri-briefs/2016/3040-indicator>.

— 2017, *Understanding the Housing Continuum*, AHURI brief, viewed 15 December 2017, at [https://www.ahuri.edu.au/policy/ahuri-briefs/understanding-the-housing-continuum?utm\\_source=website&utm\\_medium=homepage&utm\\_campaign=slider1](https://www.ahuri.edu.au/policy/ahuri-briefs/understanding-the-housing-continuum?utm_source=website&utm_medium=homepage&utm_campaign=slider1).

AMP NATSEM 2015, *Buy Now Pay Later: Household Debt in Australia*, Income and Wealth Report, issue 38, December.

Angus, C 2017, *Demand, Deposits, Debt: Housing Affordability in Sydney*, New South Wales Parliamentary Research Service, briefing paper no. 1/2017.

- Atkin, T & La Cava, G 2017, 'The Transmission of Monetary Policy: How Does it Work?', *RBA Bulletin*, September quarter.
- Baker, E, Lester, L, Beer, A, & Bunce D 2013, *Scoping Study on Household Responses to Declining Affordability*, final report, Centre for Housing, Urban and Regional Planning, University of Adelaide.
- Bankwest Curtin Economics Centre 2014, *Housing Affordability: The Real Costs of Housing in WA*, Focus on Western Australia report series no. 2.
- BCC (Brisbane City Council) 2018, *Brisbane City Plan 2014, Interactive Mapping Tool*, viewed 5 February 2018, at <https://www.brisbane.qld.gov.au/planning-building/planning-guidelines-tools/brisbane-city-plan-2014/city-plan-2014-mapping>.
- Bleby, M 2017, 'Australia has the World's Second Biggest Houses', *The Australian Financial Review*, 20 November.
- Borrowman, L, Kazakevitch, G & Frost, L 2015, What Types of Australian Households are in Housing Affordability Stress, *Economic Papers*, vol. 34, no. 1–2, June, pp. 1–10.
- Burke, T, Stone, W & Ralston, L 2014, *Generational Change in Home Purchase Opportunity in Australia*, AHURI, final report no. 232.
- Bryant, LE 2015, *Developer Charges and Housing Affordability in Brisbane, Australia*, paper presented at the 22nd European Real Estate Society Conference, 24–27 June 2015, Istanbul, Turkey.
- Bryant, LE & Eves, C 2012, *Infrastructure Charges and Increases to New House Prices : a Preliminary Analysis of the US Empirical Models*, paper presented at In Property: Nexus of Place & Space: Proceedings of the 18th Annual Pacific Rim Real Estate Society Conference, Adelaide.
- CEDA (Committee for Economic Development of Australia) 2017, *Housing Australia*.
- CIE (The Centre for International Economics) 2013, *Reform of the NSW Planning System: Better Regulation Statement*, final report, prepared for NSW Planning and Infrastructure.
- CommSec 2017, 'Australian Home Size Hits 20-year low: CommSec Home Size Trends Report', *Economic Insights*, 17 November, at [https://www.commsec.com.au/content/dam/EN/ResearchNews/ECOREport.20.11.17\\_Biggest%20homes\\_size-fall.pdf](https://www.commsec.com.au/content/dam/EN/ResearchNews/ECOREport.20.11.17_Biggest%20homes_size-fall.pdf).
- CoreLogic 2016, *Housing Affordability Report*, December.
- 2017, *Perceptions of Housing Affordability Report*, May.
- Council of Australian Governments (COAG) Housing Supply and Affordability Working Party 2012, *Housing Supply and Affordability Reform Report*.
- Daley, J & Wood, D 2014, *The Wealth of Generations*, Grattan Institute.
- Daley, J, Coates, B & Wiltshire, T 2018, *Housing Affordability: Re-imagining the Australian Dream*, Grattan Institute.
- Davidoff, I & Leigh, A 2013, How do Stamp Duties Affect the Housing Market?, *Economic Record*, vol. 89, no. 289, September, pp. 396–410.

Davis, K 2017, 'Millennials, Apartment Living and the Myth of Smashed Avocado', CoreLogic, 29 May, viewed 16 December at <https://www.corelogic.com.au/news/millennials-apartment-living-and-the-myth-of-smashed-avocado#.WnsHebpuLi8>.

Demographia 2017, *13th Annual Demographia International Housing Affordability Survey*.

— 2018, *14th Annual Demographia International Housing Affordability Survey: 2018*.

Essential Research 2017, 'Top Three Economic Issues', *Essential Report*, 27 November, viewed 5 December 2017, at <http://www.essentialvision.com.au/top-three-economic-issues>.

Fitzgerald, K 2014, *Land Banking Profits during a Housing Supply Crisis—Englobo 2014*, Prosper Australia, 31 October 2014, viewed 13 February 2018, at <https://www.prosper.org.au/2014/10/31/land-banking-profits-during-a-housing-supply-crisis-englobo-2014/>.

FIRB (Foreign Investment Review Board) 2017a, *Annual Report 2015–16*, Australian Government.

— 2017b, *Residential Real Estate—Overview*, Guidance Note 1, Australian Government, viewed 17 December 2017, at <http://firb.gov.au/resources/guidance/gn01/>.

Fox, R & Finlay, R 2012, 'Dwelling Prices and Household Income', *RBA Bulletin*, December quarter.

Friedman, D 2010, *Social Impact of Poor Housing*, ECOTEC.

Gabriel, M, Jacobs, K, Arthurson K & Burke T with Yates J 2005, *Conceptualising and Measuring the Housing Affordability Problem*, AHURI, research paper no. 1.

Glaeser, E & Gyourko, J 2002, *The Impact of Zoning on Housing Affordability*, working paper no. 8835, National Bureau of Economic Research.

Glaeser, E & Gyourko, J 2018, The Economic Implications of Housing Supply, *Journal of Economic Perspectives*, vol. 32, no. 1, pp. 3–30.

Harding, S, Jackson, Pulver, L, McDonald, P, Morrison, P, Trewin D & Voss A (Census Independent Assurance Panel) 2017, *Report on the Quality of 2016 Census Data*, at <http://www.abs.gov.au/websitedbs/d3310114.nsf/Home/Independent+Assurance+Panel>.

HIA–CoreLogic 2017, *Residential Land Report*, September.

HoR (House of Representatives Standing Committee on Economics) 2016, *Report on the Inquiry into Home Ownership*, Parliament of Australia, Canberra.

HIA (Housing institute of Australia) 2014, Submission to the Senate Economic References Committee, *Affordable Housing Inquiry*, submission no. 178.

Hsieh, C & Moretti, E 2015, *Housing Constraints and Spatial Misallocation*, working paper no. 21154, National Bureau of Economic Research.

Jaeger, W 2006, The Effect of Land Use Regulations on Property Values, *Environmental Law*, vol. 36, pp. 105–30.

Kelly, JF & Donegan, P 2015, *City Limits: Why Australia's cities are broken and how we can fix them*, Grattan Institute, Melbourne University Press.

Kelly, J, Weidmann, B & Walsh M 2011, *The Housing We'd Choose*, Grattan Institute.

Kendall, R & Tulip, P 2018, *The Effect of Zoning on Housing Prices*, RBA, research discussion paper.

Khoo, SE, McDonald, P, Temple, J & Edgar, B 2012, *Scoping Study of Migration and Housing Needs*, Australian Demographic and Social Research Institute at the Australian National University, report prepared for the Treasury, Australian Government, Canberra.

Kirchner, S 2014, 'Eight Housing Affordability Myths', The Centre for Independent Studies, *Issue Analysis*, no. 146.

KPMG Econtech 2011, *Economic Analysis of the Impact of Using GST to Reform Taxes*, prepared for CPA Australia.

Kulish, M, Richards, A & Gillitzer, C 2011, *Urban Structure and Housing Prices Some Evidence from Australian Cities*, RBA, research discussion paper no. 2011-03.

La Cava, G, Leal, H & Zurawski, A 2017, 'Housing Accessibility for First Home Buyers', RBA, *Bulletin*, December quarter.

Lawless, T 2018, *National Dwelling Values Fall 0.3% in December, Setting the Scene for Softer Housing Conditions in 2018*, CoreLogic, viewed 2 January 2018, at <https://www.corelogic.com.au/news/national-dwelling-values-fall-03-december-setting-scene-softer-housing-conditions-2018#.Wkszht-WbIU>.

Macdonald, H, Peters, A, de Pooter, N & Yu, JY 2013, 'What Impact Does Workplace Accessibility Have on Housing Prices? Sydney 2006–2011', in Ruming K, Randolph W & Gurran, N (eds.), *State of Australian Cities Conference 2013 Refereed Proceedings*, presented at the State of Australian Cities National Conference 2013, ,

Martin, C 2018, 'What Australia can learn from overseas about the future of rental housing', *The Conversation*, 24 January, viewed 24 January 2018 at <https://theconversation.com/what-australia-can-learn-from-overseas-about-the-future-of-rental-housing-90401>.

Martin, C, Hulse, K and Pawson, H 2018, *The Changing Institutions of Private Rental Housing: An International Perspective*, final report no. 292, AHURI.

Master Builders Queensland n.d., *National Construction Code*, viewed 17 December 2017 at <https://www.mbqlld.com.au/services-and-advice/building-planning-and-development/technical-info/national-construction-code>.

Meen, G 2011, A Long-Run Model of Housing Affordability, *Housing Studies*, vol. 26, no. 7–8, pp. 1081–103.

Murray, C 2018, *Developers Pay Developer Charges*, *Cities*, vol. 74, pp. 1–6..

Murray, C & Frijters, P 2015, *Clean Money in a Dirty System: Relationship Networks and Land Rezoning in Queensland*, IZA, discussion paper no. 9028.

Murray, D, Davis, K, Dunn, C, Hewson, C & McNamee, B 2014, *Financial System Inquiry*, final report.

NHSC (National Housing Supply Council) 2009, *State of Supply Report 2008*, Australian Government.

— 2013, *Housing Supply and Affordability Issues 2012–13*, Australian Government.

NZPC (New Zealand Productivity Commission) 2015, *Using Land for Housing*.

OECD 2016, *New OECD Affordable Housing Database*, OECD Publishing, Paris, viewed at <http://www.oecd.org/social/affordable-housing-database.htm>.

— 2017, *International Migration Outlook 2017*, OECD Publishing, Paris.

— 2018, *Population (Indicator)*, OECD Publishing, Paris viewed at <https://data.oecd.org/pop/population.htm>.

PC (Productivity Commission) 2004, *First Home Ownership*, report no. 28.

— 2011, *Performance Benchmarking of Australian Regulation: Planning, Zoning and Development Assessments*, research report.

— 2015, *Housing Decision of Older Australians*, research paper.

— 2016, *Migrant Intake into Australia*, report no. 77

— 2017, *Shifting the Dial, 5 Year Productivity Review*, report no. 84.

— 2018, *Report on Government Services 2017*, vol. G: Housing and homelessness, prepared for the Steering Committee for the Review of Government Service Provision.

Poghosyan, T 2016, *Can Property Taxes Reduce House Price Volatility? Evidence from U.S. Regions*, IMF working paper.

Property Council of Australia 2018, *Cutting the Costs Streamlining State Agency Approvals*, viewed 20 December 2017 at [https://files.propertycouncil.com.au/hubfs/\\_RDC/WebFiles/RDC\\_CuttingTheCosts.pdf](https://files.propertycouncil.com.au/hubfs/_RDC/WebFiles/RDC_CuttingTheCosts.pdf).

QCA (Queensland Competition Authority) 2015, *Industry Assistance in Queensland*, final report.

Queensland Government 2014, *6-star Energy Efficiency Rating for New Houses and Townhouses*, Building Codes Queensland fact sheet, Department of Housing and Public Works, viewed 17 December 2017, at <http://www.hpw.qld.gov.au/SiteCollectionDocuments/SixStarEnergyEfficiencyRatingFactSheet.pdf>.

— 2016a, *Queensland First Home Owners' Grant*, Queensland Treasury, viewed 17 December 2017, at <https://firsthomeowners.initiatives.qld.gov.au/index.php>.

— 2016b, *Adopted Infrastructure Charges Schedule 2016*, Department of Infrastructure, Local Government and Planning, viewed at <http://www.dilgp.qld.gov.au/resources/template/infrastructure-charges/adopted-infrastructure-charges-schedule.pdf>.

— 2017a, *Queensland Budget 2017–18, Budget Strategy and Outlook: Budget Paper 2*, Queensland Treasury.

— 2017b, *Additional Foreign Acquirer Duty*, viewed 23 February 2018 at <https://www.business.qld.gov.au/industries/service-industries-professionals/professional-financial-services/transfer-duty/investors/afad>.

— 2018, *First Home Concession*, viewed 26 February 2018 at <https://www.qld.gov.au/housing/buying-owning-home/first-home-concession>.

QGSO (Queensland Government Statistician's Office) 2017, *Residential Land Development Activity Spreadsheet*, Queensland Government, viewed at <http://www.qgso.qld.gov.au/products/tables/rlda-spreadsheets/index.php>.

— 2018, *Residential Land Development Activity Profile*, Brisbane Local Government Area, 14 February 2018, generated from <https://statistics.qgso.qld.gov.au/rlda-profiles>.

QPC (Queensland Productivity Commission) 2017, *Manufacturing in Queensland*, draft report.

Raynor, K, Dosen, I & Otter, C 2017, *Housing Affordability in Victoria*, research paper no. 6, Parliamentary Library & Information Services, Parliament of Victoria.

RBA (Reserve Bank of Australia) 2014, Submission to the Standing Committee on Economics, *Home Ownership Inquiry*, House of Representative Standing Committee on Economics, submission 21.

- Rowley, S & Ong, R 2012, *Housing affordability, housing stress and household wellbeing in Australia*, AHURI, final report no. 192.
- Sánchez, C & Johansson, A 2011, *The Price Responsiveness of Housing Supply in OECD Countries*, OECD Economics Department Working Papers, No. 837, OECD Publishing.
- SGS Economics & Planning 2017, *Rental Affordability Index*, November release, SGS Economics & Planning, National Shelter & Community Sector Banking.
- Stanford, J 2016, *Beyond Belief: Construction Labour and the Cost of Housing in Australia*, briefing paper, Centre for Future Work at the Australia Institute.
- Stephan, A & Crawford, R 2016, 'Size Does Matter: Australia's Addiction to Big Houses is Blowing the Energy Budget', *The Conversation*, 14 December, viewed 17 January 2018 at <https://theconversation.com/size-does-matter-australias-addiction-to-big-houses-is-blowing-the-energy-budget-70271>.
- The Centre for International Economics 2013, *Reform of the NSW Planning System: Better Regulation Statement*, final report, October.
- The Economist* 2016, 'Global House Prices: The Economist's interactive guide to global housing markets', 31 March, viewed 16 January 2018, at <https://www.economist.com/blogs/dailychart/2011/11/global-house-prices>.
- The Senate Economics References Committee 2015, *Out of reach? The Australian Housing Affordability Challenge*, Parliament of Australia, Canberra.
- Treasury 2010, *Australia's Future Tax System*, final report, Australian Government.
- Treasury 2017, *Reducing Pressure on Housing Affordability, Fact sheet 1.1*, Australian Government, viewed at [http://www.budget.gov.au/2017-18/content/glossies/factsheets/html/HA\\_11.htm](http://www.budget.gov.au/2017-18/content/glossies/factsheets/html/HA_11.htm).
- Urbis 2011, *National Dwelling Cost Study*, prepared for the National Housing Supply Council.
- 2012, *Housing Supply Responses to Change in Affordability*, National Housing Supply Council.
- Van den Nouwelant, R, Crommelin, L, Herath, S & Randolph, B 2016, *Housing Affordability: Central City Economic Productivity and the Lower Income Labour Market*, AHURI, final report no. 261.
- Victorian Auditor-General's Office 2017, *Managing Victoria's Planning System for Land Use and Development*, audit report 2016–17:19, at <https://www.audit.vic.gov.au/sites/default/files/20170322-Land-Use.pdf>.
- VCEC (Victoria Competition and Efficiency Commission) 2005, *Housing Regulation in Victoria: Building Better Outcomes*, Appendix C, final report.
- Western Australian Government 2013, *The Housing We'd Choose: A Study for Perth and Peel*, Departments of Planning and Housing.
- Wokker, C & Swieringa, J 2016, *Foreign Investment and Residential Property Price Growth*, Treasury working paper no. 2016-03, Treasury, Australian Government.
- Wood, G, Ong, R & Winter, I 2012, 'Stamp Duties, Land Tax and Housing Affordability: The Case for Reform', *Australian Tax Forum*, no. 27, pp. 331–49.
- Wright, I, Phelan-Badgery, J & Grayson, L 2014, *Review of Queensland's New Infrastructure Planning and Charging Framework*, Collin Biggers & Paisley, viewed 26 February at <https://www.cbp.com.au/insights/insights/2014/may/review-of-queensland-s-new-infrastructure-planning>.



Yates, J 2011, *Housing in Australia in the 2000s: On the Agenda Too Late?*, presented at RBA conference 2011.

— 2015, 'Living Income- and Asset-Poor in Retirement', in CEDA 2015, *The Super Challenge of Retirement Income Policy*, pp. 66–81.





