National Housing Finance and Investment Corporation

State of the Nation's Housing 2020

National Housing Finance and Investment Corporation

FOREWORD

The COVID-19 pandemic provides an extraordinary backdrop to the National Housing Finance and Investment Corporation's first major report on Australia's housing market. Through various attempts to contain the virus, we have seen an unprecedented shock to population growth and the sharpest contraction in economic activity in living memory. COVID-19 has changed the way we live and work with implications for housing demand, supply and affordability across Australia.

Notwithstanding a high degree of uncertainty around the path to economic recovery, we have also seen a great degree of resilience in the property sector. Due to historically low interest rates and government stimulus, construction activity and housing prices have held up better than many anticipated.

This highlights the challenges in the current forecasting environment and this should be considered when interpreting the projections in this report. The current shock is unprecedented in modern times and with this comes a highly unpredictable outlook. The impact will also be uneven across different segments of the housing market (particularly for apartments) and for different locations across Australia.

The report shows that housing demand is projected to fall over this year and next due to the dramatic impact of COVID-19 on net overseas migration. This in turn is projected to result in new housing supply temporarily exceeding new demand. However, any cumulative excess supply could be negligible if effective vaccines are available earlier and international borders re-open sooner than expected. New housing supply could also be lower than projected if developers face greater difficulties in obtaining the level of pre-sales necessary to obtain project finance for new medium-to-high density developments. This follows much longer protracted periods of under-supply in the housing market.

While this report focuses heavily on the demand and supply of housing across Australia, it also reflects on housing affordability across the housing spectrum—from the challenges faced by people experiencing homelessness or renting through social and affordable housing, to private renters and first home buyers. It also suggests the global pandemic presents an opportunity to strengthen national policy frameworks, in particular to ensure that actual planning policies can accommodate future population growth without adverse consequences for affordability.

I would like to thank everyone who contributed and advised on the delivery of NHFIC's first State of the Nation's Housing report, and we look forward to continuing to grow our understanding of Australia's housing markets to support the delivery of better housing outcomes for all Australians.

Nathan Dal Bon
Chief Executive Officer
National Housing Finance and Investment Corporation

This State of the Nation's Housing report has been prepared by NHFIC's newly-formed research team with modelling input from SGS Economics & Planning and Macroplan. The report delivers on NHFIC's mandate of monitoring housing demand, supply and affordability, while also identifying potential gaps between housing demand and supply. It is NHFIC's first report into the State of the Nation's Housing and was developed in consultation with a wide range of stakeholders across industry, government and academia.

CONTENTS

Housing demand, supply and affordability—a quick explainer and definitions

This report assesses the flow of new demand (and new supply) that is expected over the next five years, the annual balance of new supply and demand, while also assessing housing affordability.

New demand for housing in this report is defined by how many new households we expect will form given expectations of population growth and the state of the economy. This means that new demand in this report is not an indicator of broader sentiment in the housing market or a reflection of observed market transactions and housing turnover. While household formation can be expected to slow considerably given the much lower forecasts of population growth, recent surveys suggest growing confidence in the housing market outlook and of people wanting to purchase a property.

Supply in this report is defined by the net new residential dwellings that are expected to be completed in each year. Net new additions is calculated by generating total residential dwelling completions and subtracting the amount of dwellings that are expected to be demolished each year.

The imbalance between housing supply and demand which is also identified in this report typically impacts the cost of renting rather than house prices, which are more impacted by the cost and availability of finance, and economic factors such as confidence and income.

This report also looks at affordability. Housing is unique in that it is both an essential service and a financial asset. This report analyses the cost of assessing housing services by looking at the affordability of the private, social and affordable housing rental markets. The report also considers the financial constraints on the purchase of housing for first time buyers.

EXECUTIVE SUMMARY

Key points

- COVID-19 is expected to cause the largest negative shock to population growth since early last century, with almost one million fewer people (than previously) expected to be living in Australia by 2025. This will see new demand for housing fall by 286,000 dwellings between 2020 and 2025, compared with the pre-crisis outlook.
- The housing demand shock is large and unprecedented with the biggest impact to be felt in the apartment and rental segments. But the lower growth of new housing demand is likely to be temporary. From 2023 to 2025 on the back of a strengthening economy and a return to normalisation of Australia's migration program, new demand is expected to exceed new supply.
- Federal and state government stimulus is bringing forward supply in the short term, but the lower new demand for housing weighs on construction over the medium to longer term, with net additions likely to fall and then recover to around 148,000 in 2025. Weakness in net apartment additions will extend to 2025, when just 27,000 new dwellings are expected, similar to levels seen prior to the apartment boom.
- The demand shock will leave the housing market with new supply exceeding new demand for the next two years. We expect new supply to exceed new demand by around 127,000 dwellings in 2021 and 68,000 dwellings in 2022. Cumulative new supply is expected to be around 93,000 higher than new demand by the end of the projection period in 2025, after demand rebounds in 2023.
- This shorter-term period where new supply exceeds new demand can be seen as partial catch-up for much longer more protracted periods of undersupply. After a prolonged period of undersupply in the 2000s, there was a significant (albeit lagged) supply response in the period prior to COVID-19, but construction levels were the bare minimum to keep supply and demand broadly in balance.
- The projections in this report are sensitive to assumptions for net overseas migration (NOM) and population growth. Sensitivity analysis shows that under slightly more optimistic population assumptions, cumulative projected excess supply over the projection period halves from around 93,000 to 46,000 dwellings.
- If vaccines are forthcoming earlier than expected, resulting in international borders opening sooner and more Australians returning home, together with potential supply constraints, we would anticipate any cumulative excess supply over a medium-to-longer term horizon to be negligible.
- With new supply expected to exceed new demand over the near term, it is likely to put downward pressure on rents in Sydney and Melbourne where vacancy rates are higher. This could improve overall rental affordability, although the real impact will differ across geographies and household income distributions. Also, the impact of COVID-19 is disproportionately affecting industries where employees are more likely to be renting.
- Longer term trends of declining affordability, particularly for low-income households in the private rental market and the ability for prospective first home buyers to transition to home ownership are likely to persist, particularly if supply is not responsive to demand when it recovers.
- A lower period of housing demand due to the global pandemic presents an opportunity to reset national policy frameworks to ensure that actual planning policies can accommodate future population growth without adverse consequences for affordability.

The focus of this report is on the path of recovery in both supply and demand for housing.

Introduction

COVID-19 has brought an unprecedented negative shock to new demand for Australian housing, mainly via international and domestic border closures.

This has left some capital city rental markets oversupplied relative to the collapse in new demand and this is currently putting downward pressure on rents. The pandemic and uncertainty about the general economic outlook and employment has, at times, weighed on the broader housing market and affected the decision-making process of households in their purchase of property and developers in providing new supply to the market.

Despite these substantial headwinds, construction activity and house prices are holding up relatively well on the back of government and central bank stimulus, and pent up demand in jurisdictions that have successfully contained the virus. The private sector via banks and utility companies are also doing their part to support the recovery.

- The Federal Government eased fiscal policy taking the budget position from a forecast surplus of 0.3 per cent of GDP for FY20 at Mid-Year Economic and Fiscal Outlook to a deficit of 4.3 per cent of GDP in the same year and 11 per cent of GDP in FY21. There is already evidence that the Homebuilder program is supporting demand for detached dwellings. Furthermore, the JobKeeper program is continuing to provide vital support to the construction industry and the economy more broadly.
- Concessions on stamp duty for first home buyers purchasing a newly constructed dwelling has been extended in NSW. In Tasmania, stamp duty concession for first home buyers purchasing an established dwelling are introduced and concessions were also available for pensioners downsizing. WA introduced stamp duty relief late in 2019 and decided to extend this relief in response to the pandemic. In the ACT, concessions were introduced for all home purchasers of detached homes, off-the-plan units and townhouses.
- Land tax relief was provided in New South Wales, Victoria, Queensland, South Australia, and Tasmania for those landlords with tenants impacted by income loss during the pandemic.
- The RBA eased monetary policy in March and again in November. By the end of November, the target cash rate was set at 0.1 per cent and similarly the yield target on the 3-year bond of 0.1 per cent. The bank also established a term funding facility for banks and other depository institutions to provide them with access to low-cost funding. At the November board meeting, a $A100bn bond purchasing program was also introduced.
- The banks and utility companies have also provided households with support in 2020, with mortgage payment and service payment deferrals providing key support to both households and small business.

The short term period where supply runs ahead of new demand in our projections owing to the COVID-19 induced demand shock also needs to be considered in a broader historical context. Previous work undertaken by the former National Housing Supply Council (2011) estimated that in 2010 due to long and protracted periods where supply was inadequate to match demand, there had been a cumulative undersupply of housing of around 200,000 dwellings. And while Australia entered COVID-19 after a significant period of strong supply, construction levels were the bare minimum to keep supply and demand broadly in balance. Against that backdrop, the projections for supply to outpace demand over the next two years can be seen as partial catch up for longer more protracted periods of undersupply.

Moreover, the magnitude of the projected excess supply is relatively small, and could be negligible, particularly given that demand could surprise on the upside.

Outline of the report

The focus of this report is on the path of recovery in both supply and demand for housing. This largely depends on the path of the COVID-19 virus, the reopening of international borders and broader economic recovery.

Control of the virus will clearly lead to fewer restrictions in the movement of people within Australia, a stronger economy and a solid, but not full, recovery in the demand for housing.

The Australian Bureau of Statistics Lending Indicators release provides a series on lending commitments for the established dwelling markets in each state, which provides a reasonably good snapshot.

Commitments were recovering during 2019 on the back of easier monetary and macro-prudential policy, but the spread of the virus caused a sharp drop between March and May in most states (Figure 1.1). The policy response has driven a strong rebound since then, with lending commitments increasing in each state and territory.

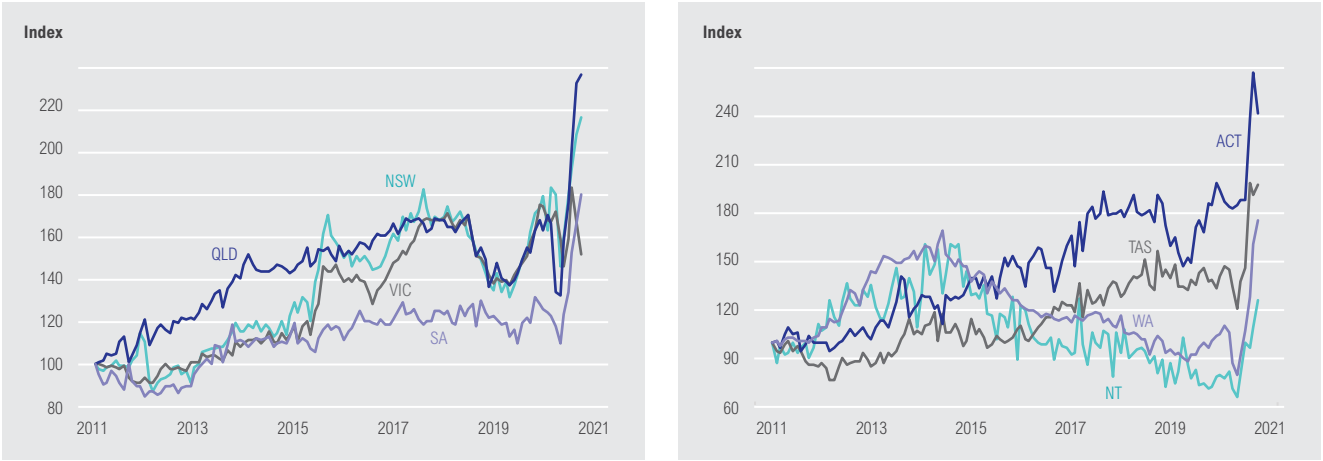
Open international borders have supported Australia's population growth model based around strong net overseas migration. However, their closure has effectively turned this model on its head representing a major challenge for policymakers. The 2020 Federal Budget forecasts negative net overseas migration in both FY21 and FY22 before a rebound in FY23. This means the anticipated excess supply and pressure on the rental markets, particularly in the large eastern state capital cities, will remain for some time.

A resurgence of case numbers, similar to that seen in Victoria during the September quarter, will clearly be a major setback, should it occur.

Over the longer term, COVID-19 has the potential to change the way we work and live.

Recent reports suggest around 40–60 per cent of the working population are still working from home. Early indications also suggest that demand has shifted away from inner-city dwellings to regional centres. But it will likely be some time before it will be clear whether COVID-19 induced working from home patterns and the recent uptick in more people choosing to move to the regions will endure. If these work arrangements become more permanent, the gap between housing affordability in the capital cities and the regions may narrow.

Figure 1.1: Owner-occupier Lending Commitments (January 2011=100)*



Source: ABS Cat No. 5601.0. * value of lending commitments excluding refinancing

Housing preferences may also change due to COVID-19. The design of our dwellings may need to incorporate a home office if working from home becomes a necessity.

Workers in the CBD may also be more willing to live on the urban fringe within capital cities or further away from their place of work. These changes could then affect the distribution of demand for infrastructure within cities. Companies may also decentralise away from the CBD, which would enable people to work closer to home.

The development industry is often slow to respond to movements in underlying demand. In part, this reflects changing financial conditions and the nature of the industry, but it also reflects delays and costs associated with the planning system. This varies between states, but our industry liaison indicates NSW generally has the largest impediments.

Adding to this weight of evidence, the NSW Productivity Commission's recently released Green Paper indicated the average time taken for processing development applications in NSW was significantly longer than in other states for all development types.[1]

- For medium-density housing developments, development application determinations take an average of 200 days in New South Wales compared with 70 days to 105 days in other jurisdictions.
- In high-density housing developments (assessed by councils) development application determinations take an average of 190 days vs an average of 105 business days for other jurisdictions.
- In greenfield sub-divisions they take 130 days on average compared with 100 days in the second slowest state (Queensland).

This report contains four chapters, with Chapter 1 outlining the outlook for the demand for housing and Chapter 2 providing projections for supply. In Chapter 3, we bring together the interaction of both supply and demand.

The supply and demand outlook are detailed for Australia, capital cities and rest of state for each state and territory.

In Chapter 4, housing affordability is analysed by looking at social and affordable housing, the private rental market and first home buyers rather than just looking at the housing market in aggregate. Housing as a service is a vital requirement for all Australians, with around one-third of all households renting. Consequently, affordability at the bottom end of the rental market and in the rental market more broadly is important and is where the equity implications of housing affordability are more marked. The size of the financial step between housing as a service, and housing as both a service and financial asset, is also an important consideration.

1 New South Wales Commissioner for Productivity (2020) *Productivity Commission Green Paper: Continuing the productivity conversation.*

Demand

- Over the period 2020 to 2025 (inclusive), the COVID-19-induced shock will see new demand for housing fall by a total of 286,000 dwellings relative to the pre-crisis outlook, with the impact largely felt in Australia's rental markets over the short to medium term.
- The projections show new demand for housing falling sharply in 2021 and 2022 from pre-COVID levels of 176,300 and 186,900 to post-COVID levels of 54,200 and 91,600 respectively, mainly due to the sharp falls in net overseas migration (NOM).
- The sharp fall in new demand is being felt largely in the rental housing segment given the composition of NOM, particularly lower demand from international students, and that households most affected by the recent rise in unemployment are more likely to be renters. Lower interest rates and government stimulus are also encouraging renters to buy, given mortgage costs are more on par with renting in some locations.
- From 2023, on the back of positive NOM and a strengthening economy, housing demand will lift to 144,700 dwellings in 2023 and move back close to pre-COVID levels to around 178,800 dwellings in 2024.
- New housing demand is extremely sensitive to changes in population growth and Australia's migration intake. Sensitivity analysis shows that under a slightly more optimistic scenario where NOM is negative in 2021 but recovers earlier and returns positive in 2022, this would boost new demand for dwellings by around 86,000 dwellings over the period to 2025.
- The projections indicate lone households with residents aged 70+ will grow strongly (+23 per cent) over the period 2019 to 2025, and couples without children are expected to also grow strongly over the same period (+9 per cent).
- Demand for detached and medium-density dwellings will recover to pre-crisis levels by 2024, while demand for apartments will fall to around 16,200 dwellings in 2021 before gradually recovering to around 31,700 in 2025, still well below pre-crisis demand (47,600 in 2019).

Supply

- A recovery in construction activity from the COVID-19 recession is underway, led by detached housing. We expect total net additions to rise to 181,000 in 2021 from 170,000 in 2020 on the back of the monetary and fiscal stimulus put into place this year.
- In 2022, some withdrawal of fiscal stimulus seems likely to make room for a recovery in parts of the economy most affected during the recession. Over the longer term, the lower population growth outlook highlighted in the demand chapter will weigh on construction, with net additions likely to be only 148,000 in 2025.
- The detached housing market is clearly responding to the fiscal and monetary stimulus and we expect net additions to rise to 108,000 in 2021 from 90,000 in 2020. However, the withdrawal of stimulus and relatively weak population growth outlook means that by 2025 net new detached housing additions are likely to be only 97,000.
- The downturn has weighed more on apartments than detached or medium-density dwellings because of international border closures. Furthermore, federal and state government stimulus packages thus far have been more targeted towards the detached dwellings. We expect net apartment additions to fall to 45,000 in 2021 from 55,000 in 2020.
- Lower population growth means that net additions for new apartments in 2023 are likely to be 58 per cent below those seen just prior to the COVID-19 recession. Even by 2025, we still expect them to be 51 per cent below this benchmark and only 27,000 dwellings, levels last seen prior to the apartment boom. But net additions to the apartment market were already 15 per cent below their peak before the recession.
- More positively, credit availability doesn't appear to be limiting construction activity, with lending to developers broadly tracking building approvals. However, credit could tighten in pockets such as capital city CBD apartment markets if growth in NOM remains sluggish.
- The State of Housing Supply-Demand Balance Chapter brings both supply and demand together, with the net supply and demand balance having implications for rental price pressures and vacancy rates.

Affordability

- There is likely to be downward pressure on rents (on average) in Sydney and Melbourne which could improve overall rental affordability in the short term—but the impact of COVID-19 is disproportionately affecting industries where employees are more likely to be renting.
- Lower income households in the private rental market are more vulnerable to rental stress. The proportion of private renters in the bottom two income quintiles spending more than 30 per cent of their disposable income on housing costs has increased almost 10 percentage points since 2008.
- As a result of rents being set as a fixed proportion of income, affordability for social housing tenants have mostly been unaffected by the pandemic. However, given the pandemic's impact on jobs and the wider economy, it is likely the significant existing waitlists for social housing will increase.
- First home buyers have been taking advantage of the recent softness in dwelling prices, low interest rates and government stimulus, accounting for more than 40 per cent of total new housing loans—10 percentage points higher than the long-term average.
- Over the longer term, NHFIC's projections see housing demand bouncing back and will exceed housing supply between 2023 and 2025. Affordability for renters and prospective first home buyers could deteriorate if supply is not responsive to the strong rebound in demand.

STATE OF HOUSING DEMAND

Key Points

- Long-term housing demand is largely a function of population growth and the rate of household formation. Over the period 2020 to 2025 (inclusive), the COVID-19-induced shock will see new demand for housing fall by a total of 286,000 dwellings relative to the pre-crisis outlook, with the impact largely felt in Australia's eastern seaboard rental markets over the short to medium term.
- The projections show new demand for housing falling sharply in 2021 and in 2022 to 54,200 and 91,600 respectively, from pre-COVID-19 levels of around 176,300 and 186,900, mainly due to sharp fall in NOM.
- The sharp fall in new demand is being felt largely in the rental housing segment given the composition of net overseas migration, particularly lower demand from international students, and the households most affected by the recent rise in unemployment are more likely to be renters.
- From 2023, on the back of positive NOM and a strengthening economy, new housing demand will lift to 144,700 dwellings in 2023 and move back close to pre-COVID levels to around 179,000 dwellings in 2024.
- New housing demand is extremely sensitive to changes in population growth and Australia's migration intake. Sensitivity analysis shows that, under a slightly more optimistic scenario where NOM is negative in 2021 but recovers earlier and returns positive in 2022, this would boost new demand by around 86,000 dwellings over the period to 2025 relative to the central scenario.
- The projections indicate lone households with residents aged 70+ will grow strongly (+23 per cent) over the period 2019 to 2025, and couples without children expected to also grow strongly over the same period (+9 per cent).
- Demand for detached and medium-density dwellings will recover to pre-crisis levels by 2024, while demand for apartments will fall to around 16,200 dwellings in 2021 before gradually recovering to around 31,700 in 2025, still well below pre-crisis demand (47,600 in 2019).
- The unique circumstances of the impact of the COVID-19 pandemic add an unusual degree of uncertainty for the longer term outlook for housing demand. This is a function of the high degree of uncertainty around international border reopenings and associated impacts on NOM, and the uncertainty around how many Australian citizens living overseas return home to live.

Introduction

The purpose of this chapter is to provide projections of new housing demand to 2025, to outline the factors that drive housing demand, while also assessing current housing demand and the outlook for housing demand in the context of COVID-19.

Housing is considered a basic necessity. People need a roof over their heads and a place to call home. But, for many, housing is also an important investment. The purchase of a dwelling is the largest financial decision most households make, and their home is typically their most valuable asset. The consumption of housing services and investment in housing—from renters, first home buyers, homeowners, and investors—underpins housing demand across the economy.

This chapter details the factors that drive housing demand, the methodologies used to project housing demand, and the national housing demand projections.

Table 2.1: Housing demand categories

Housing Category	ABS Structure Dwelling Types
Detached	Separate house
Medium	Semi-detached, row or terrace house, townhouse etc. with one storey
	Semi-detached, row or terrace house, townhouse etc. with two or more storeys
	Flat or apartment in a one-or two-storey block
	Flat or apartment attached to a house
Apartment	Flat or apartment in a three-storey block
	Flat or apartment in a four-or more-storey block

Source: Macroplan, ABS. Non-private dwellings have been excluded from the analysis. These dwelling types include hotels, staff quarters, hospitals, hostels, nursing homes, certain types of welfare accommodation (i.e. group homes) and prisons.

Housing demand by dwelling type

The projections in this chapter account for demand for all residential dwellings across Australia. All residential dwellings include occupied dwellings—both private and public—but also vacant private dwellings. The three main types of dwellings are detached, medium density, and apartment dwellings (Table 2.1). Other dwelling types such as cabins and caravans account for under one per cent, and a declining share, of the dwelling market.

Housing demand by location

This chapter details housing demand at the national level, with more detailed demand projections outlined in the Supply-Demand Balance chapter. The report presents demand (and supply) projections for all eight major cities and rest of state (see Table 2.2).[2]

Table 2.2: Dwelling locations

Capital Cities	Rest of state
Greater Sydney	NSW
Greater Melbourne	VIC
Greater Brisbane	QLD
Greater Adelaide	SA
Greater Perth	WA
Greater Hobart	TAS
Greater Darwin	NT
Canberra/ACT	

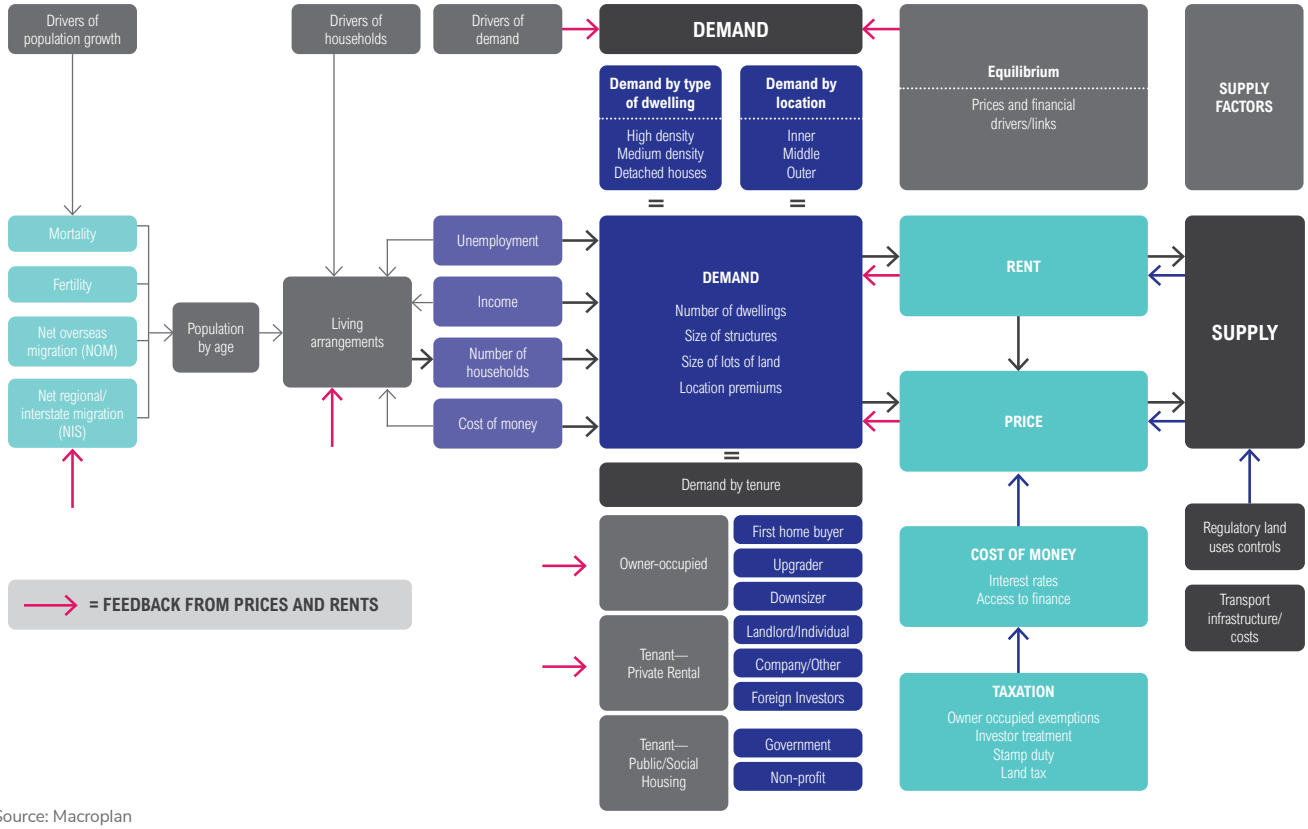
Source: Macroplan, SGS Economics.

2 There are also more detailed spatial dynamics at play when assessing where housing is needed *within* major cities, particularly as households can re-locate, but this is not within the scope of the modelling in this report.

Factors that affect dwelling demand

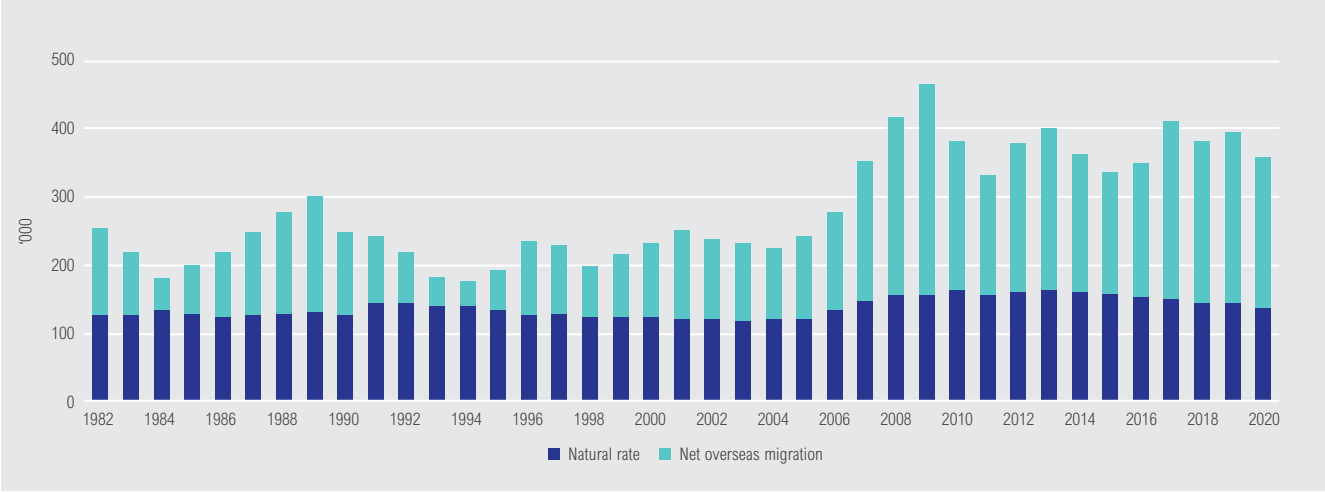
There are a range of short-to-longer term economic factors that drive housing demand which are set out in Figure 2.1. The primary long-term drivers are population and income, while in the short to medium term, the cyclical state of the economy, including changes in interest rates, are also major influences.

Figure 2.1: Factors that influence housing demand



Source: Macroplan

Figure 2.2: Australia's population growth



Source: ABS Cat No. 3412.0, NHFIC

Population and NOM

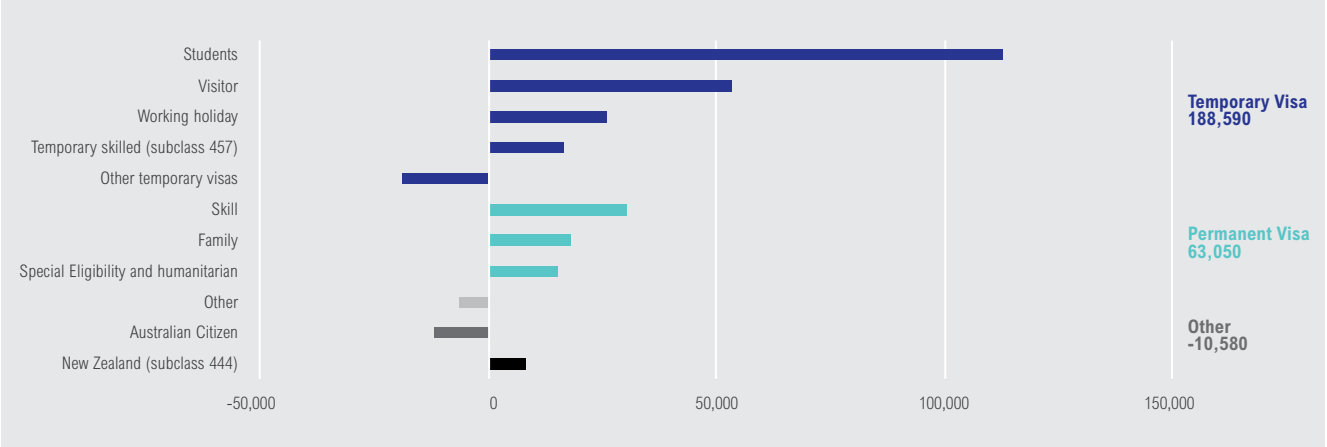
Over the long term, population growth is the major influence on new housing demand, both from the natural rate of increase and from NOM. Large and growing populations also drive increases in the size and density of cities, which contributes to increases in the value of land. Contrary to housing supply, where policy levers are more of a state and territory responsibility, population growth is largely determined by the Commonwealth Government through its migration program.

Australia has historically been a high immigration country (Figure 2.2), and this has been a major influence on aggregate demand for housing and housing cycles in recent decades. Since 2007, NOM has made up almost 60 per cent of all population growth in Australia, underpinning a large proportion of additional housing demand. Australia is currently experiencing a significant decline in NOM due to COVID-19 and this is a major factor driving the housing demand projections in this report.

Research released by NHFIC in September (*COVID-19: Australia's Population and Housing Demand*) showed that the COVID-19 shock to NOM and, in particular, the sharp fall in international students, and their recovery, is highly uncertain and will be a large swing factor for housing demand over the coming period.[3] Based on recent budget and Population Statement estimates of population growth, the fall in NOM is now expected to be much sharper, more sustained and will take longer to recover than previously anticipated. NOM is now expected to detract from population growth this year and next, the first time this has occurred since 1946. This has substantial flow-on effects to the anticipated number of households that will likely form over the coming years. International students made up around half of total NOM in 2018–19 (see Figure 2.3) and their presence or absence particularly affects demand for rental accommodation in the inner-city apartment markets of Sydney, Melbourne and Brisbane.

3 National Housing Finance and Investment Corporation (September 2020) *COVID-19: Australia's Population and Housing Demand.*

Figure 2.3: Net overseas migration, by major groupings and visa (2018–19)



Source: ABS Cat 3412.0; Macroplan

Prices and economic conditions

In the short to medium term, changes in prices and rents and economic conditions are a major influence on people's living arrangements and the rate of new household formation. These factors are incorporated in a more comprehensive measure of underlying demand that is adjusted for economic parameters (see opposite page for discussion).

Underlying housing demand, economic adjusted underlying housing demand and former work of the National Housing Supply Council

Underlying housing demand measures the impact of demographic factors—population growth and the changing age profile of the population—on the number of households and hence on the number of dwellings needed to meet that demand. In simple terms, underlying demand abstracts from all economic factors and assumes a constant rate of demand for houses per person for each age cohort over time.

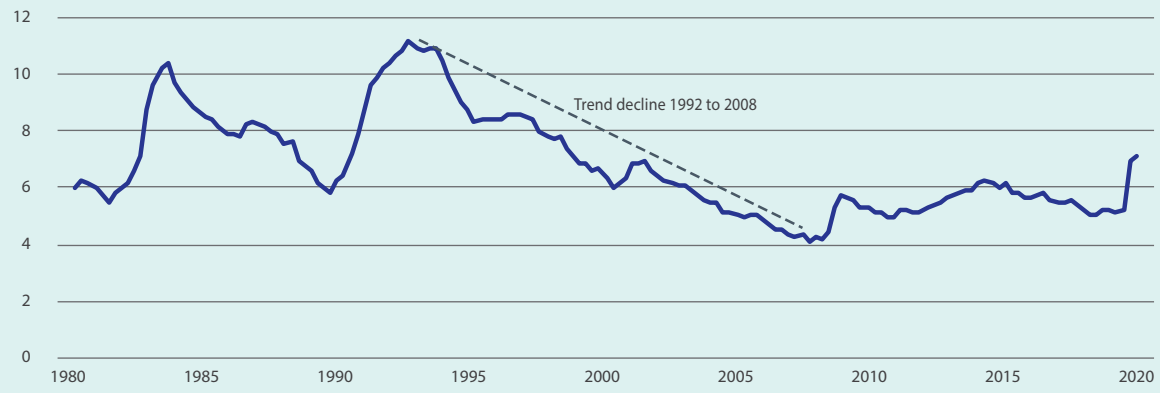
The central measures for projections of demand in this report account for these demographic factors but then also make an adjustment for a broader suite of economic factors, which impact on living arrangements—and hence household size—over the short and long term. Unlike underlying demand, economic adjusted underlying housing demand per person is not constant and can change depending on prevailing economic factors at any point in time.

The impact of economic factors is more difficult to quantify but adjusting underlying demand for market and economic factors provides a more realistic picture of actual demand for housing in the economy at any point in time.

NHFIC commissioned Macroplan to assess the projections produced in the former 2008 and 2010 Housing Supply Council (HSC) reports, which also undertook projections of housing demand. In these reports, the HSC relied on underlying demand (a solely demographic measure) as the central measure for housing demand. However, Macroplan found that the underlying demand as conceived in these reports implicitly assumed that past economic trends would continue into the future. This approach led to a significant overestimation of household growth over the projection period. For example, allowing for population growth (higher than expected), the 2008 HSC projected household growth of 25.7 per cent (vs actual 18.3 per cent), with projections underestimating growth in group households, while more significantly overstating the growth in single households.

Different economic periods can drive different trends in living arrangements and household formation and this was not assessed in these reports. For example, in the period 1992–2006, the unemployment rate fell sharply from the cyclical high produced by the recession in 1989–91 (Figure 2.4).

Figure 2.4: Quarterly unemployment rate (%) 1980–2020



Source: Macroplan & ABS catalogue 6202.0 Labour Force, Australia

The period 1991–2006 also saw income rising ahead of rental growth (making renting more affordable) and with unemployment falling substantially, these economic factors favoured living arrangements generating smaller households. By contrast, between 2006 and 2019, income growth continued but has not matched rises in rents (affordability has declined), while unemployment has been marginally higher. In this period, while the changing age profile favoured smaller households, overall, these economic factors countered that.

Given the importance of the state of the economy on housing demand, NHFIC uses an adjusted measure of underlying housing demand as the central demand projections in this report, including a broader suite of market factors that are integral to household growth and formation. While house prices can affect housing demand (for example, when prices rise demand can fall and vice versa) regression analysis undertaken by Macroplan shows that the unemployment rate, incomes and rents have a larger impact on household formation and these are the main factors driving the adjustment to underlying demand.

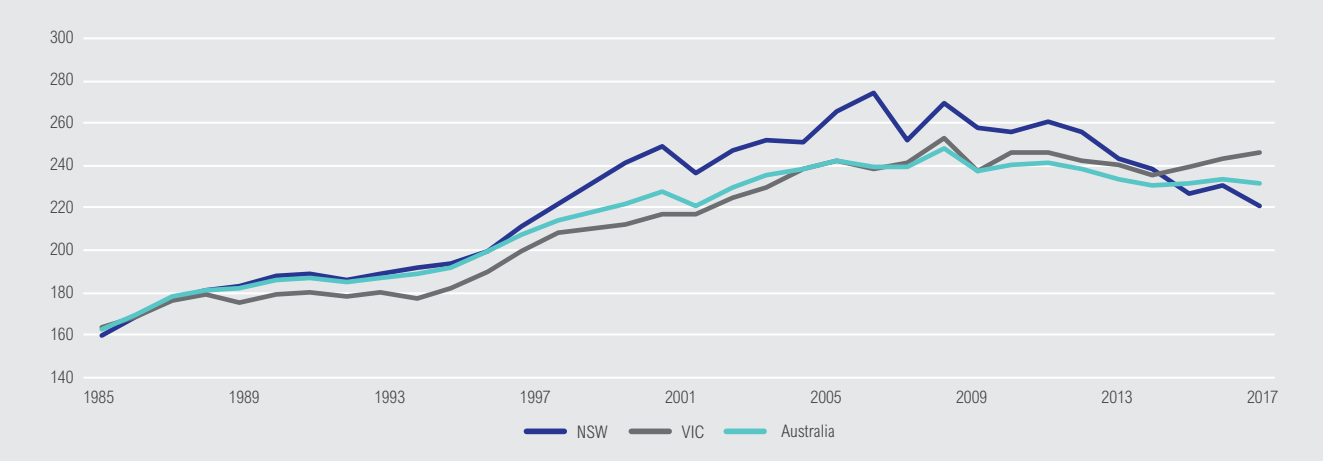
It's important to note that the underlying demand and adjusted underlying demand projections are more closely related to demand for housing services. They do not take account of housing as a financial asset, which is important for determining house prices. Even during a period of low or no household growth (as seen in our projections), actual demand for new housing in the market can be higher given people purchase housing for a range of reasons (for example, households upgrading to larger houses or purchasing second properties).

Income growth and the unemployment rate have historically been significant economic factors when it comes to housing demand. Over the long term, household incomes have risen substantially. While housing is a basic necessity, there is also considerable evidence to show that as incomes rise, households are actually prepared to spend an increasing share of their income on housing[4] —not only on larger houses but also on premiums for locations with higher levels of amenity. The size of an average dwelling increased from around 162m^2 in the mid-1980s to around 248m^2 in 2009, and more recently, has fallen back slightly to 232m^2. More recently, high prices (of land) and cost constraints caused buyers to opt for marginally smaller houses (Figure 2.5).

Relatedly, one of the biggest factors driving housing demand is jobs, and people tend to move to where they can find employment. Consistent with that, there has been a long-term trend towards higher density of dwellings in and around Australia's major cities, particularly close to CBDs where more, and higher paying jobs exist. The impact of COVID-19 could see some of these trends change, as people seek to make their current work-from-home arrangements permanent, although it's too early to tell whether these behaviours will be enduring.

4 Albouy A, Ehrlich G and Liu Y (2016) *Housing Demand, Cost-of-Living Inequality, and the Affordability Crisis,* National Bureau of Economic Research.

Figure 2.5: Dwelling size 1980 to 2018 (square metres)



Source: Macroplan

Interest rates have, in recent decades, also had a substantial effect on housing demand. In a stable interest rate environment, interest rates would be a secondary influence on demand. However, In the period since the late 1980s, a structural decline in interest rates has, with a lag, and together with supply constraints, accentuated the rise in dwelling prices in Australia that have run well ahead of rent growth. Lower interest rates are capitalised into higher house prices (when supply is inelastic).

More recently, in the 2010s, interest rates have fallen to historic lows, with the COVID-19 pandemic in 2020 seeing the Reserve Bank of Australia cutting the official interest rate to 0.25 per cent in March and a further 0.1 per cent in November. With interest rates at levels that leave little scope to go lower, the high rates of price growth experienced in the last two decades are probably an unreliable guide to likely demand and price growth.

Housing supply

Demand for housing can also be affected by supply factors. Supply constraints push up housing costs and reduce the quantity of housing services for a given level of demand. Rising housing costs can reduce demand and reduce household formation as more households struggle to cover the costs of housing services. In addition, policies which constrain supply—either in aggregate or in specific locations—can also distort the market. Supply constraints in inner city suburbs affect the spatial distribution within cities, particularly if people are forced to live further from the CBD where housing costs are lower. For example, while there has been a strong trend towards high density in Australian cities (for Sydney in particular), that does not mean demand has been met or satisfied. Constraints on density in these inner areas puts upward pressure on prices and creates unmet demand. A recent study has estimated that, despite the trend to higher density, there is significant unmet demand in the inner areas of Sydney.[5] Over the past 15 years, new housing constructed in cities like Sydney has typically fallen well short of agreed housing targets, which has helped exacerbate affordability problems, and reflects the challenges of building enough homes in areas of need.[6]

5 Jenner K and Tulip P (2020) The Apartment Shortage, Reserve Bank of Australia.
6 New South Wales Commissioner for Productivity (2020) Productivity Commission Green Paper: Continuing the productivity conversation.

Table 2.3: Foreign surcharges and foreign land tax surcharges for a $750,000 property purchase

	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
Stamp duty	29,085	40,070	19,600	35,080	29,741	28,935	22,200	37,125
Foreign surcharge (8%/7%)	60,000	60,000	52,500	52,500	52,500	60,000	0	0
Total Transfer duty payable	**89,085**	**100,070**	**72,100**	**87,580**	**82,241**	**88,935**	**22,200**	**37,125**
Land tax*	0	775	0	250	780	4,088	5,356	0
Foreign land tax surcharge	10,000	10,000	3,000	0	0	0	3,750	0
Total land tax payable	10,000	10,775	3,000	250	780	4,088	9,106	0
Total transfer duty and land tax	**99,085**	**110,845**	**75,100**	**87,830**	**83,021**	**93,023**	**31,306**	**37,125**

* assumes land value is 2/3 property value

Source: Respective state revenue offices

Other factors

A range of other factors can also affect housing demand. Government policy settings on taxation (for example, State Government stamp duty or the Commonwealth tax treatment of rental income and capital gains) impact on decisions by owner-occupiers and investors. Foreign investors, while they can typically purchase only new residential properties, have had a major impact on demand in recent times.

NHFIC industry liaison suggests that increases in Commonwealth and State Government fees for newly purchased residential dwellings has affected the level of demand from foreign investors in recent years. Surcharges on foreign purchases of residential dwellings have increased in some states from around 3 per cent to as high as 8 per cent (New South Wales, Victoria and Tasmania), which has raised the cost of a $750,000 dwelling by around $60,000 (see Table 2.3).

This has had an impact on the role played by foreigners in Australian housing markets in recent years, with the share of demand for new property purchases from foreign buyers falling from over 15 per cent in 2014–15 to closer to 5 per cent more recently.[7] Recent Australian Tax Office data show that in 2018–19, the total number of foreign residential real estate purchase transactions had a total value of $7.5 billion, which was a 11.8 per cent reduction in the value of transactions when compared 2017–18.[8] More recently, expectations that the market share of foreign buyers will fall over the next year have jumped significantly.[9] This is likely to have an ongoing impact on demand for new apartments.

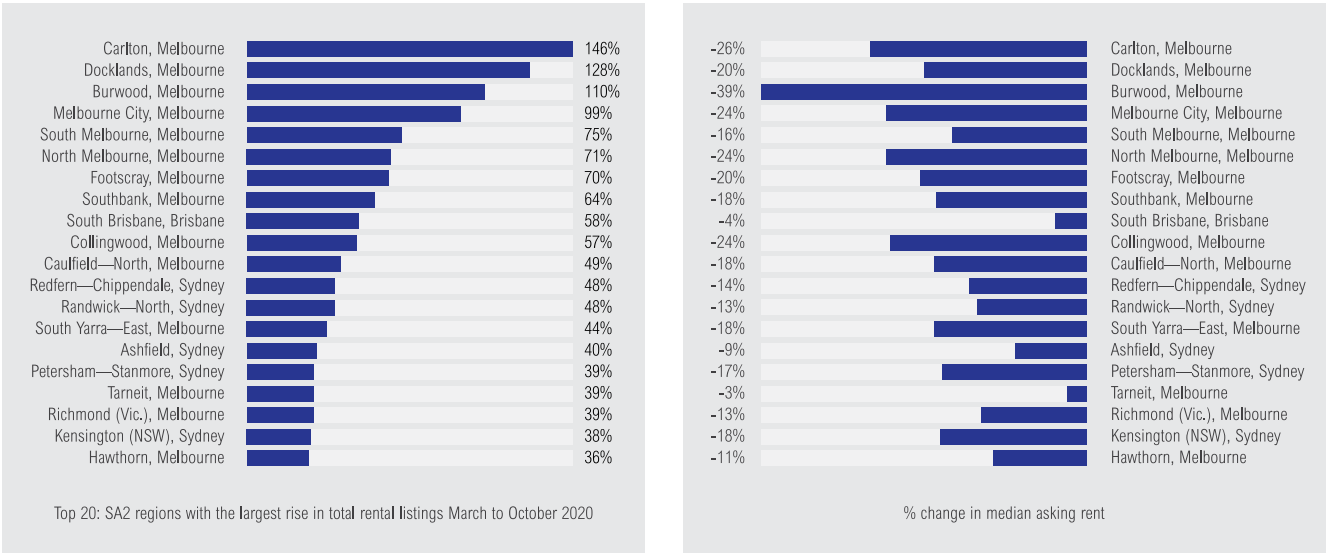
7 National Australia Bank (July 2020) *NAB Residential Property Survey Q2-2020.*
8 Australian Taxation Office (2018–19) *Insights into foreign purchases and sales of residential real estate.*
9 National Australia Bank (2020) *NAB Residential Property Survey Q2-2020.*

Current demand

The immediate effect of the COVID-19 shock has been felt more acutely in Australia's rental markets, particularly in Sydney and Melbourne. Consistent with observations made by the RBA, COVID-19 has delivered an 'unprecedented' shock to the rental housing market, reducing demand for rental properties at a time when the supply of rental properties was increasing.[10] Rental listings in some inner-city areas, including near university campuses, has risen substantially, translating into lower asking rents (Figure 2.6). This is likely from reduced demand, but also from increased supply on the market (for example, shorter term Airbnb listings declined by around 20 per cent, or 40,000 properties, between February and May[11]).

The weakening economy post the onset of COVID-19 is also having an influence on household formation as many people struggling financially move back into (or delay moving out of) shared accommodation. Some surveys suggest one in six people changed their living arrangements after the onset of COVID-19, such as moving back in with the parents or delaying moving out. As at May, more than 300,000, mostly young, Australians had moved back to their parents' house.[12] Together with the closure of international borders, these factors are driving reduced demand for rental accommodation.

Figure 2.6: Eastern state capital city rental listings and rents



Source: Corelogic

10 Jenner K and Tulip P (2020) The Apartment Shortage, Reserve Bank of Australia.
11 Evans E, Rosewall T and Wong A (September 2020) The Rental Market and COVID-19, Reserve Bank of Australia.
12 Casey B (2020) COVID-19 pandemic creates 'generation boomerang' of young people moving back home to live with parents, realestate.com.au.

Meanwhile the buyers' market has been less affected than the rental market. Clearance rates have largely recovered since the onset of the crisis, although there are differences across states. Volumes and clearance rates have been fairly resilient in markets less affected by COVID-19 (e.g. Sydney, Adelaide, Canberra). NHFIC liaison suggests state government stamp duty concessions and the Commonwealth's HomeBuilder program is helping to bring forward investment and support near-term demand. The combination of government stimulus, record low interest rates and pent-up demand through the crisis is translating into above average residential sales for some large developers, primarily for new detached dwellings.[13]

Significant COVID-19-related income support (such as through JobKeeper and JobSeeker) is due to be phased out in March 2021 and there remains a considerable amount of residential mortgage loan deferrals outstanding, both of which could affect people's ability to pay for their housing services and service mortgages. As at the end of October, around 3.9 per cent of all housing loans (around $88b) had been granted deferrals[14], although this has come down considerably from its peak.

The recent RBA Statement on Monetary Policy suggests low interest rates are supporting housing demand and housing credit growth has also picked up, most notably to owner-occupiers[15].

Methodology

The model for housing demand projections first builds an estimate of underlying demand for dwellings based on longer term drivers, namely population growth and broader demographic changes. This initial model accounts for the fact that each household in Australia needs somewhere to live and that there needs to be an additional flow of homes to house a growing population (in this model demand for housing per person is constant—a restriction we relax below).

The model then builds an estimate of adjusted underlying demand which accounts for a broader array of economic factors delivering final housing demand projections. This model accounts for underlying demand for housing from population growth, but also adjusts for the impact that economic factors can have on people's living conditions (housing demand per person can change depending on economic factors).

The model developed here projects how many households are expected to form (and disperse) over time due to population growth and the impact on people's living arrangements from changes in key economic variables, such as changes in unemployment. The model is not intended as a measure of observed transactions in the market in any one year. In the current period of low or no household growth, there could still be positive market sentiment and considerable purchases of homes which could support higher levels of actual demand for new housing. However, the adjusted underlying demand approach developed here is of benefit because it incorporates the impacts of some key macroeconomic variables on demand and builds on the work of the former Housing Supply Council.

The model for estimating underlying demand follows the approach utilised by the ABS for its household and family projections. This model then extends from household projections into the number of occupied dwellings required to accommodate those households.

13 Stockland (20 October 2020) *1Q21 Update*.
14 Australian Prudential Regulation Authority (30 November 2020) *Temporary loan repayment deferrals due to COVID-19, October 2020*.
15 Reserve Bank of Australia (November 2020) *Statement on Monetary Policy*.

The methodology for projecting underlying demand is broadly as follows:

- Population projections are based on data provided by the Centre for Population and are consistent with the population figures in the 2020 Budget and the recent Population Statement.
- These projections are provided at state, capital city and regional level and also provide estimates of the age distribution of the projected resident populations for each area for each year over the projection period.
- From the Census data, the ABS provides estimates of propensity for each of the age cohorts in the resident population to form, or belong to, a family or non-family household, or to live in a non-private dwelling. These living arrangements are applied at the state, capital city and regional level to the changing population size and age profile to estimate the number of households each year.
- The number of households by type includes estimates for family households including couples with children, couples without children, sole parents and other family households. The number of group households and lone person households is also estimated. These household types also have specific preferences for dwellings types (detached houses, medium density, and apartments) and the changing trends in these preferences are applied to provide estimates of trends in demand by dwelling type.
- Finally, the number of dwellings demanded is estimated for each state, capital city and regional area, including by type of dwelling, and aggregated to the national level over the projection period.

The most consequential assumption for underlying demand in the model is net overseas migration (NOM). NOM figures provided by the Centre for Population (and consistent with the 2020 Budget) which underpin the projections for underlying demand are assumed to fall from around 154,000 persons in 2019–20 to around -72,000 persons by the end of 2020–21, and then -22,000 in 2021–22, before gradually increasing to around 201,000 persons in 2023–24.[16]

The underlying housing demand projections are then adjusted by drawing on empirical assessments of how key macroeconomic variables—unemployment, income and rents—affect living arrangements and demand for dwellings.

The following assumptions have been made to estimate adjusted underlying demand, and are broadly in line with the 2020 Budget estimates:

- The unemployment rate, which rose to 7 per cent in June quarter 2020, is expected to reach 8 per cent in December 2020. This has been negative for demand. It then falls steadily to 6½ per cent by the June quarter in 2022, which has the reverse impact of boosting demand. Further projected declines out to 2025 will continue to be positive for demand.
- Income growth (in real terms) in 2019–20 rose 4.7 per cent and was significantly boosted by JobKeeper. This growth was a partial counter to the rise in unemployment. In 2020–21 and 2021–22, the boost to income is reversed, which then offsets the initial improvement in the unemployment rate. From 2022–23 it returns to growth, boosting demand.
- Following the decline in 2019–20, rents (in real terms) are projected to show further declines out to 2022–23. These declines will provide a substantial boost to demand. There will be a lag before the surplus stock is absorbed as NOM rebounds, unemployment declines and incomes recover. Rents are expected to show modest rises in 2024–25 but, with incomes rising, affordability will show a further modest improvement.
- Overall, in the period from 2020 to 2025 the cumulative effect of these economic factors will add about 90,000 to dwelling demand, which will be a partial offset to the significant detraction of demand from the decline in net overseas migration.

16 Commonwealth of Australia (2 April 2019) *Budget 2019–20: Budget Strategy and Outlook Budget Paper No. 1 2019–20*, pages 2–6.

Housing demand projections

The population shock from COVID-19, principally from forecast negative NOM, is expected to drive a sharp fall in new housing demand from 192,400 dwellings in 2019 to just 54,200 and 91,600 respectively in 2021 and 2022. The shock will see demand for dwellings around 286,000 lower than it otherwise would have been over the projection period compared to a pre-COVID-19 outlook.

From 2022–23, the rise in net overseas migration will help to lift demand to 144,700 dwellings in 2023, increasing to 178,800 by 2024 and staying at a similar level in 2025.

The apartment and medium-density markets are more exposed to the closure of international borders to net overseas migration and particularly international students. Meanwhile, the detached dwelling market is more likely to benefit from the Federal Government's HomeBuilder program and state government building grants.

Table 2.4: Projections of housing demand

	2019	2020 (e)	2021	2022	2023	2024	2025	2020 to 2025
Pre-COVID adjusted underlying demand	**192,400**	**178,000**	**176,300**	**186,900**	**178,100**	**175,300**	**172,400**	**1,067,000**
Underlying demand	-	142,500	58,200	69,900	111,600	150,700	155,100	-
Impact of economic parameters	-	-6,100	-4,000	21,700	33,100	28,100	20,200	-
Adjusted underlying demand*	**192,400**	**136,400**	**54,200**	**91,600**	**144,700**	**178,800**	**175,300**	**781,000**
Impact of COVID-19 shock	-	-41,600	-122,100	-95,300	-33,400	3,500	2,900	-286,000

Source: Macroplan, NHFIC; (e) estimate

*Underlying demand and impacts of parameters may not add up to Adjusted underlying demand (see Appendix)

NB: The estimates of the impact of the economic parameters in this table are marginally higher than those presented in the more detailed Appendix as they include an allowance for growth in the stock of vacant dwellings consistent with the equilibrium vacancy rate in the housing market.

Table 2.5: Demand by dwelling type

Demand by dwelling type	2019	2020 (e)	2021	2022	2023	2024	2025
Detached	113,000	75,300	30,400	57,200	94,100	116,800	113,900
Medium	33,100	21,800	10,100	16,700	26,100	32,400	31,700
Apartment	47,600	41,200	16,200	19,900	26,500	31,500	31,700
Other	-1,300	-1,900	-2,500	-2,200	-2,000	-1,900	-2,000
Total dwellings	**192,400**	**136,400**	**54,200**	**91,600**	**144,700**	**178,800**	**175,300**

Source: Macroplan, NHFIC. (e) estimate.

NB: Numbers may not add up due to rounding

Sensitivity analysis

Given the heightened uncertainty associated with border reopenings and what this means for population growth (and NOM) projections, Macroplan has also generated an additional demand scenario.

Under this scenario, it is assumed that NOM recovers more quickly than set out in the Budget and the Population Statement. It assumes the borders reopen earlier, there is a stronger recovery in international students, and (while not directly related to NOM), could reflect more returning Australians than currently anticipated.

If this were to play out, demand for dwellings would be around 86,000 higher over the projection period compared with the central forecasts. This highlights the sensitivity of overall housing demand to population growth and how quickly demand for housing could bounce back in the event of a faster recovery in the migration program.

Table 2.6: Sensitivity analysis of housing demand and NOM

	2021	2022	2023	2024	2025
NOM sensitivity assumptions					
Budget	-72,000	-22,000	96,000	201,000	208,000
Optimistic	-25,000	50,000	150,000	205,000	225,000
Adjusted Housing demand					
Budget NOM	54,200	91,600	144,700	178,800	175,300
Optimistic NOM	73,600	121,700	168,200	182,300	184,400
Difference	19,400	30,100	23,500	3,500	9,100

STATE OF HOUSING SUPPLY

Key Points

- A recovery in construction activity from the COVID-19 recession is underway, led by detached housing. We expect total net additions to rise to 181,000 in 2021 from 170,000 in 2020 on the back of the monetary and fiscal stimulus put into place this year.
- In 2022, some withdrawal of fiscal stimulus seems likely to make room for a recovery in parts of the economy most affected during the recession. Over the longer term, the lower population outlook highlighted in the demand chapter will weigh on construction, with net additions likely to be only 148,000 in 2025.
- The detached housing market is clearly responding to the fiscal and monetary stimulus and we expect net additions to rise to 108,000 in 2021 from 90,000 in 2020. However, the withdrawal of stimulus and relatively weak population growth outlook means that by 2025, net new detached housing additions are likely to be only 97,000.
- The downturn has weighed more on apartments than detached or medium-density dwellings because of international border closures. Furthermore, federal and state government stimulus packages thus far have been more targeted towards detached dwellings. We expect net apartment additions to fall to 45,000 in 2021 from 55,000 in 2020.
- Lower population growth means that net additions in apartments in 2023 are likely to be 58 per cent below those seen just prior to the COVID-19 recession. Even by 2025, we still expect them to be 51 per cent below this benchmark and only 27,000 dwellings. It's also worth noting that the downturn in apartments was already underway before the COVID-19 recession, with net additions 15 per cent below their 2017 peak.
- More positively, credit availability doesn't appear to be limiting construction activity, with lending to developers broadly tracking building approvals. However, credit could tighten in pockets such as capital city CBD apartment markets if growth in NOM remains sluggish.

Introduction

Most new housing in Australia is provided by the private sector working to state and local government planning laws, and using land released by state governments for residential use. It is relatively small compared with the stock of existing dwellings.

Economic conditions need to be favourable for the private sector to build and develop housing. Changes in interest rates, house prices and household income are important factors driving construction activity, along with expected demand. State government operated incentives such as the First Home Buyer Grant also play a role in encouraging new entrants into the market. The Federal Government funds the First Home Buyer Grant and offers other incentives such as the First Home Loan Deposit Scheme. Support for social and affordable housing generally comes from both the state and federal governments.

As planning regulators, state and local governments are involved in determining land availability for greenfield housing, how this land is used, and how quickly land is developed through their strategic and statutory planning processes. The governments often regulate the parcel size of land through the subdivision development process, collect infrastructure charges and ensure essential services are provided to residents of the urban fringe. Providing adequate transport infrastructure is a key challenge.

In this chapter, we detail the residential development process and the factors impacting the supply of new housing and land. We detail a model for new supply at the national level and take the output from this model to forecast new supply for capital city and regional areas.

Greenfield and urban infill development

State and local governments regulate the development and supply of new land and housing.

State governments generally control the release of land and growth of greenfield areas on the urban fringe. In the urban infill within the established urban areas, state and local government come together to determine areas where new dwellings can be built.

Most new housing is built in the urban infill. For example, in South East Queensland, 60 per cent of new housing is built in the urban infill, with the remaining 40 per cent built in greenfield areas.[17] In contrast, in Perth, only 30 per cent of new housing is built in urban infill areas.

Infill developments include large medium-density and high-rise apartment developments that can be on former industrial sites in inner areas. It can also include low-rise medium-density developments such as townhouse or small apartment developments less than four storeys. Detached homes in the urban infill are usually built by small and medium-sized developers.

17 Queensland Government (2019) *Land supply and development monitoring report.*

There are generally six steps involved in the creation of a new residential dwelling:

Table 3.1: The residential dwelling production process

Land identification and release	• The state and/or local government identifies greenfield development growth areas where it is in the public's interest for that land to be used for residential purposes. • In the capital cities, state government is generally responsible for identifying land for greenfield development. In regional areas the responsibility generally sits with local councils.
Rezoning to residential	• The rezoning of land for residential use is done by state and local governments and often initiated by a developer. The rezoning of land for residential use in most cases needs to be supported by a strategic land use plan, which assesses and identifies future land uses. • The strategic plan sets the roadmap for future development of a region to accommodate the forecast growth demand for housing, jobs and the location and demand of services to meet that growth. • The strategic plan also attempts to balance the competing needs for expansion of urban land and services with environmental protection. It tries to balance a community's recreational needs with promoting sustainable business and employment.
Infrastructure planning and approval	• Local government and state planning agencies coordinate to identify and provide physical infrastructure such as roads and water. Social infrastructure such as schools, childcare and health facilities are also considered in the strategic planning stage or during the rezoning process. • The level of infrastructure fees paid by the developer to the state government, local council and/or infrastructure providers are also determined at this stage if a charging regime does not cover the proposed development or site. • Arrangements vary across the states but in NSW, developers may dedicate land and/or provide infrastructure such as a road or parkland through a Voluntary Planning Agreement. • Liaison with developers working on projects around the country indicates Sydney is the most difficult market, with the approval process reported as being too lengthy and complicated in not only the urban fringe, but also in urban infill.
Detailed subdivision development assessment	• Local government considers developer's proposals and pays particular attention to issues such as the layout of local roads, lot sizes and streetscapes during the assessment process.
Subdivision construction and title issuance	• The construction of civil engineering for subdivision and the provision of services such as roads, water, sewerage and electricity. In large areas of new land this work is normally done in stages, with lots built and titles issued. House and land packages are often sold at this stage.
Dwelling construction	• Dwelling designs are assessed and approved by Council. • In some states there are more streamlined processes to obtain dwelling construction approval through a private certification process where the dwelling complies with certain building and design criteria.

Land identification by state and territory

- In New South Wales, the state government has designated growth areas in Sydney's north-west and south-west. These land release areas are managed by state government agencies and local government, and the Greater Sydney Commission. In regional New South Wales, the state government works with local councils to identify land to be released for residential development.
- In Queensland, the state government has growth corridors in the heavily urbanised South East Queensland. In regional Queensland, the state government works with local councils to identify land to be released for residential use.
- In Victoria, Melbourne has four growth corridors and land is gradually released for residential development. In regional Victoria, the state government works with local councils to identify land to be released for residential development.

- In South Australia, the state government has growth areas in greater Adelaide and it attempts to coordinate urban development in these areas and transport infrastructure. In regional South Australia, the state government works with the local councils to identify land to be released for residential development.
- In Western Australia, the state government has growth areas in greater Perth and similar to Adelaide, it attempts to coordinate this development with transport infrastructure planning. In regional Western Australia, the state government works with the local councils to identify land for residential development. The Directions 2031 Spatial Framework for Perth and Peel was introduced in 2010.
- In Tasmania, the Tasmanian Planning Commission considers and approves draft planning schemes. The Tasmanian Planning Scheme (TPS) applies to all land in Tasmania and replaces previous planning schemes that operated for each council area. It consists of the State Planning Provisions (SPPs) and a Local Provisions Schedule (LPS). When each council finalises their LPS and it is approved by the Minister for Planning, the Tasmanian Planning Scheme takes effect in that council area.
- The Northern Territory Planning Scheme provides the guidelines for all land planning in the territory except for Jabiru, which has its own plan. The scheme identifies land for residential use and schedules its release.
- The Australian Capital Territory Planning Strategy identifies land for residential use and schedules its release. It aims to limit urban spread and encourage growth around developed areas and existing transport infrastructure. It aims to work with local councils in the territory to maintain the bush-setting backdrop to urban areas.

Dwelling types and locations

For the purposes of this report, housing supply is defined as private sector dwellings that are available for habitation. It includes both occupied and unoccupied dwellings regardless of the tenure type. Housing supply is considered as both the existing supply of dwellings as well as the future supply pipeline of private sector dwellings.

Dwellings have been divided into the same categories as outlined in the Demand chapter, allowing a comparison of the supply: demand imbalance by building type.

An analysis of building type is important because it captures how housing preferences are changing and how efficiently the development industry is responding to these changes.

Housing supply estimates have been prepared at the national and state level, along with rest of state locations across Australia that are consistent with the demand analysis.

Dwelling investment cycles

Dwelling investment has been one of the more volatile components of GDP and often drives economic cycles. It has averaged 6.2 per cent of GDP since 1960, but in the range of 8.3 per cent of GDP to 4.9 per cent of GDP.

With the support of low interest rates, dwelling construction activity helped cushion the economy from the large decline in mining investment that unwound the mining boom from the late 2000s. However, conditions in the apartment markets of the major eastern state capital cities became overheated and excessive credit growth was reined in by tighter macroprudential policy. In 2019, macroprudential policy eased somewhat and, in addition, monetary policy became more accommodative. This led to a pick-up in leading indicators of construction activity just prior to the COVID-19 recession.

Financial conditions may also constrain new supply. When they tighten, new construction is often slow to respond to movements in underlying demand.

Factors affecting supply

Financing and prices

The cost and availability of finance are major factors impacting supply and they also impact demand. However, supply is often relatively slow to respond to movements in demand.

Australian mortgage rates have declined from 17 per cent in the early 1990s to around 3.0 per cent, with a similar structural decline occurring globally[18]. During this period, new housing supply has increased structurally with support from not only the decline in interest rates, but also stronger demand via a pick-up in population growth. Net overseas migration has been the key ingredient in the population growth surge, accounting for 60 per cent of the increase over the past 10 years.

Movements in financial conditions also impact the price of dwellings and this can, in turn, impact marginal supply. Indeed, rising prices can cause price expectations to also rise and this will naturally attract investment.

Table 3.2 shows the monetary stimulus provided by the RBA and the fiscal support provided by the Federal Government since the start of the COVID-19 recession.

State governments have also played a significant role in providing fiscal support to the housing market during the COVID-19 recession. Table 3.3 highlights fiscal stimulus provided by state and territory governments since March 2020.

The fiscal support generally consists of transfer duty support, additional and complimentary funding similar to the Federal Government's HomeBuilder Program and land tax relief or payment deferrals.

Table 3.2: Federal Government fiscal and monetary stimulus since March

RBA	• Target cash rate was cut by 25 basis points to 0.25 per cent at the March RBA board meeting and then to 0.1 per cent at the November board meeting. • A target on the 3-year government yield of 0.25 per cent was introduced in March and subsequently reduced to 0.1 per cent in November, with the RBA committed to buying these securities to achieve this target. By early October, the RBA had purchased $A63bn of these securities to achieve its 0.25 per cent target. • Term funding facility was set up to provide low-cost funding to authorised deposit-taking institutions lending to small and medium-sized businesses. The facility was extended to $A200bn in September after initially set up to provide $A60bn in funding. • Interest on exchange settlement balances was cut to 10 basis points at the March board meeting and further cut to 0 basis points at the November board meeting. • At the November board meeting the bank introduced a quantitative easing program whereby it would purchase $A100bn of Federal Government and semi-government bonds over the following six months targeting 5-year to 10-year maturities.
Federal Govt	• The HomeBuilder Program provides $A25,000 to households planning to build a new home or substantially renovate their own home. There are income and property valuation conditions attached the grant and it applies only to building contracts signed between 4 June 2020 and 31 December 2020. • The First Home Loan Deposit Scheme was extended to include an extra 10,000 places for new homes, so that borrowers could purchase a new home with a deposit as little as 5 per cent, without the need to pay lenders mortgage insurance.

Source: RBA, Federal Treasury

18 Lowe P (29 October 2019) *Some Echoes of Melville* [speech], Sir Leslie Melville Lecture, Canberra.

Table 3.3: State Government fiscal stimulus

NSW	• Transfer duty abolished for first home buyers from 1 August 2020 to 1 August 2021 for properties valued less than $A800,000 and reduced to those valued more than $A800,000 and less than $A1,000,000. • Land tax relief to landlords where their tenants have been unable to fully pay rent. The concession is equivalent to the lost rent and payable up to 50 per cent of the tax liability.
VIC	• Landlords who provide tenants impacted by the coronavirus pandemic with rent relief may be eligible for a reduction of up to 50 per cent on the property's 2020 land tax. In addition, those unable to secure a tenant because of the pandemic may be eligible for a 25 per cent reduction on the property's 2020 land tax. These tax liabilities can also be deferred until 31 March 2021. • A full waiver of 2021 vacant residential land tax liabilities that would ordinarily apply to residential properties in Melbourne's inner and middle suburbs that are vacant for more than six months in 2020. • In November the government announced a 50 per cent cut to transfer duty on purchases of residential property with a dutiable value of up to $1 million. The policy applies to contracts entered into on or after 25 November 2020 and before 1 July 2021. • A 50 per cent land tax discount for eligible build-to-rent developments, including an exemption from the absentee owner surcharge, until 1 January 2040. The policy is expected to begin applying in the 2022 land tax year.
QLD	• A three-month deferral of land tax liabilities for the 2021 assessment year. • A land tax rebate reducing land tax liabilities by 25 per cent for eligible properties for the 2020 and 2021 assessment years.
SA	• Landlords may receive land tax reduction of a maximum of 25 per cent of the liability based on rent relief the landlord has provided to tenants impacted by COVID-19 or rent the landlord has forgone between 30 March 2020 and 30 October 2020 (period 1). Another period where relief (also up to 25 per cent) for the rental relief provided to tenants between 30 October 2020 and 30 April 2021. A land tax reduction of up to 25 per cent of the 2020 land tax payable on that property is available in each period, with a maximum total reduction of up to 50 per cent of the 2020 land tax payable on that property. • Individuals paying land tax quarterly in 2020 will be able to defer payment of their third and fourth quarter instalments for up to six months.
WA	• A $20,000 grant is available for the construction of a new detached dwelling on vacant land. Contracts must be entered into between 4 June 2020 and 31 December 2020. • There is also an extension to the off-the-plan stamp duty rebate scheme (apartments and medium-density dwellings). The rebate amount is 75 per cent of the duty paid, capped at a maximum of $50,000 for pre-construction contracts (23 October 2019 and 23 October 2021) and $25,000 for a contract under which construction has already commenced (4 June 2020 to 31 December 2020).
TAS	• First home buyers grant increased by $A10,000 to $A20,000 for either new construction or newly erected dwellings where contracts to build were entered into between1 July 2017 and 30 June 2020. This was due to revert back to $10,000 in June 2020 but has now been extended to 30 June 2022. • A $20,000 Tasmanian HomeBuilder grant is eligible to owner-occupiers for new construction for contracts entered into between 4 June 2020 and 31 December 2020.
ACT	• No stamp duty on single residential dwelling blocks and off-the-plan developments (unit-titled apartment and townhouses) for purchases up to $500,000. • An $A11,400 stamp duty reduction for off-the-plan unit (unit-titled apartment and townhouses purchases between $500,000 and $750,000). • Landlords who reduce rent on their privately rented properties by at least 25 per cent due to COVID-19, may be eligible for a land tax credit to cover 50 per cent of the rental reduction, up to a limit of $1,300 per quarter.

Source: State government revenue department websites

An important consideration for the ability of the development industry to respond to shifts in demand from home buyers is their ability to finance construction and development.

Developers often need debt finance to construct apartment projects and large detached dwelling projects. Residential projects normally receive debt financing once a certain sales benchmark (off-the-plan) is reached before construction. Once construction is completed the debt is normally paid back using proceeds from the continuing sales process.

Large residential apartment projects can take some 12–24 months to construct and some apartments might not be sold by the completion of construction.

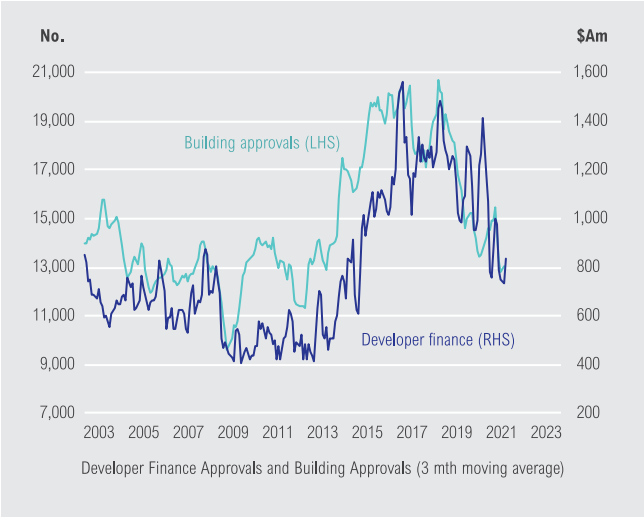
In the current cycle, the pullback in developer loan approvals is broadly in line with the decline of building approvals, which suggests that credit is not putting a brake on building activity (Figure 3.1—LHS). If credit was constraining construction activity, we would expect to see an excessive fall in developer loan approvals relative to building approvals.

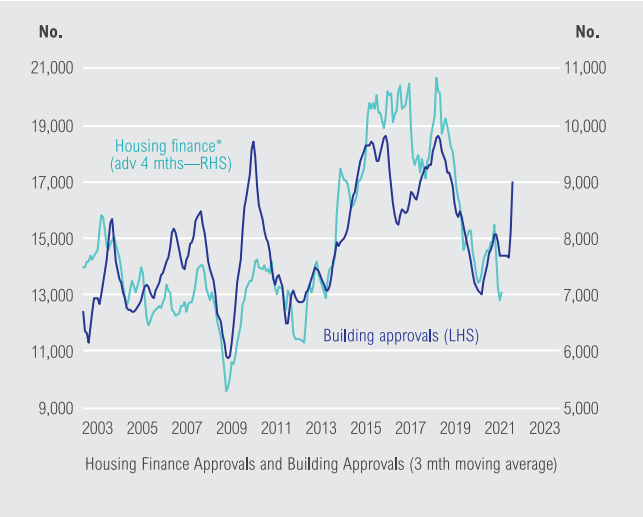
Probably the best example of where credit restricted activity was during the Global Financial Crisis period whereby the upswing in building approvals was not accompanied by an upswing in developer lending and activity was ultimately forced to rebase.

In the detached housing market, buyers typically buy a vacant lot of land and separately contract a builder to build the new house. In this build-to-order arrangement, lending to households normally leads building approvals by around four months.

Building approvals initially declined at the start of the COVID-19 recession, but more recent data show they have begun to improve on the back of Federal Government stimulus and lower mortgage rates (Figure 3.1—RHS).

Figure 3.1: Finance approvals and building approvals





Source: ABS, RBA, NHFIC. Developer finance is proxied as fixed term lending to business for residential construction.

*Housing finance is number of loan approvals for both investors and owner-occupiers. Prior to July 2019, the number of investor loan approvals is estimated assuming the ratio of the value of investor and owner-occupier approvals equals the average since July 2019. The ratio of investor loans for construction and newly erected dwellings to total investor approvals is also assumed to be the average since July 2019.

Land availability

Cities with topographical constraints that restrict or limit expansion of the urban fringe, such as Adelaide and Sydney, have policies that favour greater infill development. In Sydney, there is a clear state government policy that restricts development in Sydney's Metropolitan Rural Area. This means future housing supply is generally constrained to existing urban areas or within those topographical constraints identified as greenfield sites.

In contrast, cities such as Brisbane, Melbourne and Perth that have less constrained topographies are continuing to see a higher share of expansion by land release on the urban fringe.

In these greenfield land release areas, the government is essentially leading the creation of entire new suburbs and urban regions. However, these developments need to be supported by significant investment in infrastructure often by all three levels of government.

In contrast, infill development in the major cities is conducted on a relatively ad-hoc basis. Recent developments have focused on increasing housing supply in existing and proposed transport corridors. For example, the Sydney North West Metro rail project links the north-west growth corridor to the Sydney CBD via Chatswood station. Its extension, the Sydney Southwest Metro project, links the Sydney CBD to Bankstown via Sydenham station.

These twin metro projects (completed and operating from Tallawong to Chatswood) will be completed in 2023. The Sydney West Metro project will link Westmead and Parramatta to the Sydney CBD via Homebush.

NHFIC liaison with developers indicates that Sydney is the main market where land availability is a significant constraint on housing supply. This is partly due to topographical reasons, but putting this issue aside, it would be possible to extend the Sydney housing footprint further if an expanded transport infrastructure was available. Regions such as the Central Coast, South Coast and Southern Highlands would be more attractive to workers in the Sydney CBD if travel time to and from work could be reduced so that it is a reasonable commute on public transport.

Development in both Melbourne and Brisbane has tended to be more centrally located and it has embraced the use of airspace more than Sydney[19].

Greenfield subdivision and property development models

- Land development: In most land-release housing developments, the developer subdivides the land and then sells it to consumers directly or through house and land packages, which may be offered by third parties. This delivery model separates the creation of land parcels from the construction of housing but is generally not used to develop medium-density housing.

- Land development and dwelling construction: Another development model involves the developer both subdividing the land and constructing attached dwellings. This model is often used in terraced or apartment housing developments and is commonly used in both the UK and US, but it is less common in Australia. The smaller scale of development in Australia could make it more costly for developers to develop land and build, with land holding costs extended by the dwelling construction period. In this model, similar dwelling types are provided regardless of lot size. Indeed, newer release areas across Sydney and Melbourne often feature relatively small lots occupied by large single-storey houses.

19 Jenner K and Tulip P (2020) *The Apartment Shortage*, Reserve Bank of Australia.

Changing demand, ownership and preferences

Trends in home ownership and housing preferences are key drivers of demand that determine the type of dwelling supplied to the market.

The COVID-19 downturn saw a surge in people working from home, particularly those working in professional service industries. It is probably too early to tell whether working from home will dominate over the business office as a workplace. However, it's likely working from home will become more common as the economy normalises following the pandemic. This means more homes will require dedicated office space and a fast-speed internet connection.

During the pandemic, anecdotal evidence suggests that regional areas have benefited from residents of capital cities relocating. It's probably too early to tell whether this is the start of a structural step up in the population growth of regional areas, at the expense of the capital cities, but it is a trend worth monitoring in the period ahead. These changing demand issues will have implications for the type of dwelling product that is constructed.

The housing stock should also meet the needs of an ageing population. Access to services and simple access around the home will become more important along with smaller house sizes. Recent studies undertaken in Sydney, Melbourne and Adelaide indicate the need for more diverse new housing, including more attached dwellings in the form of terrace houses and apartments.

Home ownership has been around 67 per cent since the 1950s, although it has been under slight downward pressure over the past decade, due to declining affordability. Smaller dwellings help meet this affordability challenge, with apartments close to transport and CBDs a good fit.

- **Build-to-rent product.** Build-to-rent product has been a feature of the US housing market for many years, but it has only begun to emerge recently in Australia. This year, the NSW Government announced a 50 per cent reduction in land tax for these projects out to 2040 where the size of the development exceeds 50 units. The Queensland State Government has announced two build-to-rent affordable housing apartment projects. In Victoria, investors may be exempt from the absentee owner surcharge and foreign purchaser additional duty. According to media reports, the property consultancy Urbis indicates build-to-rent projects are now around 8,000 units annualised.[20]

20 Bleby M (10 September 2020) '*Private development loss is build-to-rent's gain: Urbis*', The Australian Financial Review.

Methodology

Top-down analysis and projections

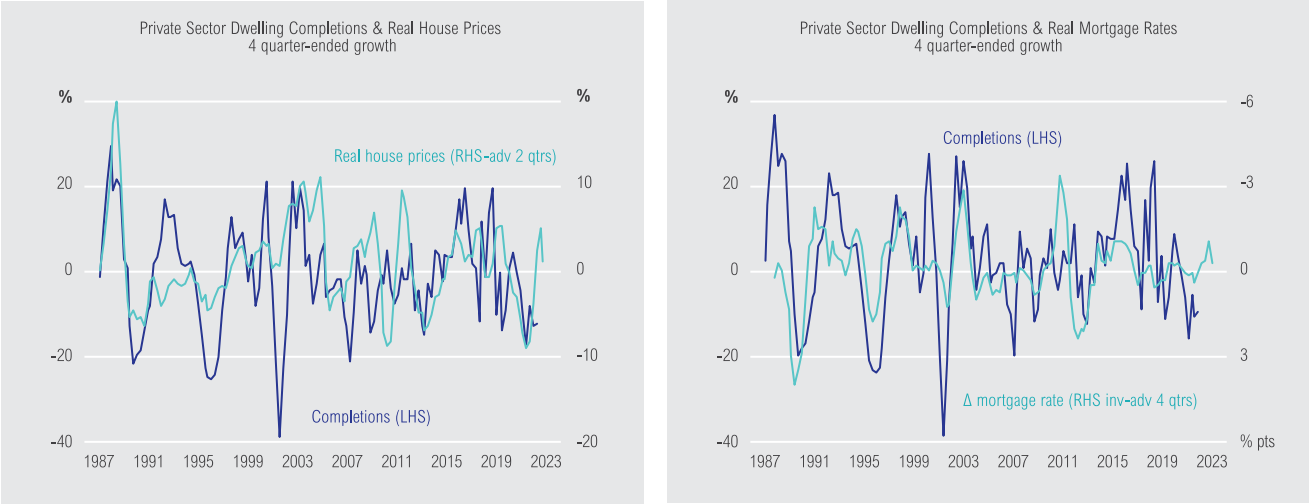
In building our model of housing supply we start using a top-down approach to capture the well-recognised relationship between macroeconomic variables such as house prices, interest rates, household disposable income, and construction activity. In particular, changes to house prices and interest rates have had a close relationship with dwelling completions for at least the past 30 years (Figure 3.2).

NHFIC provided SGS Economics with an estimate for total dwelling completions at a national level (Figure 3.3), which was determined using a simple linear regression model, which is detailed in the Appendix.

In forecasting dwelling completions, we make the following assumptions:

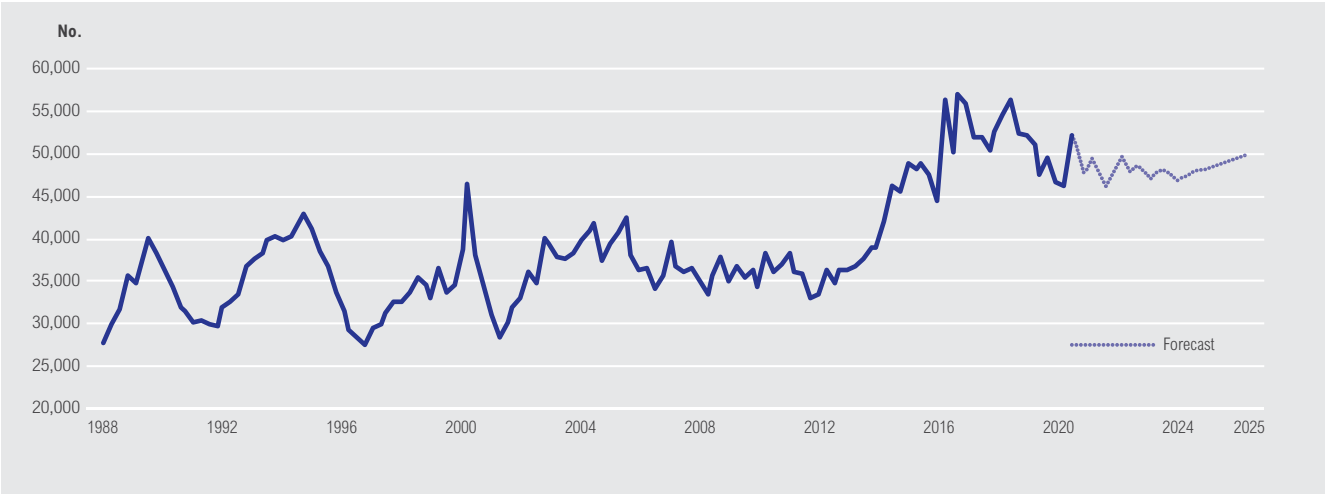
- Nominal household disposable income averages 2.1 per cent for the next two years and 3 per cent between 2023 and 2025.
- A 38 basis point reduction in the mortgage rate in 2020, which is consistent with market pricing. We then project no further changes in mortgage rates between 2021 and 2023, which is also consistent with market pricing and RBA guidance. In 2024 and 2025 we assume a 25 basis point increase in the mortgage rate per annum.
- A 5 per cent fall in house prices in 2020 followed by a 5 per cent gain between 2021 and 2023 followed by a modest 2 per cent per annum gain between 2024 and 2025.

Figure 3.2: Dwelling completions, house prices and interest rates



Source: ABS, RBA, NHFIC. House prices are the ABS established median house price. The mortgage rate is the average banks' standard variable mortgage rate.

Figure 3.3: Quarterly private sector dwelling completions



Source: ABS Cat 8752.0, NHFIC.

Near-term projections for completions produced by the model are adjusted for the latest building approvals data, which normally lead completions by around 12 months. The forecasts for 2022 are unadjusted.

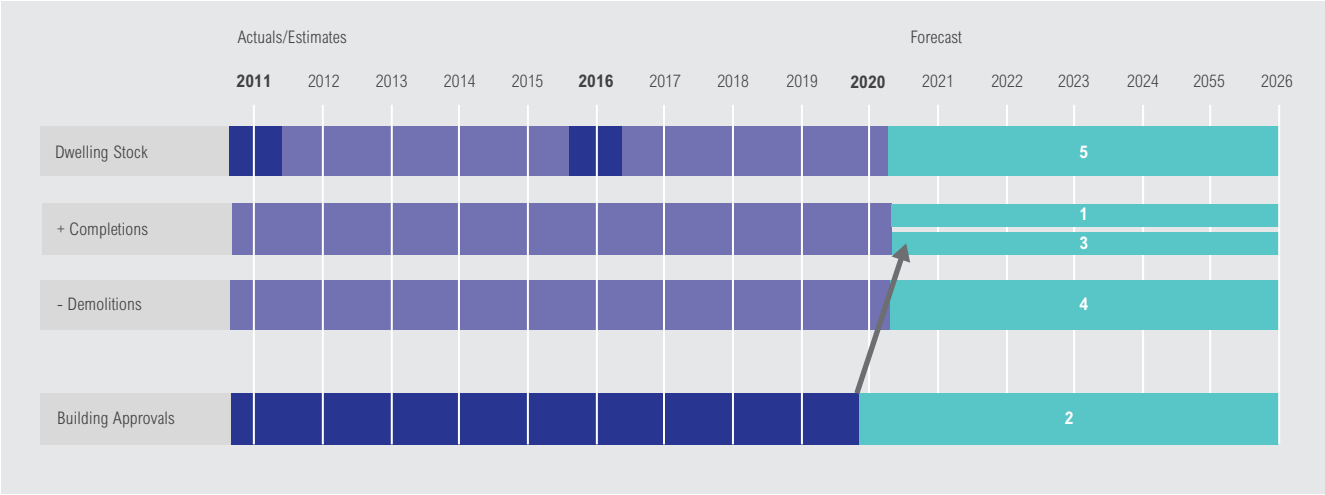
The projections between 2023 and 2025 that are generated from our model are adjusted so they are more consistent with demand. This adjustment recognises that supply usually doesn't exceed demand over the longer term.

- The adjustment begins at the 2021 estimates of adjusted underlying demand and the model-generated supply in that year.
- The difference between demand and supply by dwelling type and state is calculated for each year. Estimates for future years are factors of previous year adjustments.
- 50 per cent of the imbalance is added or subtracted from the initial building approval estimate for that year. This 50 per cent could be considered a 'market response' assumption.
- The adjustment is limited to +/-75 per cent of initial building approvals. For example, if the initial imbalance was 100 dwellings then the adjusted estimate could be up to 175 or down to 25 in response to this feedback loop.
- This adjustment to building approvals then impacts the completions based on the lag in the building process. A detached or medium-density approval is completed on average in 12 months, while an apartment approval is normally completed after two years.

Dwelling type estimates

The projected dwelling completions from our model are then estimated by dwelling type at the state level. These estimates are made using historical data and bottom-up supply information accounting for variations in completions rates and recent building approvals data. We assume there is a one-year lag between approval and the completion of construction. In practice, the lag varies depending on the type of building being constructed and market/planning conditions at the location of the project.

Figure 3.4: Supply forecast process



Source: SGS Economics

Projections: 2016 to 2020

The 2016 Census provides detail on the dwelling stock, including the number and type of dwellings and the number of dwelling demolitions since the 2012 Census.

ABS data also show the composition of building activity at the Statistical Area 2 (SA2) level or a collection of suburbs within a capital city.

This data provide gross additions to the housing stock but takes no account of demolitions during this period. An average demolition rate (demolitions as a percentage of completions) is calculated for the 2011 and 2016 period and this rate is projected out to 2020. Demolitions are then calculated using the number of completions between 2016 and 2020 for each dwelling type. The Appendix includes some discussion on the newly released ABS data on housing demolitions.

Projections: 2020 to 2025

Once the 2020 housing stock has been determined, projections out to 2025 are made using the process outlined in Figure 3.4. This takes the national and state level completions assumptions and then disaggregates these using the most recent building approvals data as well as local land supply policy.

- An initial trend estimate of completions is then made by dwelling type at the SA2 level and projected from 2020 to 2025 using the NHFIC top-down dwelling completion estimates.
- The share of each state in completions at the national level is then projected by using their share average share during the 2016 to 2020 period. Dwelling types by state are then estimated using their average share of the total during the 2016 to 2020 period.

Completions at the SA2 level are then estimated initially using their share of building approvals in state building approvals during the 2016 to 2020 period.

These initial estimates at the SA2 level are then adjusted for the following:

  - Local land supply/zoning. For example, the estimated amount of residential land available and the pipeline of land rezoning
  - Local development pipeline
  - Local policy and plans; particularly government policy on housing targets in the area.

- State level demolition rates estimated for the 2011 to 2016 period and projected out to 2020 are also projected out to 2026 to generate demolitions to the end of the forecast period.
- Stock is calculated from estimated completions and demolitions by SA2 and dwelling type.
- City, significant urban areas and rest of state results are then reported based on aggregating SA2 to the agreed geographic definitions of city and significant urban areas.

Housing supply projections

Our projections show a significant downturn in 2020 followed by a recovery in 2021, due mainly to fiscal and monetary stimulus. As the economy recovers and stimulus is withdrawn, we expect construction activity to fall before a modest recovery beginning in 2025 that still leaves net additions well below those seen prior to the COVID-19 recession (Table 3.4). We expect net completions to rise by 6 per cent in 2021 before falling by 12 per cent in 2022.

Our projections expect the recovery will be dominated by detached dwellings, with net completions in this building type increasing from 89,500 in 2020 to 107,900 in 2021 (Table 3.5). We also expect 2022 to be a solid year with 102,900 detached dwellings added to the housing stock. Medium density net additions are expected to increase by approximately 2,000 in 2021, but apartment net additions are expected to fall by approximately 9,600 net additions.

The apartment and medium-density markets are more exposed to the closure of international borders to net overseas migration and particularly international students. The detached dwelling market is more likely to benefit from the support of the Federal Government's HomeBuilder program and state government building grants.

Moreover, the lower rate of population growth that underpins the demand forecasts feed into the longer term outlook and have severe consequences for the apartment market. We expect net additions to the apartment market to be 58 per cent lower than pre-COVID recession levels in 2023 before a very modest recovery that still leaves them 51 per cent below this benchmark in 2025.

The outlook over the next five years should also be put into a longer term context. We estimate that, at the peak of the apartment boom in 2017, a net 65,700 apartments were added to the housing stock compared with 55,600 in 2019 before the COVID recession. In other words, net additions to the apartment market were already 15 per cent below their peak before the recession.

Table 3.4: Net additions to the Australian housing market

2019 (e)	2020 (e)	2021	2022	2023	2024	2025
188,900	170,000	180,900	159,600	120,500	128,300	148,300

Source: SGS Economics, NHFIC. (e) net estimate using actual completions less estimated demolitions.

Table 3.5: Net additions to the Australian housing market by dwelling type

	2019 (e)	2020 (e)	2021	2022	2023	2024	2025
Detached dwellings	103,200	89,500	107,900	102,900	79,100	83,500	96,900
Medium density	30,100	25,700	27,800	18,500	18,200	20,200	24,000
Apartments	55,600	54,800	45,200	38,200	23,200	24,600	27,400
Total	**188,900**	**170,000**	**180,900**	**159,600**	**120,500**	**128,300**	**148,300**

Source: SGS Economics, NHFIC. (e) net estimate using actual completions less estimated demolitions. NB: Numbers may not add up due to rounding.

Sensitivity analysis

Under the sensitivity analysis assumptions highlighted in the demand chapter, under a more optimistic outlook for NOM and demand, supply would fall to 130,000 in 2023 (not 121,000 under our base scenario) and would lift to around 159,000 dwellings by the end of the projection period.

STATE OF HOUSING SUPPLY-DEMAND BALANCE

Key points

- An unprecedented demand shock will see new supply run ahead of new demand in many of Australia's housing markets in the shorter term over 2021 and 2022. But this comes on the back of the market being in broad balance over the period 2015 to 2020, with a protracted period of undersupply preceding this in the early 2000s to the mid-2010s.
- We expect new supply to outpace new demand by 127,000 dwellings in 2021 and 68,000 dwellings in 2022, with cumulative new supply to outpace new demand by around 93,000 by the end of the five-year projection period after demand rebounds in 2023.
- Despite record of levels of residential construction over the years prior to COVID-19, supply outpaced demand by only 4,500 dwellings (on average) for the years 2017 to 2019. Previous work suggests prior to the uptick in residential construction in the mid-2010s, there was a cumulative shortfall of around 200,000 dwellings.[21]
- Across the greater capital cities, the impact of NHFIC's supply and demand projections is more nuanced. For Sydney and Melbourne, supply is expected to exceed demand by almost 60,000 dwellings in Sydney and almost 70,000 dwellings in Melbourne across 2021 and 2022, with demand to soak up some of this supply beyond 2023.
- In the Brisbane market, NHFIC also expects supply to exceed demand across 2021 and 2022, but more modestly. Demand and supply are broadly more balanced across the projection period than Sydney and Melbourne.
- In some smaller cities like Perth and Adelaide, demand increases from 2021 but the supply response to this pick-up in demand is expected to be relatively subdued, resulting in a negative supply-demand balance (net undersupply) beyond 2022.
- Compared with detached and medium-density housing, apartments experience a weak recovery in both demand and supply. Demand and supply for apartments are not expected to revert to pre-crisis levels over the projected period. In 2025, demand is expected to be two-thirds of 2019 levels while supply is expected to be almost half of pre-crisis levels, falling back to levels not seen since prior to the apartment boom.

21 National Housing Supply Council (2012) *Housing Supply and Affordability—Key Indicators, 2012.*

Introduction

In this chapter the supply-demand balance implied by projections in State of Housing Demand and State of Housing Supply chapters is assessed.

Assessing the balance of supply and demand can provide important insights into whether future housing supply is expected to meet new demand from additional households forming (and dispersing) over time. When supply is out of balance with demand for protracted periods, it has implications for the affordability of housing.

In order to understand the collective impact of supply and demand on the Australian housing market, a metric has been used to illustrate the imbalance within any given year. The supply-demand balance for each year is calculated by subtracting the annual change in adjusted underlying demand (see Demand chapter for the definition of adjusted underlying demand)[22] from the new net annual dwelling supply (see Supply chapter for the definition of new dwelling supply). If the supply-demand balance is positive it implies new additional dwellings supplied to the market have exceeded new demand (that is, the number of new households forming) at that point in time. If the supply-demand balance is negative, the measure indicates new demand for housing has exceeded the number of new additional dwellings supplied to the market.

It's important to note the supply-demand balance concept used here is a static concept, when, in reality, the housing market is more dynamic. In a well functioning housing market a significant shortfall in supply would be expected to stimulate an increase in supply following an increase in prices. This dynamic aspect of the market should be borne in mind when interpreting the following projections. The supply-demand balance metric is still a useful concept as it indicates how many households are expected to form based on anticipated population growth and the state of the economy and provides information on the required pipeline of housing needed to meet future demand.

This chapter assesses the balance of supply and demand at the aggregate national level, but also across Australia's major cities and for rest of state areas for states and territories. It assesses the balance of supply and demand prior to COVID-19, but also how this is likely to change over the period 2020 to 2025.

22 As discussed in the State of Housing Demand chapter, the concept of adjusted underlying demand used to assess the supply-demand balances does not reflect actual observed transactions in the market at any point in time. Rather this concept is useful in that it reflects the amount of households that are expected to form (and disseminate) based on population growth and key economic variables.

National supply-demand balance

Prior to the COVID-19 shock, supply was broadly in balance with demand. For the years 2017 to 2019, supply outpaced demand by around 4,500 dwellings a year (on average). This suggests that, despite the record levels of construction over the latter part of the 2010s, this was the bare minimum to keep the market broadly in balance. Earlier work undertaken by the Housing Supply Council estimated that, prior to the large uptick in residential construction in the mid-2010s, there was a cumulative supply shortfall of more than 200,000 dwellings.[23]

At the national level, NHFIC expects the supply-demand balance to be positive from 2021 through to 2022 before falling into negative territory out to 2025. Recent Budget and Centre for Population estimates have NOM falling sharply (negative over 2021 and 2022) with a more sustained impact on broader housing demand than previously anticipated. As outlined in the State of Housing Demand chapter, NOM is expected to detract from Australian population growth for quite some time; something not seen since the aftermath of the Second World War. A backlog of residential projects in 2021, and to a lesser extent 2022, will be met with significantly reduced new demand. Supply will exceed the number of new households forming by 127,000 new dwellings in 2021, with an excess of 68,000 dwellings projected in 2022. Once international border restrictions are eased, it is projected that supply will struggle to appropriately respond to a rapid recovery in demand. New demand is expected to outpace net supply over the rest of the projected period. The supply-demand balance is projected to fall to around -50,000 in 2024, before showing signs of recovery.

Figure 4.1: Annual change in demand and supply and supply-demand balance

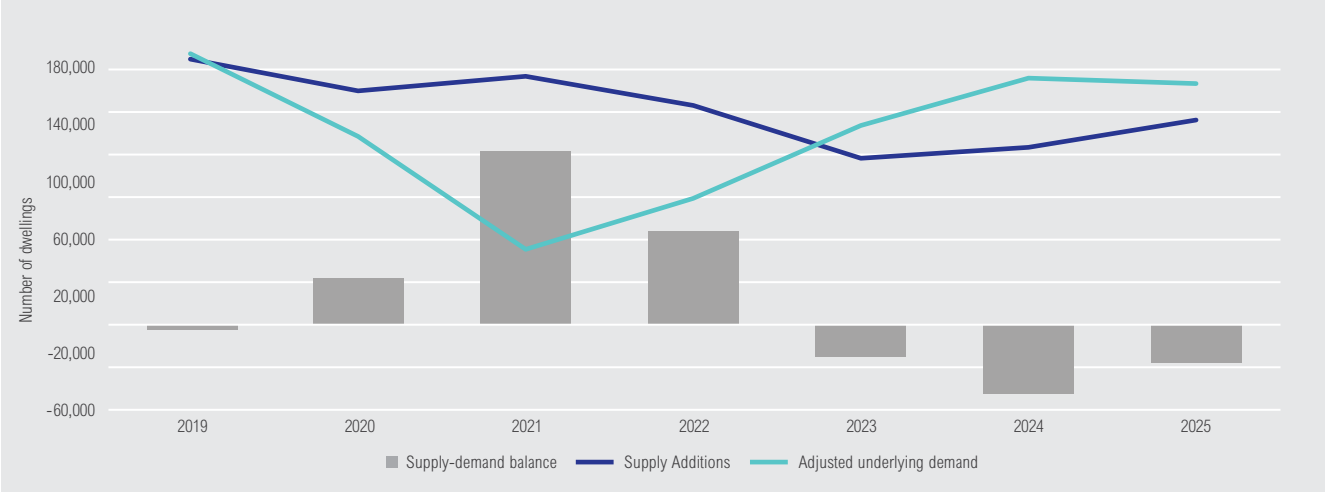
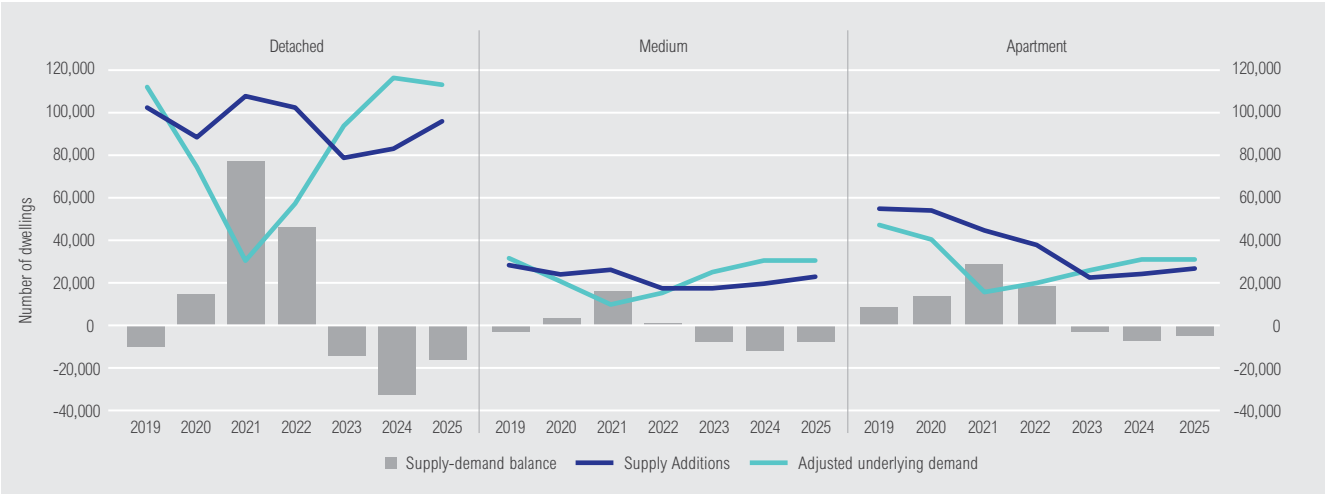


Table 4.1: Annual change in demand and supply and supply-demand balance

Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	192,400	136,400	54,200	91,600	144,700	178,800	175,300
Change in annual underlying demand	177,600	142,500	58,200	69,900	111,600	150,700	155,100
New net annual dwelling supply	188,900	170,000	180,900	159,600	120,500	128,300	148,300
Supply-demand balance	-3,500	33,600	126,700	68,000	-24,200	-50,500	-27,000

23 National Housing Supply Council (2012) *Housing Supply and Affordability—Key Indicators, 2012*.

Figure 4.2: Supply-demand balance by dwelling type



These supply-demand balance projections are disaggregated by dwelling type in Figure 4.2. Demand for detached housing is expected to fall sharply and bottom out in 2021, but completions of detached housing construction continue to drive supply higher. This results in an excess of almost 78,000 detached dwellings in 2021. Nevertheless, demand bounces back strongly over the following three years while supply declines, leading to a net undersupply of 33,000 detached dwellings in 2024. While demand also bottoms out in 2021 for apartments, demand only modestly exceeds supply from 2023 onwards. Supply remains subdued in response to the pick-up in demand, remaining at around 25,000 apartments annually from 2023 to 2025. Both demand and supply do not reach pre-crisis levels over the projected period. NHFIC expects a relatively low oversupply of around 1,800 medium-density dwellings in 2022.

Table 4.2: Supply-demand balance by dwelling type

Year	2019	2020	2021	2022	2023	2024	2025
Detached							
Change in adjusted underlying demand	113,000	75,300	30,400	57,200	94,100	116,800	113,900
Change in annual underlying demand	102,800	80,600	34,200	42,700	71,300	97,300	100,100
New net annual dwelling supply	103,200	89,500	107,900	102,900	79,100	83,500	96,900
Supply-demand balance	-9,800	14,200	77,500	45,700	-15,000	-33,300	-17,000
Medium							
Change in adjusted underlying demand	33,100	21,800	10,100	16,700	26,100	32,400	31,700
Change in annual underlying demand	30,500	22,900	10,300	12,500	19,900	27,300	28,000
New net annual dwelling supply	30,100	25,700	27,800	18,500	18,200	20,200	24,000
Supply-demand balance	-3,000	3,900	17,700	1,800	-7,900	-12,200	-7,700
Apartment							
Change in adjusted underlying demand	47,600	41,200	16,200	19,900	26,500	31,500	31,700
Change in annual underlying demand	45,800	40,800	16,100	17,100	22,600	28,200	29,200
New net annual dwelling supply	55,600	54,800	45,200	38,200	23,200	24,600	27,400
Supply-demand balance	8,000	13,600	29,000	18,300	-3,300	-6,900	-4,300

Table 4.3: Sensitivity analysis

	2021	2022	2023	2024	2025	Total
Demand (optimistic)	73,600	121,700	168,200	182,300	184,400	-
Supply (optimistic)	180,900	163,300	130,200	143,300	159,000	-
Supply-Demand balance (optimistic)	107,300	41,600	-38,000	-39,000	-25,400	46,500
Supply-demand balance (base)	126,700	68,000	-24,200	-50,500	-27,000	93,000
Difference	19,400	26,400	13,800	-11,500	-1,600	46,500

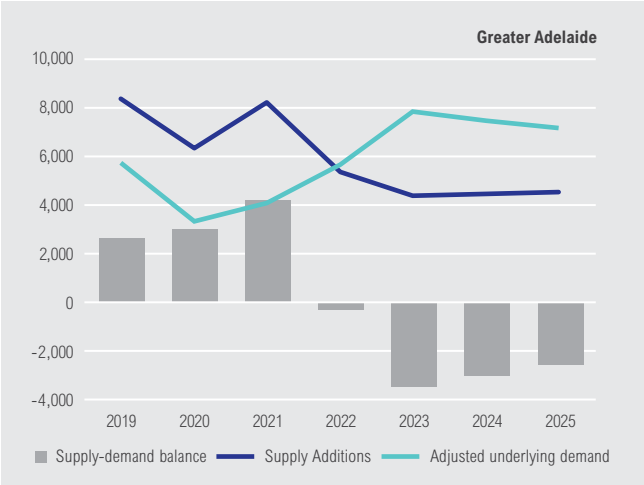
NB: Numbers may not add up due to rounding.

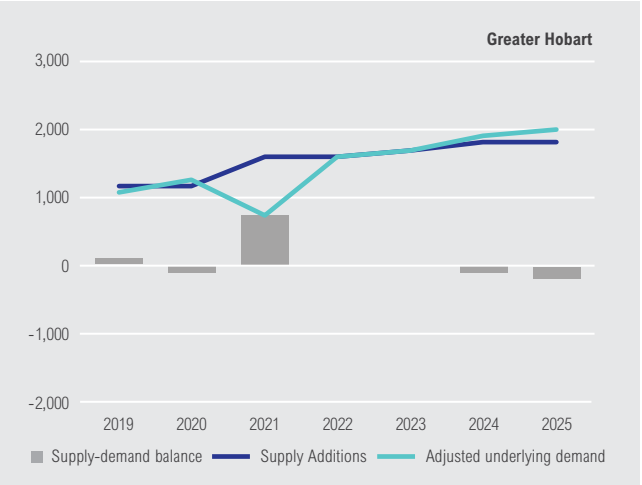
Given the high degree of uncertainty of the recovery of demand and the reopening of international borders, NHFIC has undertaken some sensitivity analysis which has been referred to in the Demand and Supply chapters. This analysis shows that if NOM were to recover more strongly than anticipated, then demand would be stronger, and there would be less impact on construction over the projection period. Under this scenario, the cumulative supply-demand balance would halve to be around 46,500 dwellings (instead of 93,000 projected in the central scenario).

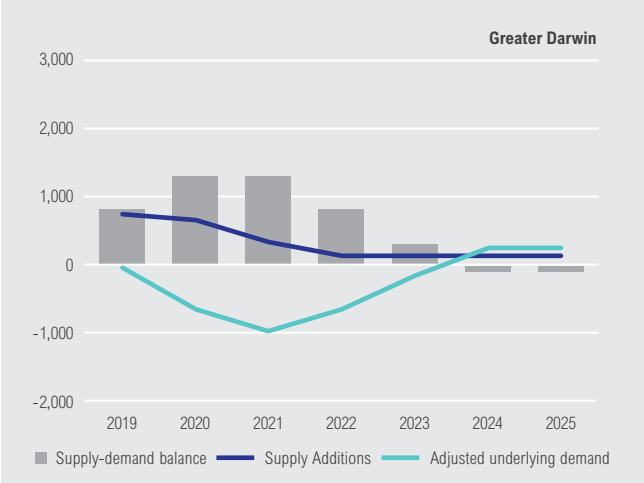
Capital city supply-demand balances

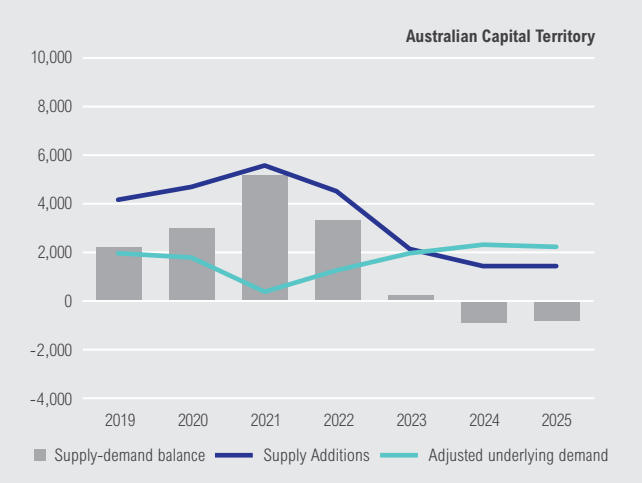
Across the greater capital cities, the impact of NHFIC's supply and demand projections is more nuanced. In Sydney and Melbourne, NHFIC expects supply to exceed adjusted underlying demand until 2023. The supply-demand balance peaks in 2021 with an excess of over 42,000 dwellings in Melbourne and an excess of almost 37,000 dwellings in Sydney. Beyond 2023, demand is projected to modestly exceed supply as the construction industry begins to respond to the uptick in demand. This will result in Melbourne's supply-demand balance becoming negative, that is, there will be an undersupply of almost 16,000 dwellings in 2024, and an undersupply of almost 14,000 dwellings in Sydney for that same year. In the Brisbane market, NHFIC also expects supply to exceed demand between 2020 and 2022, however, to a lesser extent. It is anticipated demand will modestly exceed supply between 2023 and 2025. The Brisbane market seems relatively resilient compared to Sydney and Melbourne in response to the demand shock, mainly because it is less reliant upon international students in the longer term rental market.

Figure 4.3: Annual change in demand and supply and supply-demand balance by city









In Perth, demand is expected to increase strongly over the forecast period from 2021. The supply response to this pick-up in demand is expected to be relatively subdued, with net new housing additions remaining at less than 15,000 annually from 2023 to 2025. Demand for housing stock in Adelaide is expected to outpace supply from 2022 onwards. Demand is expected to increase from just over 4,000 dwellings in 2021 to around 8,000 dwellings in 2023 and remain at these levels until 2025, but supply is likely to remain soft and below demand from 2022. In Hobart, NHFIC projections indicate supply will slightly exceed demand in 2021.

Demand is expected to be similar to supply from 2022 to 2025. In the ACT, supply consistently exceeds demand until 2023. Supply additions fall from 2022 to 2023 and remains subdued despite a slight pick-up in demand. In Darwin, negative net demand is expected for most of the projected period. Annual supply additions hover around 100 from 2021 onwards.

STATE OF HOUSING AFFORDABILITY

Key points

- The COVID-19 pandemic and its associated economic shock has greatly influenced demand for housing. Its effects on demand flow through to both prices and supply and, in turn, affects housing affordability, particularly in the rental market.
- There is likely to be downward pressure on rents that could improve overall rental affordability in the short term, particularly within the more densely populated eastern seaboard cities—but the impact of COVID-19 is disproportionately affecting industries where employees are more likely to be renting.
- Lower income households in the private rental market are more vulnerable to rental stress. The proportion of private renters in the bottom two income quintiles spending more than 30 per cent of their disposable income on housing costs has increased by almost 10 percentage points since 2008.
- As a result of rents being set as a fixed proportion of income, affordability for social housing tenants has mostly been unaffected by the pandemic. However, given the pandemic's impact on jobs and the wider economy, it is likely the significant existing waitlists for social housing will increase.
- First home buyers have been taking advantage of the recent softness in dwelling prices, lower interest rates and government stimulus accounting for more than 40 per cent of total new housing loans—10 percentage points higher than the long-term average.
- Over the longer term, NHFIC's projections see housing demand bouncing back and will exceed new housing supply between 2023 and 2025. Affordability for renters and prospective first home buyers could deteriorate if supply is not responsive to the strong rebound in demand over this time and beyond.

Introduction

Housing affordability is important at the household level, but also because of its effects on the wider economy and society.

Housing affordability has a significant impact on wealth distribution and intergenerational equity. Rising real house prices add to wealth for existing homeowners at the expense of rendering home ownership less affordable for first home buyers.[24] Similarly, retirees who own their home experience less financial stress than retirees who have to rent.[25] Housing affordability also has spatial dimensions and can affect inequality between cities and regions by restricting labour mobility as people are discouraged from working in low affordability areas. Within cities, gentrification in inner-city areas can push affordable housing to urban fringe areas, some with low amenity, with implications for employment, health, and social connectedness.[26]

Housing affordability is defined by the relationship between housing expenditure, such as mortgage payments or rent, and household incomes.[27] Having housing that is affordable means households can access an adequate standard of housing without unduly compromising their other needs.[28] Domestic and international organisations use several ways to assess affordability, and we draw on a variety of these measures in this chapter to assess the state of housing affordability in Australia. Different measurements come with advantages and limitations.

These measures will differ depending upon whether we look at owners or renters, and perceptions of affordability differ for specific buyers or renters, like first home buyers or low-income households. Research suggests groups most affected by high housing costs are low-income households, so it is therefore important to incorporate income metrics in affordability measures to provide insights into these specific market segments.[29]

The aim of this chapter is to introduce and discuss several measures which help assess housing affordability across the housing spectrum, including acknowledging the advantages and limitations of different metrics. We consider that assessing affordability for public renters, private renters and prospective first home buyers is the most appropriate focus of any affordability analysis. We will continue to build our metrics and understanding of affordability issues in future reports.

24 Yates J (1 January 2008) *Affordability and access to home ownership: past, present and future?*, Australian Housing and Urban Research Institute.
25 Coates B and Chen T (11 April 2019) '*Retiree home ownership is about to plummet. Soon little more than half will own where they live*', The Conversation.
26 Yates J and Milligan V (21 September 2007) *Housing Affordability: a 21st century problem*, Australian Housing and Urban Research Institute.
27 Thomas M and Hall A (2016), *Housing affordability in Australia*, Parliament of Australia.
28 Commonwealth of Australia (2010), *Australia's future tax system—Report to the Treasurer: Part Two Detailed analysis.*
29 Daley J and Coates B (March 2018) *Housing Affordability: Re-imagining the Australian Dream*, Grattan Institute.

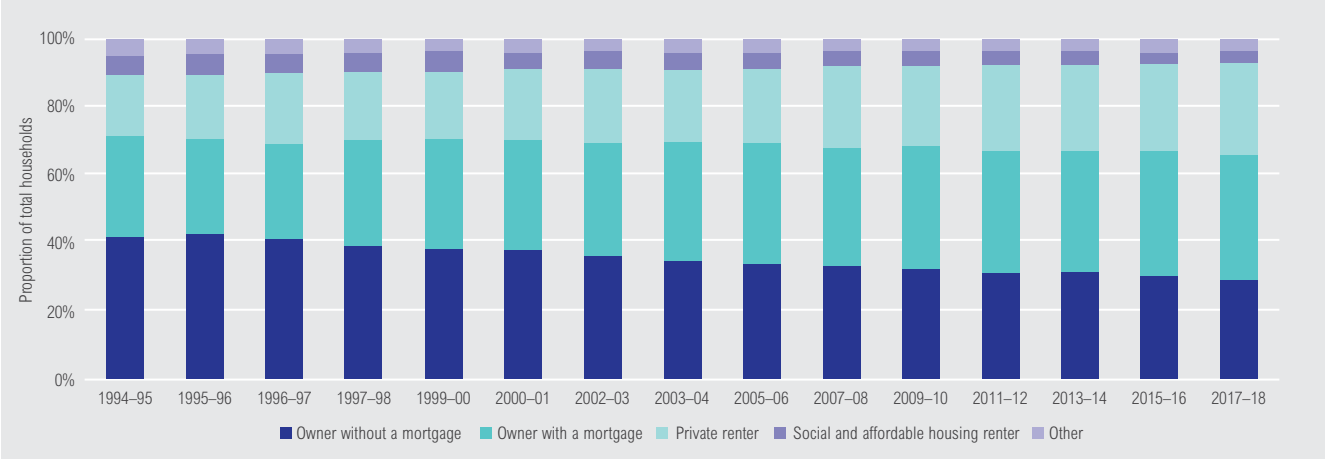
Housing spectrum

At one end of the housing spectrum are people who are homeless, renters in social and affordable housing and renters in the private rental market that includes low-income households. Around one-third of Australian households are renters. Moving along the spectrum, we have potential first home buyers who are renting but attempting to access home ownership. In August this year, more than two-fifths of total owner-occupier housing loan commitments in Australia belonged to first home buyers.[30] Homeowners are at the other end of the spectrum. Around 70 per cent of Australian households either own their home with a mortgage or outright. The proportion of private renters in the market has consistently risen over time, while the proportion of owners who own their home outright without a mortgage has declined (Figure 5.1).

Provided employment for households at the home ownership end of the spectrum has not been impacted by the global pandemic, they generally tend to experience fewer affordability challenges compared with households at the other end of the spectrum. Existing home owners benefit from price rises. Also, rising house prices do not in themselves indicate an affordability problem. Higher income households commonly prefer to spend more on housing as a lifestyle choice, whether it be on upgrading to a larger dwelling, or on paying a location premium to access more desirable suburbs.

This is why we concentrate on assessing the affordability of housing services for public renters, private (particularly low-income) renters and prospective first home buyers.

Figure 5.1: Australian housing market by tenure, 1994–2018



Source: Australian Bureau of Statistics, *Housing Occupancy and Costs*, 2017–18

30 Australian Bureau of Statistics (August 2020) *Lending Indicators*, tables 3 and 24.

Table 5.1: Australian housing spectrum[31]

Homelessness

0.5% of the population was homeless on the Census night in 2016.

Key Metrics:

- The ABS Census of Housing and Population collects national and state data on number of homeless persons and homelessness rates, which account for population density. They also collect data on demographics such as gender, age, ethnicity, and where people are staying.

Social and affordable rental

In 2018–19, 3% of households lived in social and affordable housing.

Key Metrics:

- Social housing rents are set at less than 30 per cent of income and affordable housing rent is set at around 80 per cent of local market rent.
- Trends in number of social and affordable housing per capita and waiting times.
- Quality of housing can be assessed by examining if social housing amenities meet needs and overcrowding rates indicate if dwelling sizes are suitable.

Private rental

In 2017–18, 27% of households were renting from private landlords.

Key Metrics:

- Increase in rental vacancy rates generally indicate improved rental affordability for those looking to renew a lease, unless income has also been adversely affected.
- The rent-expenditure-to-income ratio define households as being in rental stress. If rent exceeds 30% of disposable income and households are overburdened if rent exceeds 40% of disposable income. The 30/40 rule applies the rent-expenditure-to-income ratio to households who earn the lowest 40% of income.
- Residual income measures examine whether a household's income after housing costs is sufficient to cover non-housing expenditure.

First home buyers

In 2017–18, potential first home buyers consisted of around 15% of households.

Key Metrics:

- Trends in time to save for a deposit, upfront capital required to buy a property, loan sixes, the proportion of housing loans being taken out by first home buyers, and mortgage-repayment-to-income ratio indicates whether accessibility is becoming more difficult over time.
- The mortgage-repayment-to-rent ratio for FHBs compares cost of renting to the cost of servicing a mortgage.
- A Lorenz curve distribution of affordable dwellings by income decile can show what proportion of properties potential FHBs can afford at different income levels.

Home ownership

In 2017–18, 67% of households were homeowners. 37% of households had a mortgage.

Key Metrics:

- The ABS uses a tenure-neutral approach to measure the cost of housing services, which consists of both the rent paid by tenants and imputed rent, which is the rent an owner occupier would pay if their dwelling were rented.
- Costs are expected to be exceeded by capital appreciation.

31 Data on proportion of population is based on where household tenure was known, sourced from Australian Institute of Health and Welfare's home ownership and housing tenure snapshot released in August 2020. Data on FHBs was derived from ABS Table 2.2 Housing Occupancy and Costs 2017–18

Social and affordable rental

Social housing covers subsidised rental housing allocated and managed by state governments or not-for-profit organisations, including community and Indigenous housing organisations. Social housing targets those on low household incomes, who are often on the brink of homelessness. Rent is typically set at around 25–30 per cent of income. In many jurisdictions, housing is considered affordable if households do not spend more than 30 per cent of their disposable income on housing,[32] so social housing tenants are predominantly not in rental stress.

The affordability and certainty offered by social housing has resulted in significant waiting lists. From 2015 to 2019, the number of households on the waiting list considered to be in greatest need of public housing increased by a third to 52,644 households.[33] Recent work by AHURI shows that in addition to current waiting lists, over the next 20 years an estimated 727,300 additional social dwellings will be required[34].

In order to manage the growing level of demand, social housing is often allocated based on the greatest level of need. For instance, 72 per cent of new allocations to households in greatest need were provided within one year of being on the waitlist. This is compared with 38 per cent of new allocations to households that were not considered in greatest need.[35] This prioritisation has meant tenants in social housing consists almost entirely of households reliant on government welfare payments as their primary source of income (Table 5.2),[36] which has decreased the revenue bases available to social housing providers and made it more difficult to improve the supply of social housing.[37] Also, a widely acknowledged issue with assessing social and affordable housing need is the lack of good publicly available data. NHFIC will continue to work with stakeholders to identify potential solutions to improving the housing data ecosystem in this area.

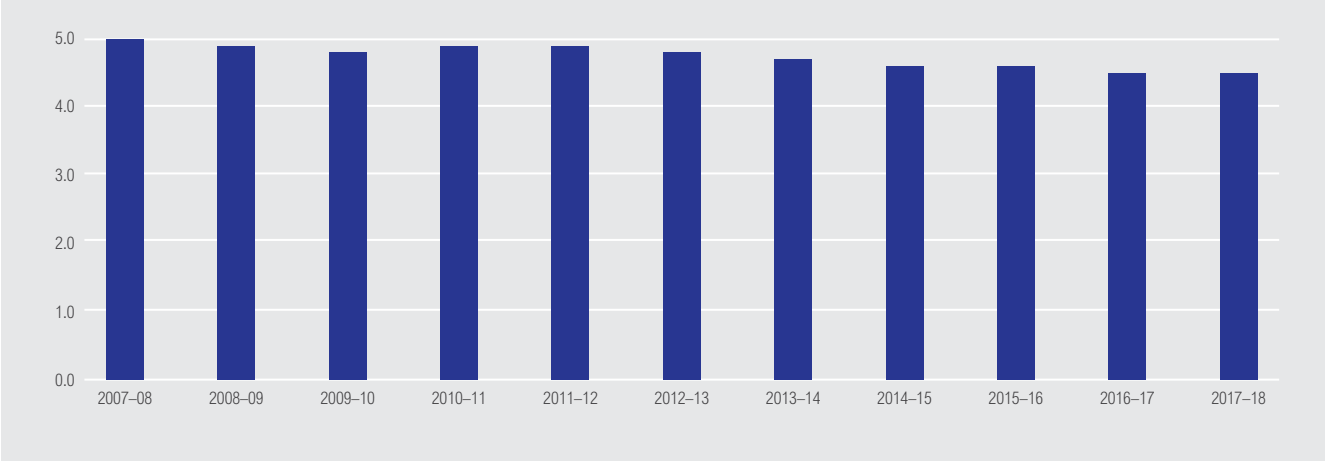
Table 5.2: Income characteristics of public housing households

Primary source of income	Number	Per cent
Employee cash income	21,731	7.4
Youth allowance	1,525	0.5
Newstart allowance	37,891	12.9
Unemployed	854	0.3
Age pension	72,991	24.8
Disability pension	81,901	27.9
Other government payment	55,347	18.8
Other cash income	1,688	0.6
Not stated	20,129	6.8
Total	**294,057**	**100**

Source: Australian Institute of Health and Welfare, Data Tables: social housing households Table 4, 2019

32 Herbert C, Hermann A and McCue D (25 September 2015), *Measuring housing affordability: Assessing the 30 percent of income standard*, Joint Center for Housing Studies of Harvard University.
33 Australian Institute of Health and Welfare (2019) *Data tables: Social housing dwellings*, Table 22.
34 Lawson J, Pawson H, Troy L, van den Nouwelant R and Hamilton C (15 November 2018) *Social housing as infrastructure: an investment pathway,* Australian Housing and Urban Research Institute.
35 Australian Institute of Health and Welfare (5 August 2020) *Housing assistance in Australia 2020*.
36 Australian Institute of Health and Welfare (2019) *Housing assistance in Australia 2019—Data tables: Social housing tenants*.
37 Affordable Housing Working Group (October 2016) *Innovative Financing Models to Improve the Supply of Affordable Housing*, Council on Federal Financial Relations.

Figure 5.2: Social housing dwellings per 100 households—Australia



Sources: AIHW analysis of AIHW National Housing Assistance Data Repository 2017–18, ABS Household and Family Projections, Australia, 2011–2036.

In 2017–18, 3.1 per cent of Australian households lived in public housing. Despite the overall stock of social housing increasing each year, the overall number of Australian households has increased at a greater rate.[38] This has pushed social housing per capita down over the past decade (Figure 5.2).

Australia's community housing sector is still relatively nascent (with around 93,000 dwellings)[39], and the funding gap is one of the widely acknowledged constraints on its growth. This gap is the difference between the costs of delivering and operating new community housing developments (including construction and ongoing management costs) and the rental returns.

The funding gap for a community housing development project will depend on a range of factors, particularly geographic location and tenancy mix. For example, the funding gap for social housing will be larger than that for affordable housing as social housing brings lower rental returns.

Affordable housing differs from social housing as it targets those on low to moderate incomes, including workers in lower paid occupations such as retail or manufacturing, and key workers, such as emergency services and health care workers who often live near their place of work. Affordable housing rents are set at 75–80 per cent of the local market rent in the area. Because rent does not directly track income, and affordable housing tenants are less reliant on government payments to subsidise living costs, these tenants potentially face greater rental stress compared to social housing tenants.

The pandemic has drawn out the distinction between social and affordable housing tenants. Low-income workers in affordable housing who have their employment and income adversely affected by the pandemic are more likely to face higher rental stress. But affordability for social housing tenants will be less affected because rent payments continue to be set in line with their respective income, mostly welfare payments. Given the pandemic's impact on jobs and the wider economy, it would be reasonable to assume the waitlist volume for social and affordable housing is likely to increase.

38 Australian Institute of Health and Welfare (18 July 2019) *Housing assistance in Australia 2019*.

39 The number of community housing dwellings includes dwellings that are owned by state housing authorities and managed by CHPs—Productivity Commission '*Report on Government Services 2020*', Table 18.3.

Private rental

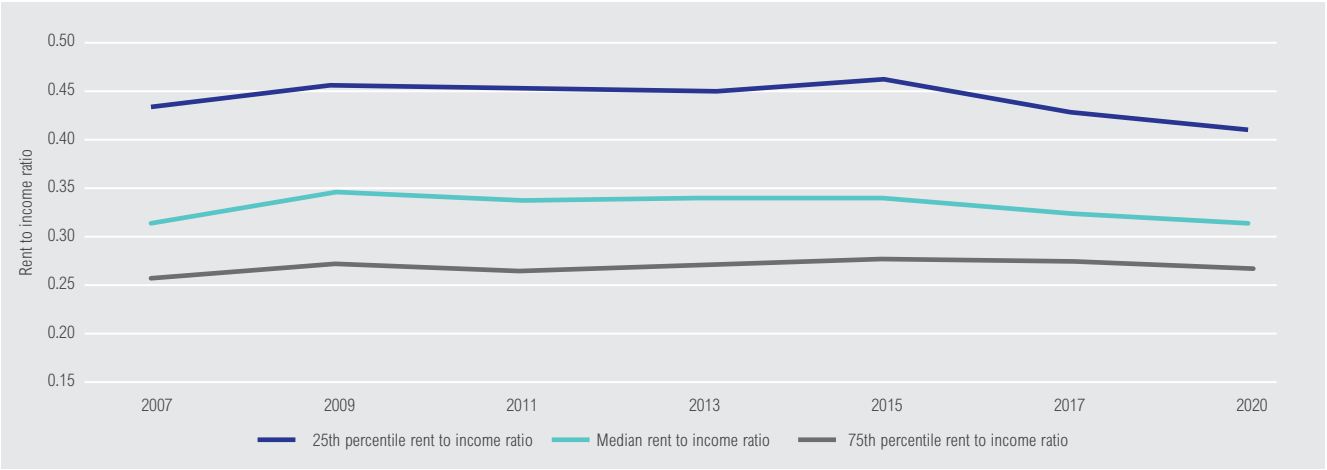
Private rents reflect the actual cost of consuming housing services in the housing market and are therefore an important bellwether indicator for housing affordability. Almost a third of Australian households rent in the private market, with this number having grown since the 1990s.

Residual income measures are useful in identifying vulnerable renting households that are struggling even if housing costs relative to their income are not excessive. An example of this is measuring whether a household's remaining income after housing costs is sufficient to cover a minimum basket of non-housing expenses.[40] Alternatively, others have assessed whether remaining income is above or below an adjusted poverty line.[41] However, what counts as necessary expenditure is subjective and there is no universal way to quantify the minimum income households require for non-housing expenses. In fact, a household's inability to afford non-housing items could be driven just as much by the cost of the items themselves rather than the cost of housing.

To focus on housing-related spending, the payment-to-income ratio can also be applied to private renters. In Australia, the rent-to-income ratio peaked in 2009 and has since declined slightly, although remains higher than 30 per cent of income (Figure 5.3). Assuming renters in the 25th percentile of income are also paying the 25th percentile of rent, the rent-to-income ratio suggests they have been paying more than 45 per cent of income on rent, although this ratio has decreased to 42 per cent more recently.

However, assessing affordability by a fixed percentage of income spent on housing is somewhat arbitrary, and the percentage threshold that defines what is affordable can change over time, indicating a limitation of this indicator. Some researchers are also critical of applying a fixed proportional rate without considering income distribution.[42] As incomes rise, households are prepared to spend a higher proportion of income on housing without experiencing affordability problems. This highlights that housing can be considered both a necessity and a luxury good, which further complicates assessments of affordability.[43]

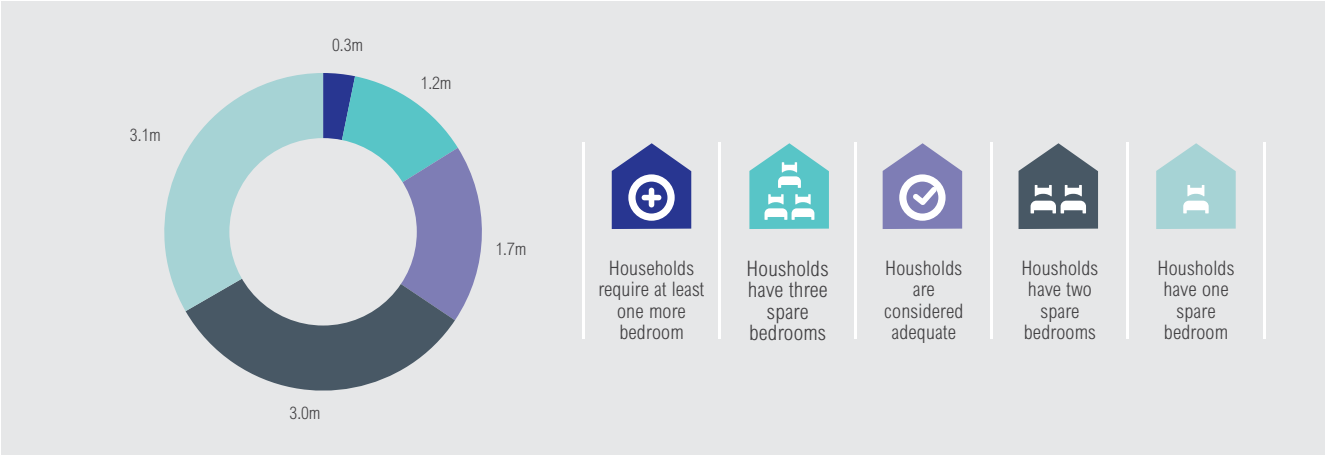
Figure 5.3: Rental payment-to-income ratio



Source: Income data from Australian National University; Rent data from CoreLogic

40 Stone M (31 August 2006) '*A Housing Affordability Standard for the UK*', Housing Studies, 1(4):453–476.
41 Kutty N (31 March 2010) '*A new measure of housing affordability: Estimates and analytical results*', *Housing Policy Debate*, 16(1): 113–142.
42 Stone M, Burke T and Ralston L (5 May 2011) *The residual income approach to housing affordability: the theory and the practice*, Australian Housing and Urban Research Institute.
43 Albouy A, Ehrlich G and Liu Y (2016) *Housing Demand, Cost-of-Living Inequality, and the Affordability Crisis*, National Bureau of Economic Research.

Figure 5.4: Adequacy of Australian housing utilisation



Source: Australian Bureau of Statistics, Housing Occupancy and Costs, 2017–18. Utilisation is based on the criteria of the Canadian National Occupancy Standard

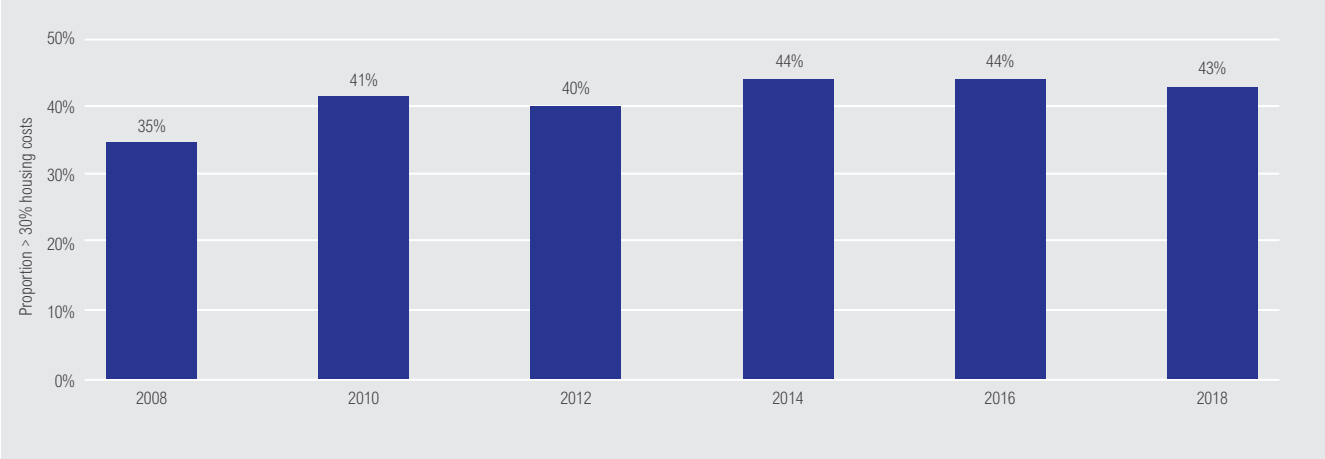
The quality of dwelling households can afford to live in is also relevant, although certain characteristics might be more relevant to some people. Poor quality housing disproportionately affects low-income households. Some countries look at repair and maintenance deficiencies in homes and absence of essentials such as sanitary facilities.[44,45,46]

Others measure overcrowding rates, which refers to the number of rooms per household member after accounting for different household compositions.[47,48] In Australia, there is an average of 2.6 persons per household and 3.2 bedrooms per dwelling. The ABS measures the adequacy of housing utilisation by determining the number of bedrooms a household requires to adequately accommodate its occupants. Around 4.2 million Australian dwellings were considered underutilised in June 2018 (Figure 4.5), which is defined by having two or more spare bedrooms by other comparable countries.[49]

This effectively means that at this time, there were close to 10 million empty bedrooms across Australia. Couples with no children are the predominant household type who reside in underutilised dwellings. Eight out of 10 Australian households have at least one spare bedroom, with only 3.5 per cent requiring a larger dwelling (Figure 5.4). The high rate of underutilised homes highlights there are inefficiencies in the housing system that disincentivise downsizing. For instance, in a 2017 study, a third of seniors reported stamp duty as one of the major discouraging factors when considering downsizing as it represents a high cost of transacting property.[50]

44 OECD Social Policy Division: Directorate of Employment, Labour and Social Affairs (2019) *HC2.3 Severe housing deprivation.*
45 Statistics Canada (2020) *Housing suitability and dwelling condition, by tenure including social and affordable housing.*
46 Stats NZ (5 June 2019) *Framework for housing quality.*
47 OECD Social Policy Division: Directorate of Employment, Labour and Social Affairs (2019) *HC2.1 Living space.*
48 Eurostat (6 June 2014) *Overcrowding rate.*
49 A dwelling is said to be underutilised when it consists of 2 or more bedrooms surplus to the household requirements as determined by the *Canadian National Occupancy Standard.*
50 Rees K and McCallum J (August 2017) *Downsizing: Movers, planners, stayers*, National Seniors Australia.

Figure 5.5: Proportion of low-income private renters under rental stress (using the 30/40 indicator)



Source: Australian Bureau of Statistics, Housing Occupancy and Costs, 2017–18

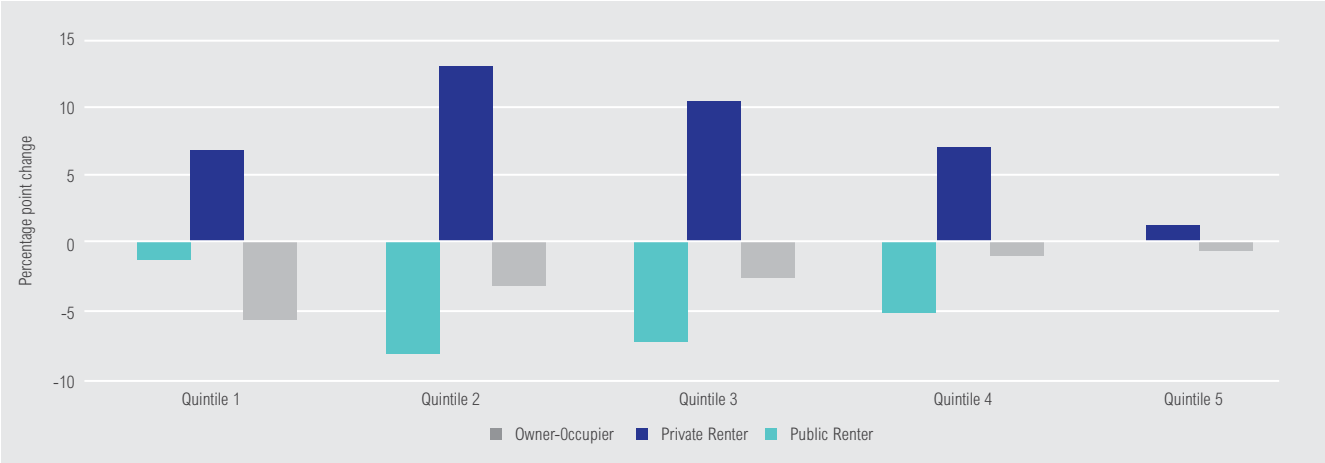
The limitation of some of these measures is they do not adequately account for the distribution of housing outcomes that can provide important insights into affordability. This is why some organisations refer to more refined expenditure-to-income ratios to exclude high-income households. For example, the 30/40 rule applies the ratio to households in the bottom 40 per cent of income distribution. In Australia, the proportion of private renters in the bottom two income quintiles spending more than 30 per cent of their disposable income on housing costs has increased almost 10 percentage points since 2008, to 43 per cent (Figure 5.5). One of the reasons behind this is the increased proportion of vulnerable households renting privately as public housing availability has waned and rising house prices has rendered home ownership unattainable. Renters that are considered vulnerable include those that are raising children, unemployed, elderly, and with a disability. Typically, vulnerable renters experience the highest levels of rental stress.

A limitation to using ratio measures is that they tend to classify more single person households as being in housing stress, compared to couples with children.[51] The OECD overcomes this limitation by adjusting household incomes for household composition.[52] Similarly, Anglicare tracks how many rental properties are affordable but also meet size requirements for different household types.[53]

Further assessment of affordability has been examined by assessing how much of the cumulative rental stock is considered affordable for each income quintile. However, before presenting this analysis, it is useful to understand how tenure of housing across Australia has changed over time by income distribution. A report on vulnerable renters released by the Productivity Commission shows that, over the last two decades, there has been a disproportionate increase in lower income private renters (Figure 5.6). This is partly due to changing demographics and household needs, but more significantly around households transitioning from public housing into private rental.[54]

51 Gabriel M, Jacobs K, Arthurson K, Burke T and Yates J (May 2005) *Conceptualising and measuring the housing affordability problem*, Australian Housing and Urban Research Institute.
52 OECD Project on Income Distribution and Poverty, *Adjusting household incomes: equivalence scales*.
53 Anglicare Australia (2019) *State of the Family Report—Our Better Selves: Appreciating and Re-Imagining Our Work to Create Change*
54 Commonwealth of Australia Productivity Commission (September 2019) *Vulnerable Private Renters: Evidence and Options*.

Figure 5.6: Change in the proportion of households in different tenures between 1994–96 (averaged) and 2015–18 (averaged), by equivalised household income quintile[a,b,c]



a. Changes are calculated as the difference between the averaged proportions from the 1994–95 and 1995–96 survey years, and those from the 2015–16 and 2017–18 survey years. Averages are used to account for volatility. **b.** The changes in public renting for quintiles 4 and 5 is the 2015–16 survey year. The proportion for 2017–18 could not be used for confidentiality reasons, and differs negligibly. **c.** The 'other' tenure category is not shown here, meaning the changes within each quintile do not sum to zero. The category accounted for between 3 and 5 per cent of households over the period.

Sources: Productivity Commission estimates using ABS (*Microdata: Household Expenditure, Income and Housing, 2015–16*, Cat. No. 6540.0, and *Microdata: Household Expenditure, Income and Housing, 1994–95 and 1995–96, 2017–18*, Cat.no. 6541.0.30.001).

Figure 5.7 and Figure 5.8 are a form of Lorenz curve analysis in that it illustrates the *distribution* of affordability outcomes for renters as opposed to relying on averages which are more commonly used to assess affordability. The Lorenz curve is typically used to provide a graphical representation of wealth distribution and inequality within an economy by showing the cumulative share of income for different percentiles of the population.[55] They are useful in assessing affordability because they can graphically demonstrate what proportion of housing services or stock are affordable for households at *each income level*. For the Lorenz curve analysis conducted in this report, if there was perfect equality, those in the bottom income quintile could afford 20 per cent of dwellings, those in the second bottom income quintile could afford 40 per cent of dwellings, and so on. The further away the curve is from the 45-degree straight line of equality, the higher the level of housing affordability inequality.

For example, Figure 5.7 and Figure 5.8 illustrate the proportion of rental properties people could potentially afford at each level of income (in this case, each income quintile). For the graphs below, 'affordable' is deemed to be if people spend less than 30 per cent of their income on housing services. As of June 2020, the lowest 20 per cent of renters by income could afford less than 10 per cent of rental stock and the second lowest income quintile could afford just 20 per cent of rental stock. By the third income quintile, affordability improves considerably with more than 60 per cent of all rental dwellings considered affordable.

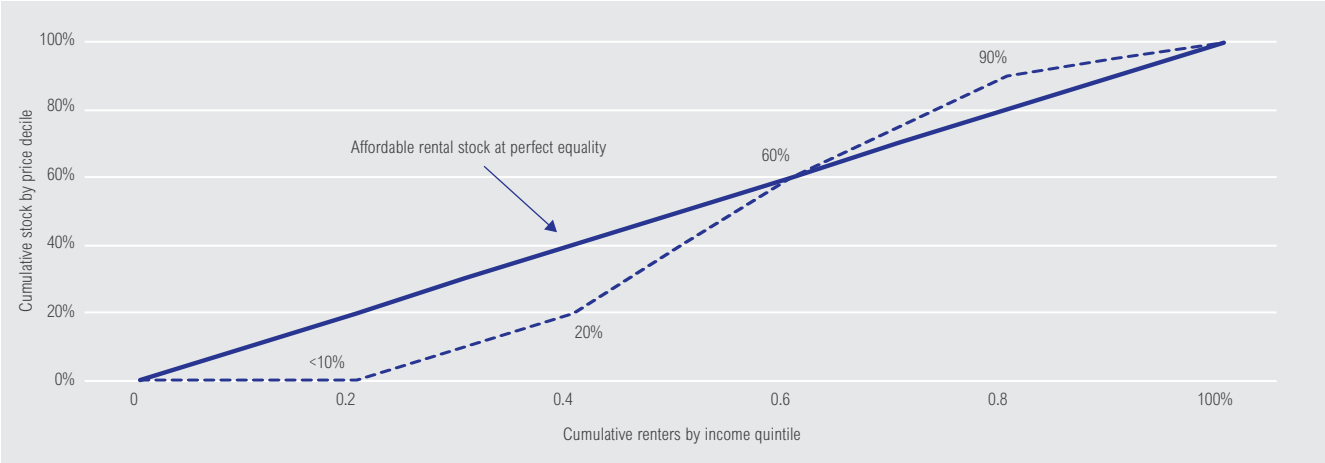
Figure 5.8 shows the same Lorenz curve for the Greater Sydney region comparing June 2007 and June 2020.[56] Interestingly, the distribution has remained largely unchanged since 2007. Given rent price data has been reported by deciles in this analysis, the limitation is in determining whether affordability for the lower income renters has changed at a more granular percentile level. There might still be households *within* the quintile income distribution facing higher housing costs. For example, rents for the bottom price quintile increased between 2007 and 2020 by 63.9 per cent compared with income for the bottom quintile growing by just 30 per cent.[57]

55 Meen G and Whitehead C (2020) *Understanding Affordability: The Economics of Housing Markets*, Bristol University Press.
56 Prior to 2007, rental price data was not accurately captured and considered to be unreliable.
57 Income data from Australian National University; Rent data from CoreLogic

It is also worth considering what the measure is not covering. While lining up all rental dwellings from cheapest to most expensive against renters from lowest to highest income is a useful exercise, what is not shown is if renters are perfectly matched to rental stock. For instance, it does not show whether renters in the highest income quintile are renting stock from the highest price quintile. Renters on the higher end of the income ladder may be renting stock from the lower end of the price market, thereby reducing the amount of stock for lower income renters that is both available and affordable. In fact, studies have shown that access to affordable rental accommodation has diminished over time for lower income renters.[58]

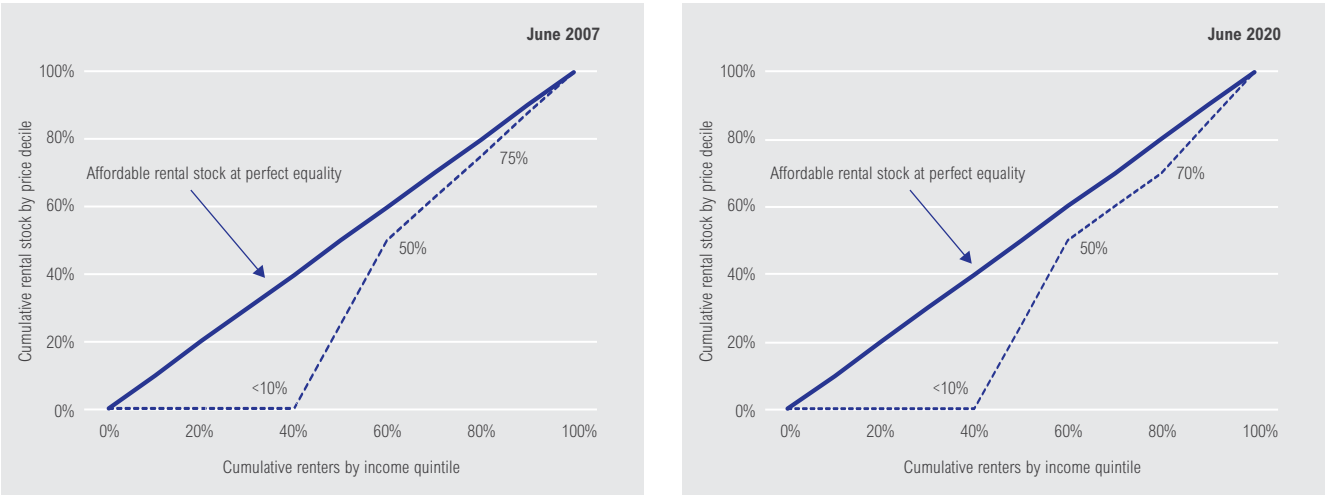
The COVID-19 pandemic and its associated economic shock has greatly influenced demand for housing. Its effects on demand flow through to both prices and supply, and in turn affects housing affordability. As discussed in the State of Housing Demand chapter, one of the most impacted sectors of the housing market amid COVID-19 has been the rental market.

Figure 5.7: Distribution of affordable rental dwellings by income quintile—Australia, June 2020



Source: Income data from Australian National University; Rent data from CoreLogic; Understanding Affordability: The Economics of Housing Markets, 1 July 2020, by Geoffrey Meen & Christine Whitehead

Figure 5.8: Distribution of affordable rental dwellings by income quintile—Greater Sydney, June 2007 vs. June 2020



Source: Income data from Australian National University; Rent data from CoreLogic; Understanding Affordability: The Economics of Housing Markets, 1 July 2020, by Geoffrey Meen & Christine Whitehead

58 Hulse K, Reynolds M, Nygaard C, Parkinson S and Yates J (December 2019) *The supply of affordable private rental in Australia cities: short-term and longer-term changes*, Australian Housing and Urban Research Institute.

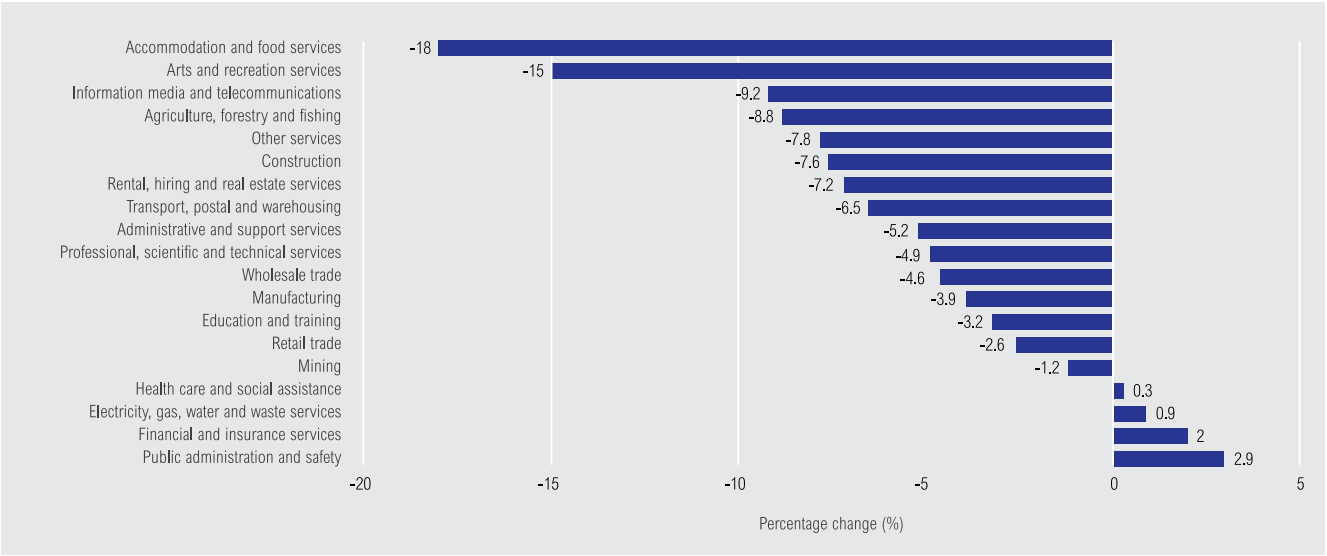
Despite falls in rental prices, particularly for inner-city dwellings in Sydney and Melbourne, it does not necessarily mean dwellings will become more affordable for all renters. This is because one of the drivers of the demand shock has been a disproportionate loss of employment in industries where workers were more likely to be renting.[59] Between March and October, 17.4 per cent of jobs had been lost across the accommodation and food services, and 12.9 per cent in arts and recreation services (Figure 5.9). This compares with an average decline of 3.8 per cent of jobs across other industries. Furthermore, in a recent AHURI survey conducted in October (see Figure 5.10), 63 per cent of rental households reported their employment or income had been affected by the pandemic. Specifically, 22 per cent of respondents experienced reduced hours, 19 per cent reported reduced income, 13 per cent experienced temporary job loss and a further 10 per cent reported complete loss of income. Reduced working hours and temporary job losses were particularly prevalent for younger renters aged 18 to 29 years of age and for low-to-moderate income households earning less than $90,000 per annum.

Despite the recent improvement in employment figures, affordability into the future for renters remains uncertain. Renters continue to face potential affordability challenges with a range of factors currently safeguarding them from the full impact of the economic downturn. A recent survey on Australian renters found personal savings, access to superannuation, rental deferments, and a range of government stimulus measures such as JobKeeper and JobSeeker have kept renters from financial hardship.[60]

Looking ahead, NHFIC supply and demand projections suggest rental affordability will improve out to 2022, particularly in more densely populated eastern seaboard cities, as there are fewer households forming to soak up new supply. In inner-city areas of Sydney and Melbourne, a blend of back-logged rental listings, reduced demand and the economic downturn will most likely result in downward pressure on rents. But the economic hit to jobs will to some degree offset some of the improvement in affordability. In markets like Perth, rising rents, low levels of supply and low wage growth will see upward pressure on rental affordability. Beyond 2022, projections show demand bouncing back with the reopening of international borders spiking rental demand. Over time the excess supply will be absorbed and, given historical lags in the supply chain response and demand running above supply particularly in 2024 and 2025, the affordability of rental accommodation could deteriorate over the longer term.

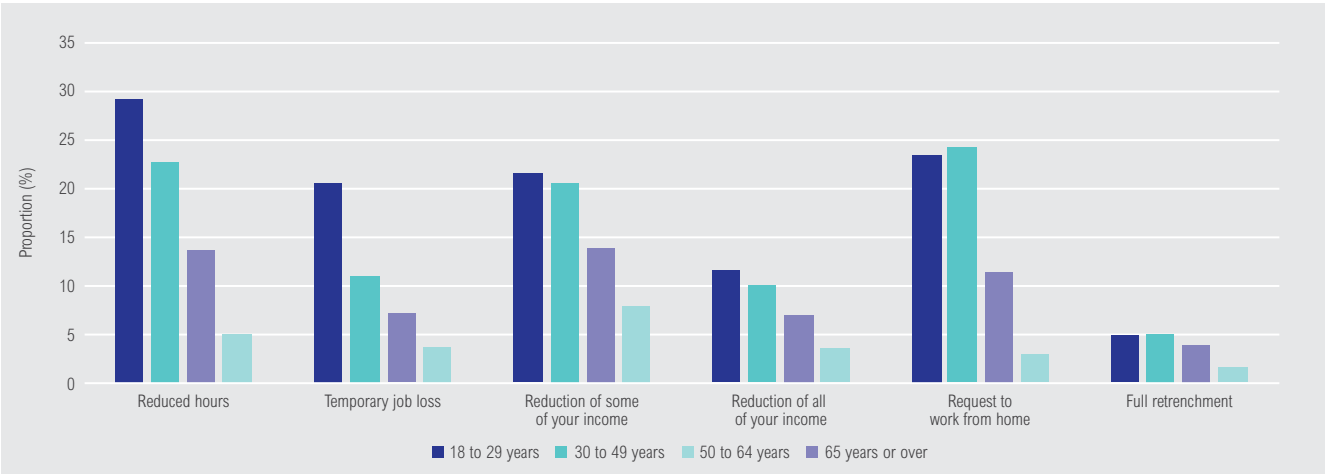
59 CoreLogic (20 July 2020) *ANZ CoreLogic Housing Affordability Report 2020*.
60 Baker E, Bentley R, Beer A and Daniel L (15 October 2020) *Renting in the time of COVID-19: understanding the impacts,* Australian Housing and Urban Research Institute.

Figure 5.9: Change in payroll jobs between 14 March and 17 October, Australia



Source: Australian Bureau of Statistics, Weekly Payroll Jobs and Wages in Australia, September 2020; ANZ-CoreLogic 2020, 'Housing Affordability Report', Sydney

Figure 5.10: Employment changes due to the COVID-19 pandemic



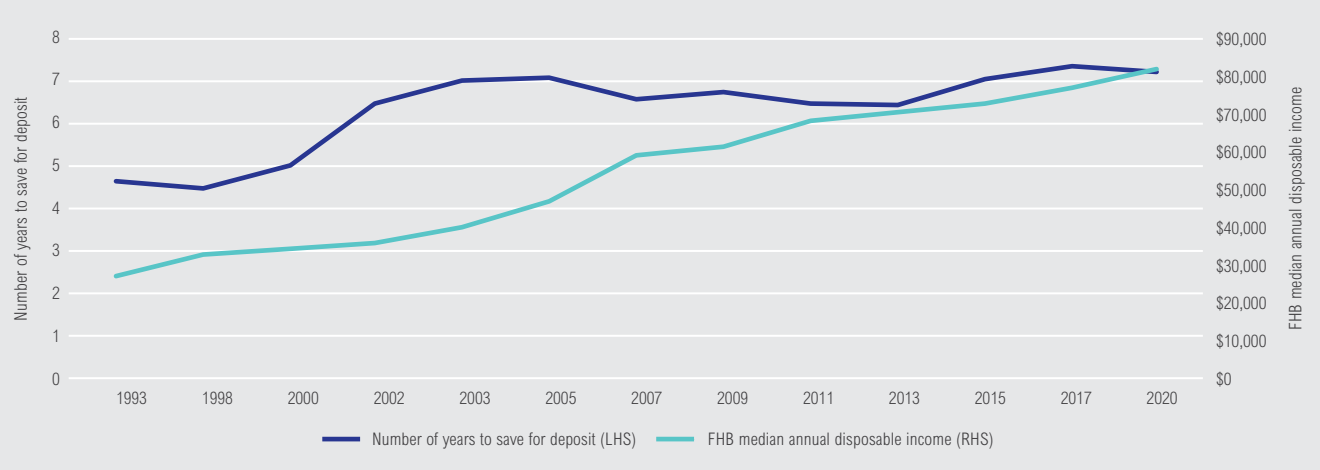
Source: AHURI 2020, COVID-19 and the impact on Australian renters, October 2020, Australia.

First home buyers

An important aspect of housing affordability is the ability for households to transition from renting to buying their first home. Prospective first home buyers have been identified as those currently renting which have a household head aged between 25 and 39 years old.[61] The ability to comfortably transition into home ownership can be assessed by looking at trends in tenure rates by income and age, the median age of first home buyers over time, and the proportion of first home buyers represented in annual housing turnover.[62,63]

Measures that capture cost barriers behind these trends include looking at the size of the deposit gap between an affordable loan and current housing prices, time required to save for a typical deposit, and threshold income required to qualify for a typical first home loan.[64,65] The upfront capital required for first home buyers to secure a home loan has increased more than fourfold since the early 1990s to be more than $100,000. This underscores the value of the Federal Government's First Home Loan Deposit Scheme (FHLDS) for first home buyers, as the minimum deposit required is only 5 per cent. The time required for first home buyers to save for a conventional 20 per cent deposit has increased from around four to seven years since the early 1990s, and this is despite significant income growth. NHFIC's 'First Home Loan Deposit Scheme: Trends and Insights' paper showed that for buyers under this scheme, first home buyers could reduce the time saving for a deposit by up to five years in some states (which is lower than the seven per cent reported above largely due to the price thresholds under FHLDS). The median first home buyer's annual disposable income has grown from around $30,000 in the early 1990s to over $80,000 (Figure 5.11).

Figure 5.11: Time to save 20 per cent deposit for prospective first home buyer



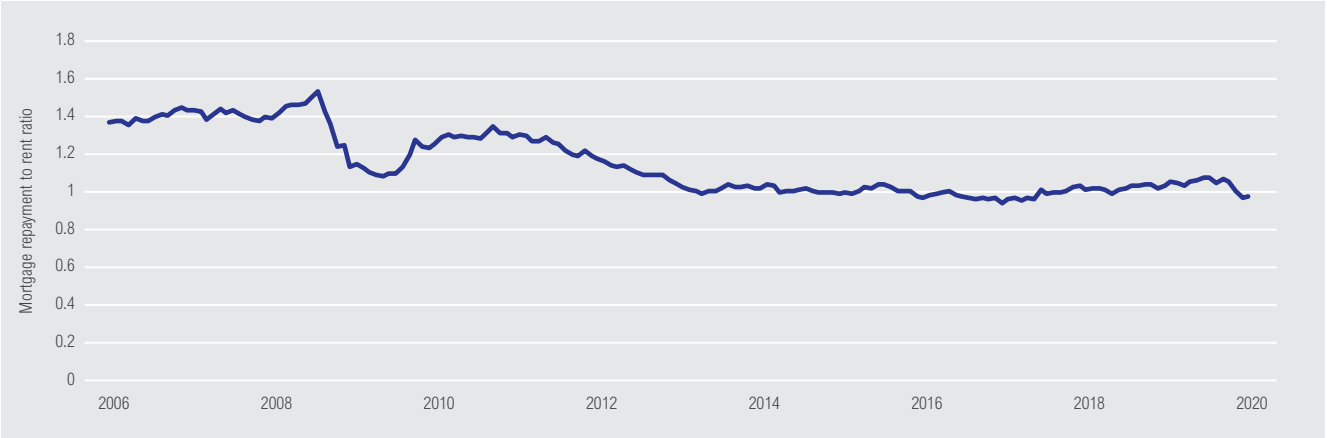
Source: Income data from Australian National University; savings rate derived from Australian Bureau of Statistics Household Expenditure Survey Table 3.2, 2017; Dwelling sales prices from CoreLogic

61 La Cava G, Leal H and Zurawski A (2017) *Housing Accessibility for First Home Buyers*, Reserve Bank of Australia.
62 Reserve Bank of Australia (June 2015) *Submission to the Inquiry into Home Ownership*
63 Bloxham P, McGregor D and Rankin E (2010) *Housing Turnover and First-home Buyers*, Reserve Bank of Australia.
64 Commonwealth of Australia Productivity Commission (31 March 2004) *First Home Ownership: Productivity Commission Inquiry Report No. 28.*
65 Whitehead C and Williams P (18 July 2017) *Changes in the regulation and control of mortgage markets and access to owner-occupation among younger households*, OECD.

Researchers have also examined whether it is more expensive to rent or buy as a way to assess if house prices are overvalued.[66] A comprehensive way to do this is by assessing the user cost of home ownership, which accounts for financial returns associated with owner-occupied housing, as well as differences in risk, tax benefits, property taxes, depreciation and maintenance costs, and any expected capital gains. Overvaluation is characterised when the expected annual cost of owning a home is more expensive than the cost of renting. We adopt a simpler approach focusing on comparing the cost of renting to the cost of servicing a mortgage.

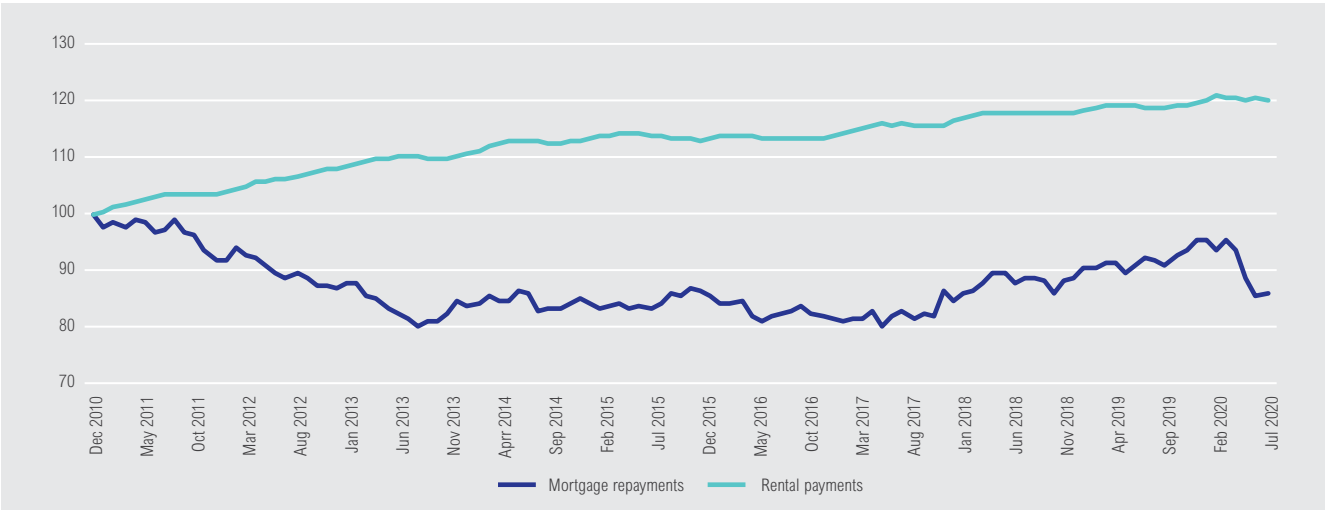
Figure 5.12 shows first home buyers' mortgage-repayments-to-rent ratio has decreased over time, which is reflective of the decline in lending rates. Mortgage repayments had consistently exceeded rental costs up until 2013, peaking in late 2008 when mortgage repayments were 1.5 times the cost to rent. More recently, mortgage serviceability costs are on par with rental costs, with the most recent data showing average rental costs are more expensive than average mortgage repayments. Figure 5.13 suggests a combination of lower mortgage serviceability costs and rising rental costs has driven the mortgage to rent payment ratio below one.

Figure 5.12: Monthly mortgage-repayments-to-rent ratio, Australia



Source: Rent data from CoreLogic; Australian Bureau of Statistics, Lending Indicators Table 24, August 2020; Reserve Bank of Australia Table F5 Lending Rates

Figure 5.13: Mortgage repayment vs rental repayment growth, Australia—indexed, base of 100 = December 2010



Source: Rent data from CoreLogic; Australian Bureau of Statistics, Lending Indicators Table 24, August 2020; Reserve Bank of Australia Table F5 Lending Rates

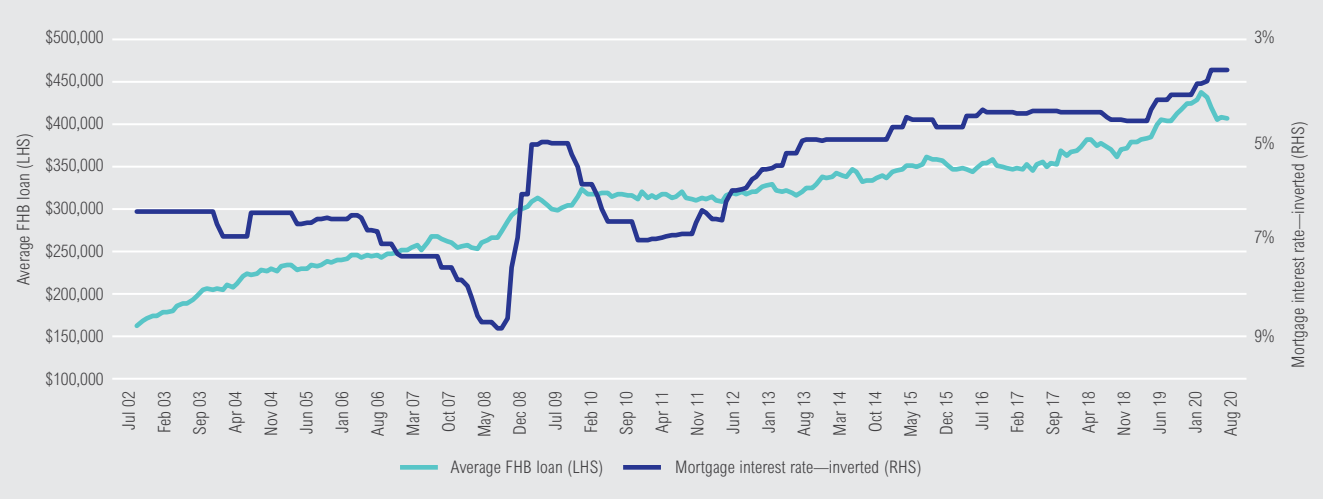
66 Fox R and Tulip P (July 2014) *Is Housing Overvalued?*, Reserve Bank of Australia.

To compare affordability for owner-occupiers and renters, organisations measure both the rent paid by renters, and imputed rent, which is the rent an owner-occupier would pay if their dwelling were rented. While there are complexities surrounding how to calculate imputed rent, such imputations allow for a more meaningful comparison of the income circumstances of people living in different tenure types, and to understand changes over time in income levels and distribution of income when tenures may also be changing over time.[67]

Accessibility to home ownership is especially significant in a historically low interest rate environment, as new entrants into the housing market are able to take on higher levels of debt. There has been a more than fourfold increase in the average first home buyer debt since the 1990s (Figure 5.14). Despite increased loan sizes, reductions in interest rates have kept monthly mortgage repayments steady since 2008. This indicates the main barrier to transitioning into home ownership is saving for a deposit rather than ongoing mortgage serviceability.

A simple and commonly used measure to look at the affordability for prospective first home buyers is ratio of dwelling prices to household disposable income. If dwelling prices rise faster than income, the price-to-income ratio increases and suggests housing is becoming less affordable. A higher ratio implies that households have to borrow more to buy a home. Alternatively, they may need to save for a larger deposit. Although, because this ratio is calculated at the aggregate average level, price-to-income ratios do not assess the distribution of housing costs, or the cost of servicing debt. The UK enhanced this measure by identifying properties a buyer could afford in different locations based on household income levels. However, this measure still does not provide any indication of the quality of the housing the households are paying for. It also ignores the effect of changes in interest rates on borrowing costs that may affect the household's ability to buy a home.

Figure 5.14: First home buyer debt relative to discounted mortgage interest rate, 2002 to 2020



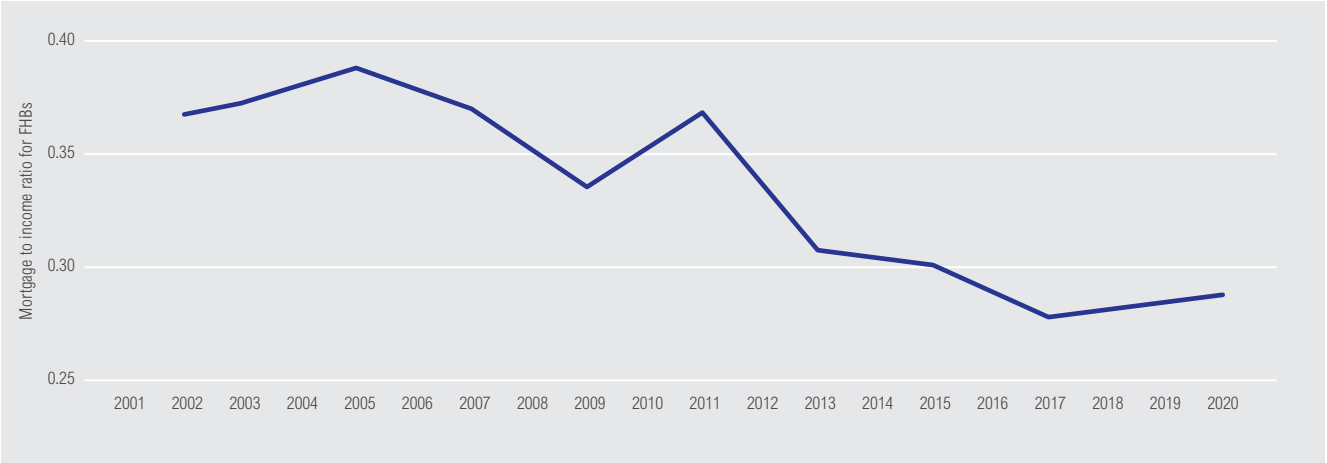
Source: Australian Bureau of Statistics, Lending Indicators Table 24, August 2020; Reserve Bank of Australia Table F5 Lending Rates

67 Australian Bureau of Statistics (12 July 2019) *Survey of Income and Housing, User Guide, Australia, 2017–18: Imputed rent.*

RBA researchers have used a mortgage debt-serviceability ratio to assess the purchasing capacity for potential first home buyers, based on the assumption that buyers can make loan repayments worth 30 per cent of their disposable household income.[68] The mortgage-repayment-to-income ratio for prospective first home buyers indicates mortgage repayments have fallen from 39 per cent of disposable household income in 2005 to 29 per cent of disposable household income more recently (Figure 5.15).

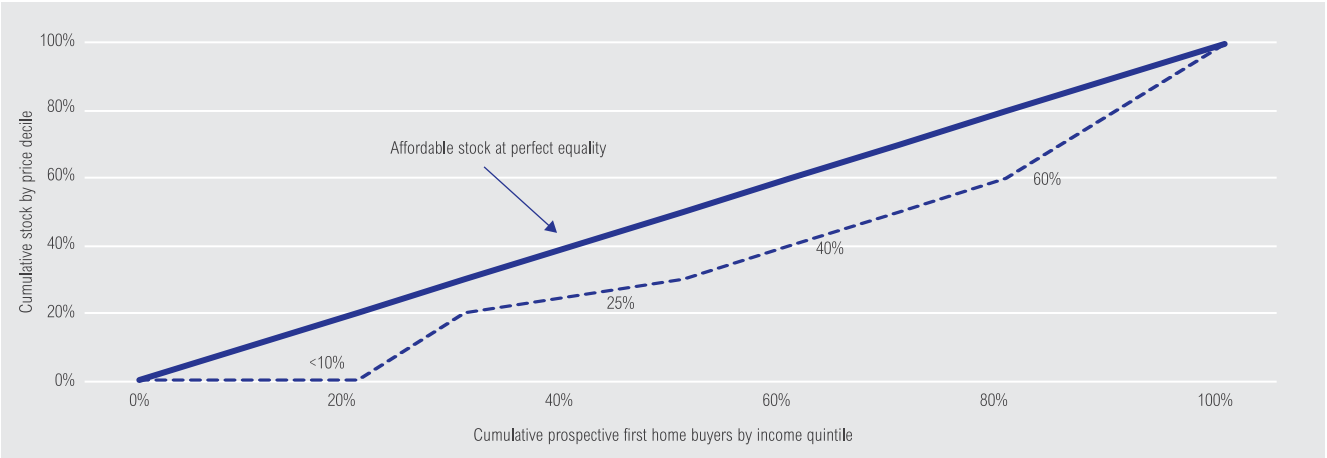
The same Lorenz curve analysis used in Figure 5.7 and Figure 5.8 is used here to illustrate the distribution of affordable dwellings for prospective first home buyers based on different income quintiles. Figure 5.16 shows that at the national level, a quarter of dwellings are considered affordable to prospective first home buyers within the bottom two income quintiles.

Figure 5.15: Minimum mortgage-repayment-to-income ratio for prospective first home buyers



Source: Income data from Australian National University; Australian Bureau of Statistics Lending Indicators Table 24, July 2020; Reserve Bank of Australia Table F5 Lending Rates

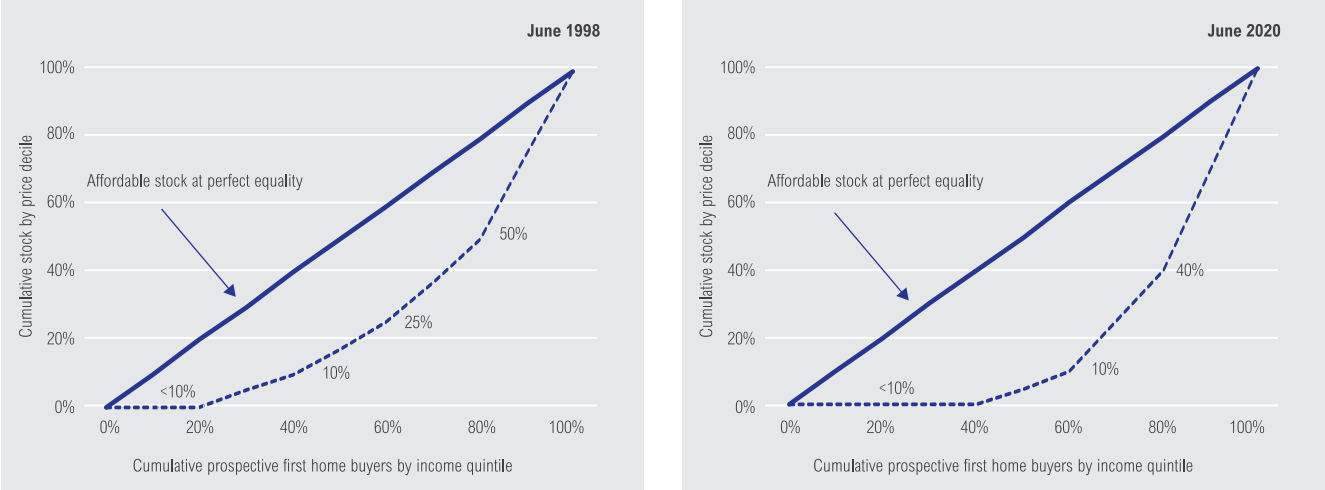
Figure 5.16: Distribution of affordable dwellings for prospective first home buyers by income quintile—Australia, June 2020



Source: Income data from Australian National University; CoreLogic; Reserve Bank of Australia Table F5 Lending Rates; Understanding Affordability: The Economics of Housing Markets, 1 July 2020, by Geoffrey Meen & Christine Whitehead

68 La Cava G, Leal H and Zurawski A (2017) *Housing Accessibility for First Home Buyers*, Reserve Bank of Australia.

Figure 5.17: Distribution of affordable dwellings for prospective first home buyers by income quintile—Greater Sydney, June 1998 vs. June 2020



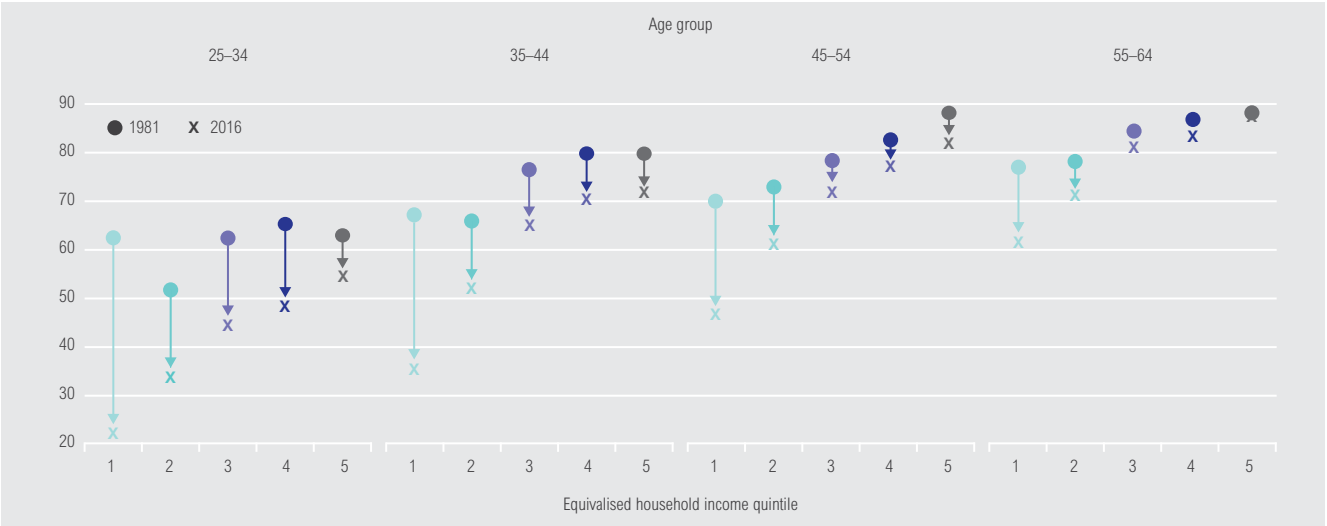
Source: Income data from Australian National University; CoreLogic; Reserve Bank of Australia Table F5 Lending Rates; Understanding Affordability: The Economics of Housing Markets, 1 July 2020, by Geoffrey Meen & Christine Whitehead

But given the spatial dimensions of affordability, it is instructive to look at this on a capital city basis. Figure 5.17 applies the Lorenz curve to the Greater Sydney region. Affordability for those looking to transition into home ownership has deteriorated from 1998 to 2020. In 1998, those in the third income quintile could afford a quarter of Greater Sydney dwellings. In 2020, those in the same cohort can afford just 10 per cent of stock across Greater Sydney. Those in the second highest income quintile can afford 40 per cent of Greater Sydney dwellings in 2020. The curves demonstrate that, in contrast to renters, affordability for prospective first home buyers has worsened in recent decades. Research by the Grattan Institute based on 1981 and 2016 census data also shows a decline in home ownership rates, particularly for the lowest income quintile (Figure 5.18).[69] These analyses highlight both age and income distribution are important factors for assessing affordability.

Australia's housing affordability situation is not unique. Over the past two decades, Australian real house prices have grown 110 per cent, which is higher than the UK (85 per cent) and US (38 per cent), but lower than Canada (146 per cent) and New Zealand (178 per cent).[70] The drivers behind these affordability trends have been relatively similar. According to the IMF, increases in household disposable income, accumulation of household net financial wealth, population growth and real interest rates falling and staying close to or below zero have all contributed to real house price growth across many global economies. Other institutional factors such as tax relief, stricter rent control, land-use restrictions, and lack of supply responsiveness due to inefficient regulations have also driven house prices up.[71] Similar to Australia's housing market, and despite the rise in mortgage debt burdens in the 2000s, the ability to service that debt either stabilised or improved in countries including Denmark, France, Germany, Italy, Ireland, Spain, Sweden, and the UK since the early 1990s due to declining interest rates.[72]

69 Daley J, Duckett S, Goss P, Norton A, Terrill M, Wood D, Wood T and Coates B (April 2019) *Commonwealth Orange Book 2019: Policy priorities for the federal government*, Grattan Institute.
70 OECD (2019) *Housing prices data*.
71 Geng N (13 July 2018) *Fundamental Drivers of House Prices in Advanced Economies*, International Monetary Fund.
72 OECD (2005) *Recent house price developments: the role of fundamentals*.

Figure 5.18: Home ownership rates by age and income, 1981 and 2016



Notes: Updates Burke et al. (2014) using ABS Census special request data. Household incomes based on Census data are approximate, and so small changes in ownership rates may not be significant. Excludes households with tenancy not stated (for 2016) and incomes not stated.

Source: Grattan analysis of Burke et al. (2104) and ABS (2016b).

In recent months, buyers in major capital cities across Australia are increasingly looking at purchasing in outer suburbs and regional centres.[73] Over the September quarter, Melbourne dwelling prices fell 3.3 per cent and Sydney dwelling prices declined 1.6 per cent. Regional markets have rebounded more quickly than their nearby capital cities, with prices in Dubbo and Noosa up by 8.7 and 6.4 per cent respectively over the six months to end of September.[74] Furthermore, in October, 13 regional centres including Wingecarribee, Shoalhaven, Lockyer Valley and Coffs Harbour featured in the top 20 Australian regions that recorded the highest year-on-year increase in property sales.[75] This is a notable change compared to February this year, where only four regional centres featured in the list. However, despite the proportional changes, the overall number of transactions in regional markets pales in comparison to the capital city regions. It is also hard to predict whether these trends will continue when the pandemic ends. For instance, a survey found the majority of Australian workers would prefer to return to the office a few days a week after the pandemic.[76]

Similar to the trend seen during the global financial crisis, first home buyers have already taken advantage of the softness in prices earlier this year. In August 2020, the ratio of first home buyer loan commitments to total dwelling commitments was 41.7 per cent—more than 10 percentage points higher than the long term average with Victoria's ratio closer to 50 per cent in that month.[77]

Looking ahead, affordability for prospective first home buyers can also be influenced by the fact that supply can be slow to respond to changes in demand.[78] NHFIC projections indicate there will be an excess supply of 195,000 dwellings due to less anticipated household formation owing to the COVID-19 demand shock in 2021 and 2022. But this is likely to be short-lived. From 2023 onwards, a projected rapid recovery in demand coupled with a delayed supply response will drive market undersupply. Unmet demand risks artificial dwelling price gains, further exacerbating affordability constraints for prospective first home buyers.

73 Malo J (17 September 2020) '*Buyers ditch inner city for the 'burbs as coronavirus crisis shifts demand: Domain report*', Domain.
74 Fuary-Wagner I (26 October 2020) '*Regional hotspots where house prices have surged*', *The Australian Financial Review*.
75 The Demographics Group, based on data by Ripehouse Advisory.
76 Ziffer D (22 June 2020) '*Most workers want 'hybrid' jobs at the office and at home after coronavirus, study finds*', ABC News.
77 Australian Bureau of Statistics (August 2020) *Lending Indicators*, tables 3 and 24.
78 Ong R, Dalton T, Gurran N, Phelps C, Rowley S and Wood G (May 2017) *Housing supply responsiveness in Australia: distribution, drivers and institutional settings*, Australian Housing and Urban Research Institute.

CONCLUSION

NHFIC's first *State of the Nation's Housing* report comes on the back of the global pandemic which has delivered an unprecedented and immediate shock to new demand for Australian housing over the next few years, mainly via international border closures. This has left many capital city rental markets (temporarily) oversupplied relative to the collapse in new demand and this is currently putting downward pressure on rents in some cities like Sydney and Melbourne. The outlook for housing demand, supply and affordability is ultimately dependent on the reopening of international borders, the path of future population growth and the economic recovery, all of which are subject to an unusual degree of uncertainty.

Our projections show that due to the large population shock, new housing demand will be 286,000 dwellings lower compared with the pre-crisis outlook. We expect this demand shock will leave the housing market with supply exceeding new demand in 2021 (127,000 dwellings) and 2022 (68,000 dwellings). Government stimulus is supporting and bringing forward supply over this period. Demand is likely to rebound and outpace supply beyond 2023, with population growth expected to be structurally lower.

The short-term oversupply identified in this report needs to be considered in a broader historical context. Previous work undertaken by the former Housing Supply Council (2011) showed that in 2010 there had been a cumulative shortfall of housing delivered of around 200,000 dwellings[79], while more recently and prior to COVID-19, there was a significant increase in supply with it modestly outpacing demand for some years. In some respects, the projected excess supply over the next two years can be seen as partial catch-up for longer more protracted periods of undersupply.

As our report shows, while affordability might improve over the coming years in some areas due to downward pressure on rents, affordability for more modest income renters and prospective first home buyers has deteriorated over recent decades. A focus on shifting the policy framework, including enhancing the efficiency of the planning and approval process, to allow supply to respond to demand with less impact on affordability would be desirable.

Looking ahead, future *State of the Nation's Housing* reports will look to enhance the methodologies and frameworks used in this report to improve our insights into the functioning of Australia's housing markets, and to enhance our ability to monitor housing demand, supply and affordability, a key plank of our Investment Mandate. Our broader research work will continue to identify issues and solutions that help improve housing outcomes for Australians. This includes reflecting on the acute issues faced by many who experience housing stress and who cannot find appropriate accommodation suitable for their needs, including disadvantaged groups such as those with disabilities and many of Australia's Indigenous population.

79 National Housing Supply Council (2012) *Housing Supply and Affordability—Key Indicators, 2012.*

APPENDIX

Demand

Persons by family and household groups

TOTAL: Persons by family and household groups ($m)	2019	2020	2021	2022	2023	2024	2025	% change (2019–2025)
Couple Family with Children	12.3	12.4	12.4	12.4	12.5	12.6	12.7	3%
Couple Family without Children	5.5	5.6	5.6	5.7	5.8	5.9	5.9	9%
Lone Parent Family	3.0	3.0	3.0	3.0	3.0	3.1	3.1	4%
Other Family Household	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1%
Group Household	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0%
Lone Household								
• Under 70 years	1.7	1.7	1.7	1.7	1.7	1.7	1.8	5%
• 70 or older	0.8	0.8	0.8	0.9	0.9	0.9	1.0	23%
Total Persons in Private Dwellings	**24.8**	**25.1**	**25.2**	**25.3**	**25.5**	**25.8**	**26.1**	**5%**
Persons in Non-private Dwellings	0.5	0.5	0.5	0.5	0.5	0.6	0.6	11%
Total Estimated Resident Population	**25.4**	**25.7**	**25.7**	**25.8**	**26.0**	**26.4**	**26.7**	**5%**

Economics parameters

	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25
Unemployment rate (%)	7	7.3	6.5	6	5.5	5.3
Consumer price index (% change)	-0.3	1.8	1.5	1.8	2	2.3
Wage price index (% growth)	1.8	1.3	1.5	2	2.3	2.8
Wage Price Index (% growth real)	2.1	-0.5	0	0.3	0.3	0.5
Average Weekly Earnings (% growth real)	4.7	-1.1	-1.7	0.8	0.8	1.1
Rents (% growth real)	-0.1	-2.1	-1.8	-0.7	0	0.4

Impacts of economic variables on adjusted underlying dwelling demand

	2020	2021	2022	2023	2024	2025	2020–2025
Unemployment rate (%)[c]	7	7.3	6.5	6	5.5	5.3	
Impact on Household formation (change in Persons per 1,000 Households)	14.2	2.2	-6.1	-4.0	-4.0	-2.0	0.2
Impact on Demand ('000 dwellings)	-55.5	-9.1	24.0	16.0	16.4	8.7	0.6[d]
Average Weekly Earnings (% growth real)	4.7	-1.1	-1.7	0.8	0.8	1.1	
Impact on Household formation (change in Persons per 1,000 Households)	-12.7	2.9	4.7	-2.3	-2.3	-2.9	-12.5
Impact on Demand ('000 dwellings)	50.1	-10.8	-18.2	9.8	10.3	13.5	54.6
Rents (% growth real)	-0.1	-2.1	-1.8	-0.7	0	0.4	
Impact on Household formation (change in Persons per 1,000 Households)	0.1	-4.2	-3.7	-1.2	0.2	0.9	-7.9
Impact on Demand ('000 dwellings)	-0.3	16.7	14.9	5.3	-0.4	-3.4	32.7
Aggregate impact of economic factors	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2020–2025**
Impact on Household formation (change in Persons per 1,000 Households)	1.6	0.9	-5.1	-7.5	-6.1	-4.0	-20.2
Impact on Demand ('000 dwellings)	-5.7	-3.2	20.6	31.2	26.4	18.7	87.9

Notes:

a: 'Impact on demand' is relative to underlying dwelling demand.

b: Estimates of impact is based on summation of impacts on capital cities and rest of state/territory. The actual economic parameters for the individual areas vary from, but are consistent with the national average.

c: Change in unemployment rate is determinant of impact on demand.

d: Aggregate impact 2020-2025 of unemployment on demand is positive despite also being positive for household formation. This reflects timing with positive effects in later years off a higher base.

Supply

Supply-side data quality

The ABS provides an extensive amount of relatively high frequency time series data on new dwelling construction covering the evolution of the supply process from finance approval, building approval, and commencement all the way through to completion. The construction data is available at the national and state level for all dwelling types. Building approvals are available in a time series format at the SA2 level.

Dwelling Completions

An estimate of dwelling completions by dwelling type on either a monthly or quarterly basis at the SA2 level would provide a major improvement in the usefulness of the data. This would complement the SA2 building approvals data and allow a more detailed estimate of new dwelling supply at this level.

Demolitions

The ABS recently released a preliminary series on small area dwelling demolitions for the 2016 to 2019 period in NSW, VIC and QLD. However, there is currently now no data available on dwelling demolitions. Most analysts estimate the number of demolitions using Census data, which is reported every five years. The housing stock is reported at each Census and when this data is released, demolitions are then calculated as the difference between the housing stock at each Census less the number of completions.

The shortcomings with this approach are the following:

- The estimate is not timely because the data is released around 10 months after Census night.
- It is not possible to accurately estimate demolitions on either a monthly, quarterly or even yearly basis between Census surveys, leaving analysts to approximate high frequency estimates by calculating a trend.

In more positive news, the ABS is currently developing data that will be able to provide a more timely estimate of demolitions, but that this won't be available until 2022.

Geocoded National Address File (G-NAF)

The G-NAF provides a record of the spatial location of each address in Australia and where an address is within a strata complex, it provides information on the classification of the dwelling type.

The address data provides general information about where a subdivision has been constructed and where additional dwellings could be built. New addresses are registered, and this provides a guide about the distribution of strata dwellings, particularly where there is a control total of strata in a region (e.g. ABS Mesh Block, LGA etc).

The data can also be useful because it can be used to provide an indication of the number of dwellings in a strata complex and when new dwellings are built.

However, there are shortcomings with this data:

- It merely shows the number of addresses per property regardless of whether there is a dwelling on the site, or not. The data doesn't reveal whether there is a separate house on the site or if one existed before being demolished.
- In strata-titled developments, the number of addresses is just recorded as one unit regardless of whether it is residential or non-residential and provides no information about the number of dwellings.
- In some situations, multiple addresses are registered on the same site because the data is provided from different agencies that no longer exist. This problem can be sometimes addressed by using broad assumptions about dwelling concentration in regions.
- The data may not indicate dwellings that have been demolished. Most demolitions are detached dwellings and a property may keep the same address if it is demolished and replaced with an apartment building.

Data quality

The availability of data from state government planning agencies on recently completed and forecasted housing supply varies significantly. NSW and Victoria provide detailed forecasts of housing supply in their respective capital cities even at the ABS Mesh Block level. Forecasts for regional housing supply is generally only available from local government and is calibrated from population projections.

Table 1 shows a qualitative assessment of data quality in each state. Developing a most consistent housing supply data collection between state jurisdictions would greatly assist the policymakers and research analysts.

Land availability

Another area where data is seemingly limited is land availability. Land availability sometimes does not just reflect the quantity of land that is zoned residential. Indeed, it is important to understand the infrastructure (water, power, roads etc.) required before land is considered ready for development. A better understanding of this aspect of the data would help in assessing potential longer term supply.

Table 1: Data quality and availability

	Stock and recent acitivity			Future Pipeline		
State	Greenfield	Small scale infill	Major infill	State	Greenfield	Major infill
NSW						
Vic						
Qld						
WA						
SA						
Tas						
NT						
ACT						

Source: SGS Economics. ☐ = data available and good quality/coverage. ☐ = data available, poorer quality/coverage. ☐ = no data available. The assessment has been done only where ABS data is available.

Methodology

We broadly follow the methodology used by Saunders and Tulip in their model of the Australian housing market.[80] Instead of modelling the value of building approvals, we model the number of completions and adjust the lag structure to account for the lag between our independent variables and dwelling completions. Furthermore, modelling the number of completions rather than the value of building approvals means real household disposable income didn't show significant long-term explanatory power. Our model will be further refined in our research.

The model is detailed in Equation 1.

Equation 1

$$\Delta Comp_t = \alpha + \beta 1(\Delta Comp_{t-1}) + \beta 2(\Delta Comp_{t-12}) + \beta 3(\Delta P_{t-3}) + \beta 4(\Delta R_{t-4}) + \beta 4(\Delta GST_{t-1}) + e_t$$

Comp = private sector dwelling completions (ABS Cat No. 8752.0)

R = real average standard variable mortgage rate for owner-occupiers (RBA Table F5).

P = real weighted established house price for Australia (ABS Cat No. 6416.0)

GST = dummy variable equal to 1 in the September quarter 2000 to account for the introduction of the GST.

e_t = error

α = constant

Real variables have been deflated by the trimmed mean measure of underlying inflation (ABS Cat No. 6401.0 and RBA Table G1).

Table 2: Private sector dwelling completions key coefficients (Q3 1988: Q2 2020 sample period)

Variable	Coefficient	t statistic
Δ $Comp_{t-1}$	-0.2195 (0.0788)	-2.786 **
Δ $Comp_{t-12}$	-0.1429 (0.0659)	-1.895 *
Δ R_{t-4}	-0.039 (0.0096)	-4.077 **
Δ P_{t-3}	0.9017 (0.2175)	4.146 **
GST_{ti-1}	-0.1480 (0.0502)	-2.946**
GST_t	-0.1761 (0.0494)	-3.564 **
GST_{t+1}	0.1923 (0.0482)	3.989 **
GST_{t+2}	0.1167 (0.0477)	2.448 **
R^2 = 0.53	**Obs = 123 after adjustments F = 9.45**	**DW =1.94**

Comp and P are in natural logs.

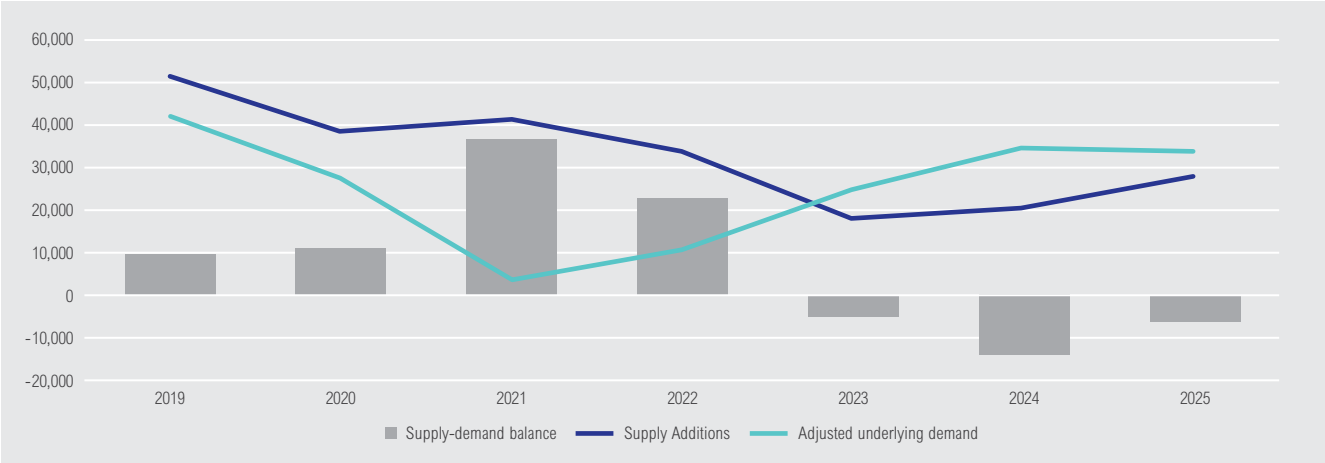
* indicates significant at the 10% level.
** indicates significant at the 5% level.

80 Saunders T and Tulip P (2019) A Model of the Australian Housing Market, Reserve Bank of Australia.

Supply-demand balance

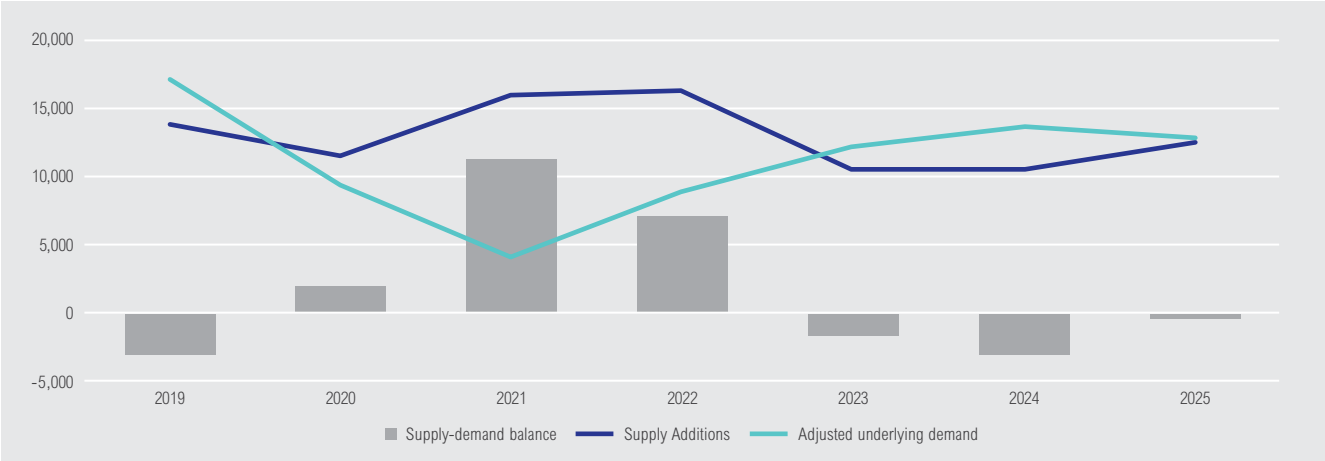
New South Wales

Greater Sydney



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	42,100	27,600	3,500	10,800	24,600	34,500	34,000
Change in annual underlying demand	36,600	25,300	2,600	4,500	16,600	28,200	29,500
New net annual dwelling supply	51,400	38,500	40,200	33,700	19,400	20,500	27,800
Supply-demand balance	9,300	10,900	36,700	22,900	-5,200	-14,000	-6,200

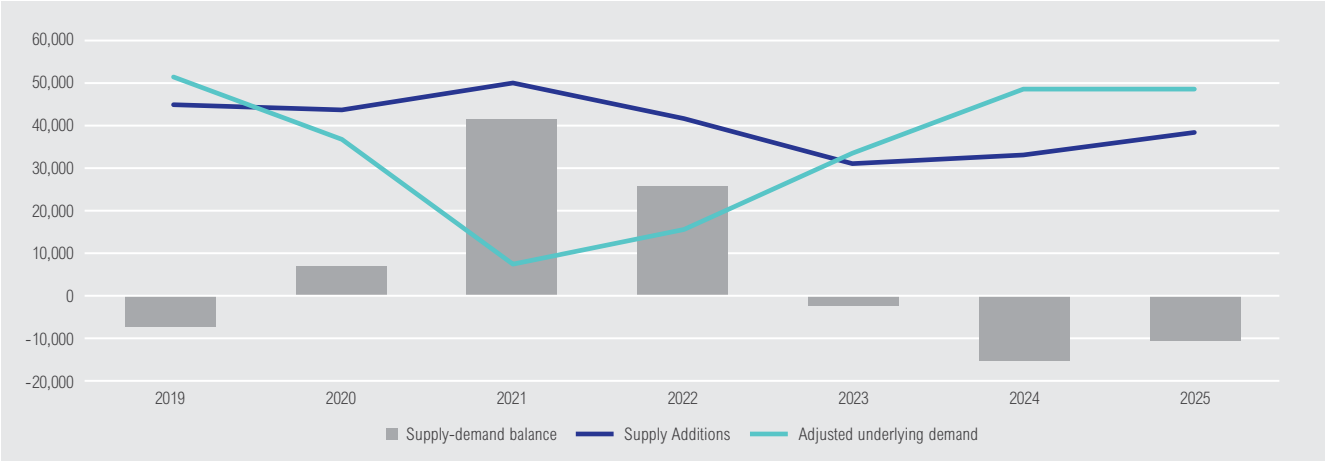
Rest of New South Wales



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	16,400	9,200	4,200	8,700	11,800	13,200	12,400
Change in annual underlying demand	12,600	10,700	7,800	8,000	9,300	10,700	10,800
New net annual dwelling supply	13,400	11,100	15,400	15,700	10,200	10,200	12,100
Supply-demand balance	-3,000	1,900	11,200	7,000	-1,600	-3,000	-300

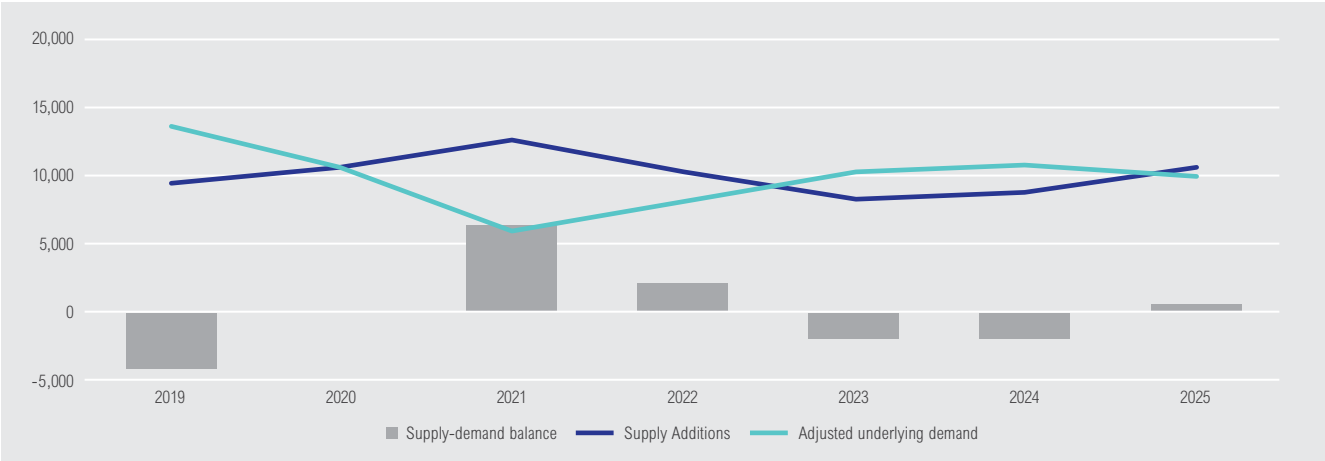
Victoria

Greater Melbourne



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	52,300	37,500	7,700	15,900	33,900	49,200	49,300
Change in annual underlying demand	47,800	38,400	6,000	11,000	25,700	42,800	44,400
New net annual dwelling supply	45,400	44,300	50,100	42,200	31,400	33,700	39,100
Supply-demand balance	-6,900	6,800	42,400	26,300	-2,500	-15,500	-10,200

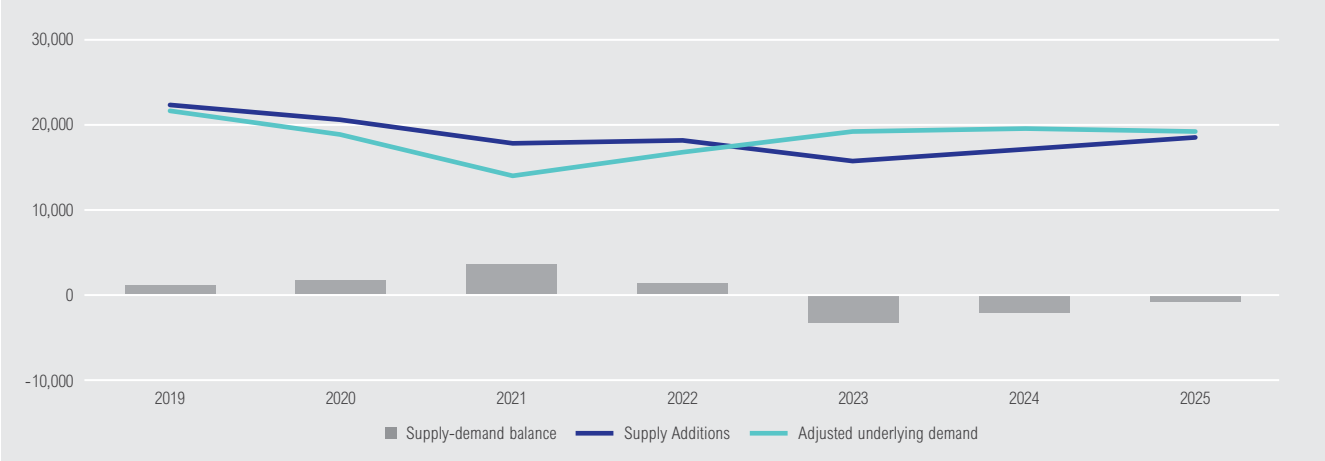
Rest of Victoria



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	13,500	10,600	6,200	8,200	10,300	10,700	10,000
Change in annual underlying demand	11,100	10,700	8,000	8,400	8,800	9,100	9,000
New net annual dwelling supply	9,500	10,600	12,500	10,300	8,400	8,900	10,600
Supply-demand balance	-4,000	0	6,300	2,100	-1,900	-1,800	600

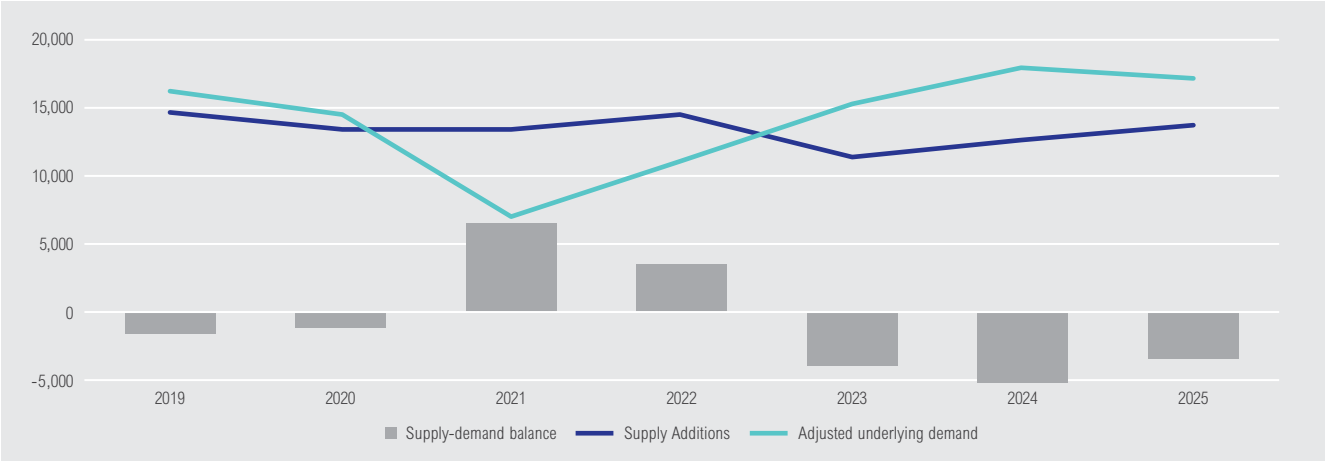
Queensland

Greater Brisbane



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	22,000	18,800	13,200	16,600	19,300	19,500	19,100
Change in annual underlying demand	22,700	18,800	11,900	13,200	15,300	16,400	16,800
New net annual dwelling supply	23,000	20,900	17,500	18,100	15,100	17,000	18,400
Supply-demand balance	1,000	2,100	4,300	1,500	-4,200	-2,500	-700

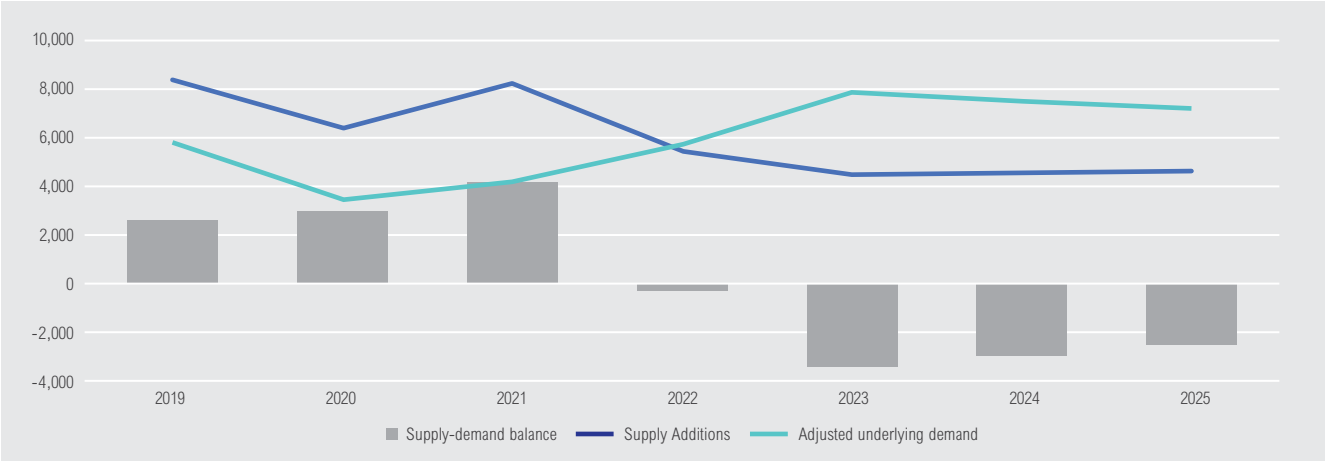
Rest of Queensland



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	16,500	14,800	7,200	11,300	15,600	18,200	17,500
Change in annual underlying demand	17,100	14,600	9,400	10,400	13,400	15,900	16,100
New net annual dwelling supply	14,900	13,700	13,700	14,800	11,600	12,900	13,900
Supply-demand balance	-1,600	-1,100	6,500	3,500	-4,000	-5,300	-3,600

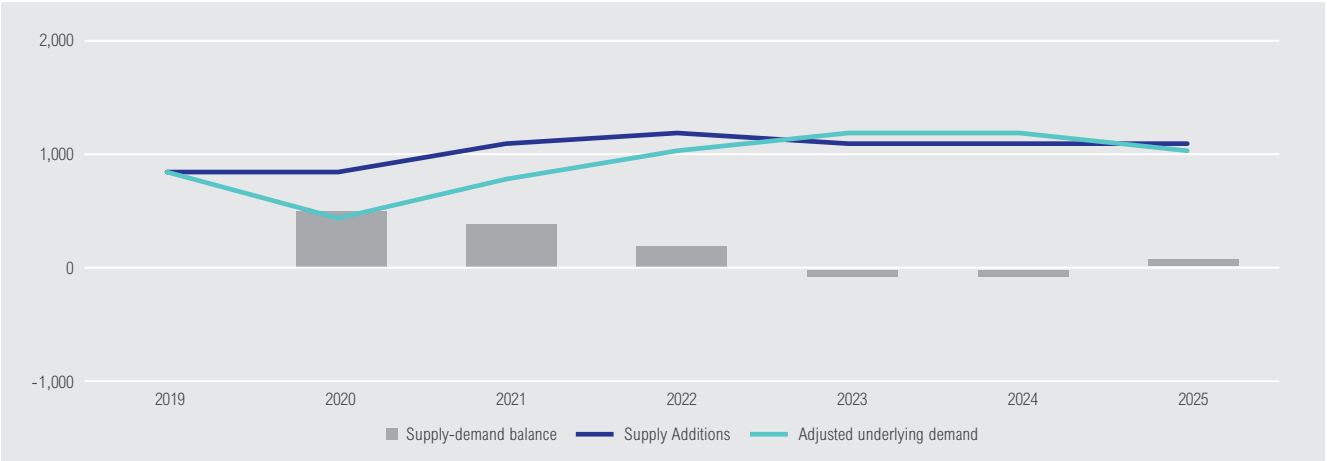
South Australia

Greater Adelaide



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	5,800	3,400	4,100	5,700	7,900	7,500	7,200
Change in annual underlying demand	7,300	6,100	2,100	3,200	5,300	5,500	5,900
New net annual dwelling supply	8,400	6,400	8,300	5,400	4,400	4,500	4,600
Supply-demand balance	2,600	3,000	4,200	-300	-3,500	-3,000	-2,600

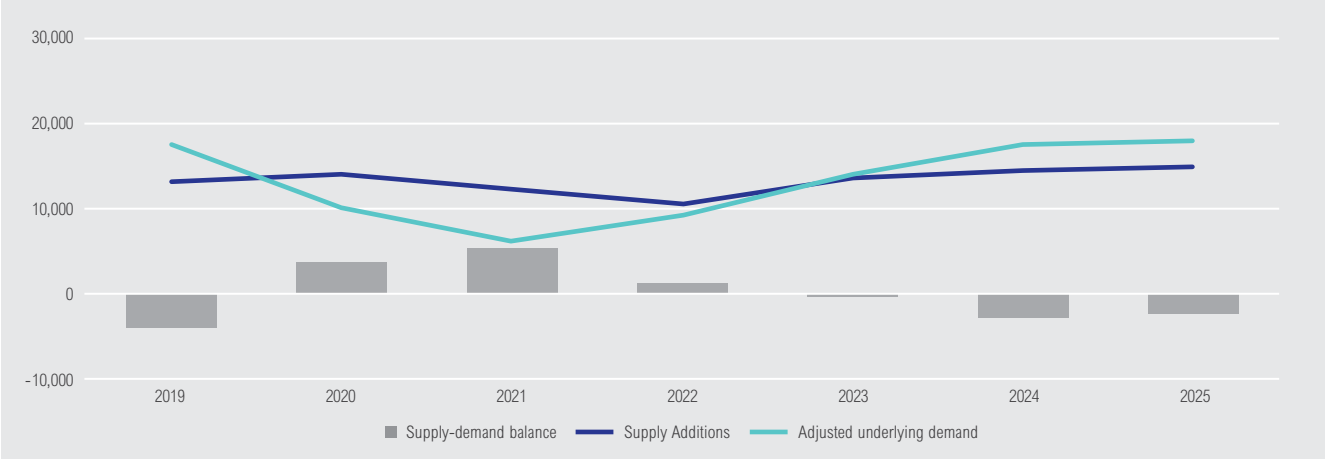
Rest of South Australia



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	900	400	800	1,100	1,300	1,300	1,100
Change in annual underlying demand	1,300	1,200	800	800	900	900	900
New net annual dwelling supply	900	900	1,200	1,300	1,200	1,200	1,200
Supply-demand balance	0	500	400	200	-100	-100	100

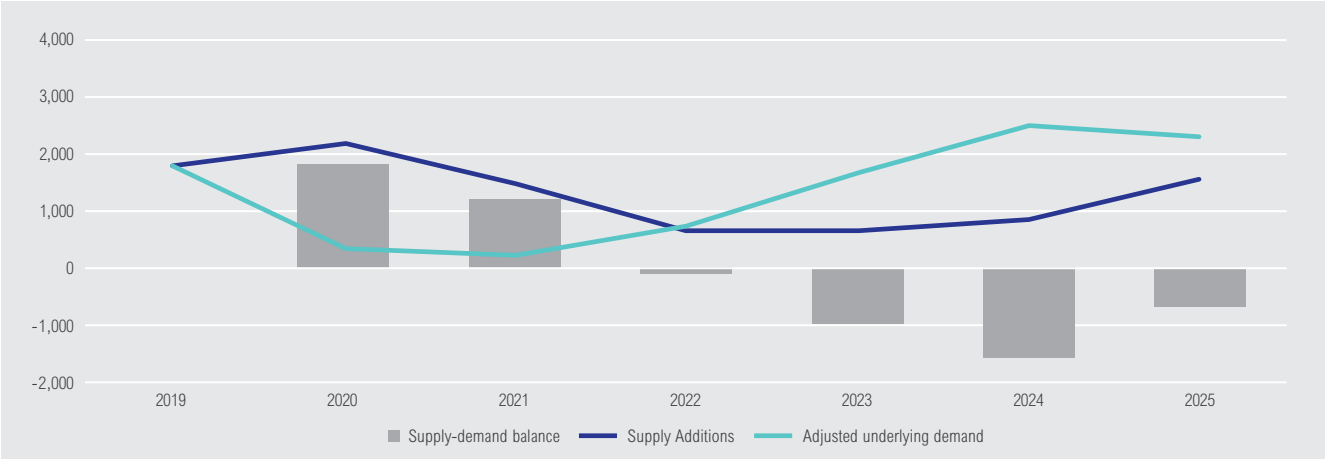
Western Australia

Greater Perth



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	16,800	9,900	6,200	8,900	13,600	16,700	16,900
Change in annual underlying demand	13,300	11,600	6,700	7,600	11,400	14,600	15,000
New net annual dwelling supply	12,700	13,600	11,600	10,200	13,000	13,900	14,400
Supply-demand balance	-4,100	3,700	5,400	1,300	-600	-2,800	-2,500

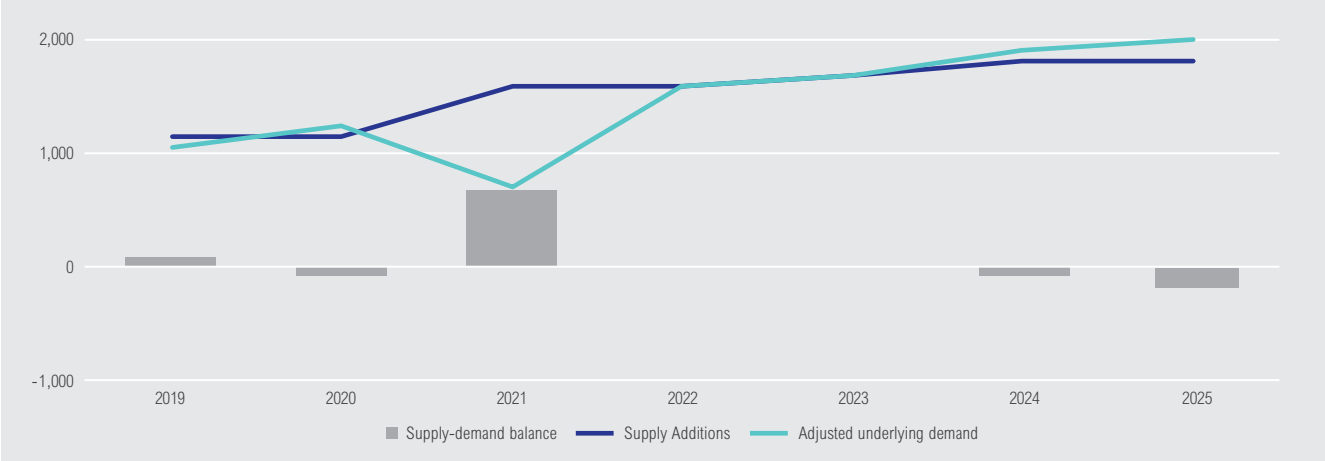
Rest of Western Australia



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	1,800	400	300	800	1,700	2,500	2,300
Change in annual underlying demand	1,300	900	400	500	1,200	2,000	2,000
New net annual dwelling supply	1,800	2,200	1,500	700	700	900	1,600
Supply-demand balance	0	1,800	1,200	-100	-1,000	-1,600	-700

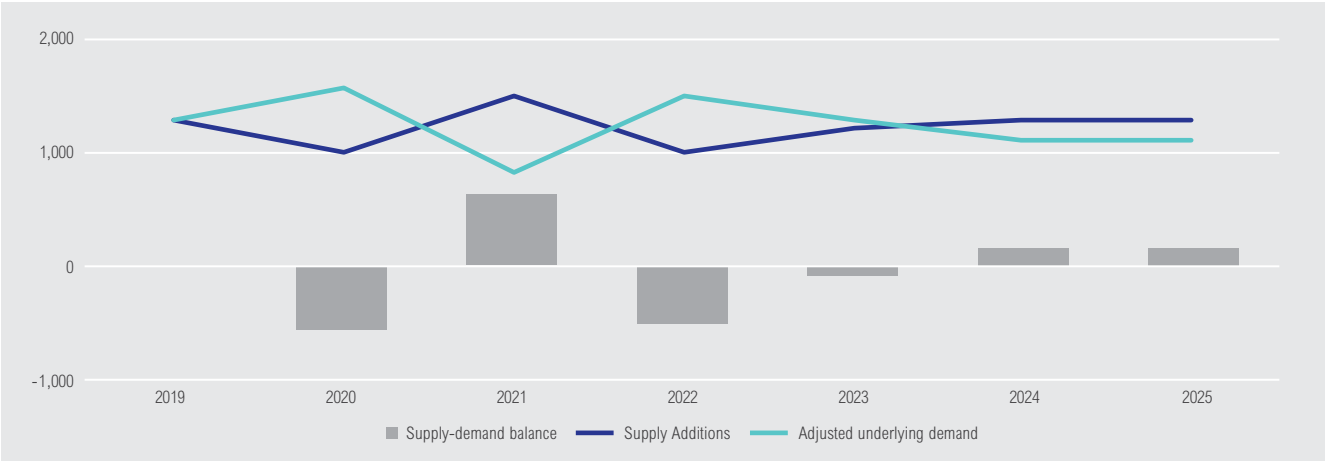
Tasmania

Greater Hobart



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	1,100	1,300	800	1,600	1,700	1,900	2,000
Change in annual underlying demand	1,800	1,600	1,000	1,100	1,300	1,700	1,700
New net annual dwelling supply	1,200	1,200	1,600	1,600	1,700	1,800	1,800
Supply-demand balance	100	-100	800	0	0	-100	-200

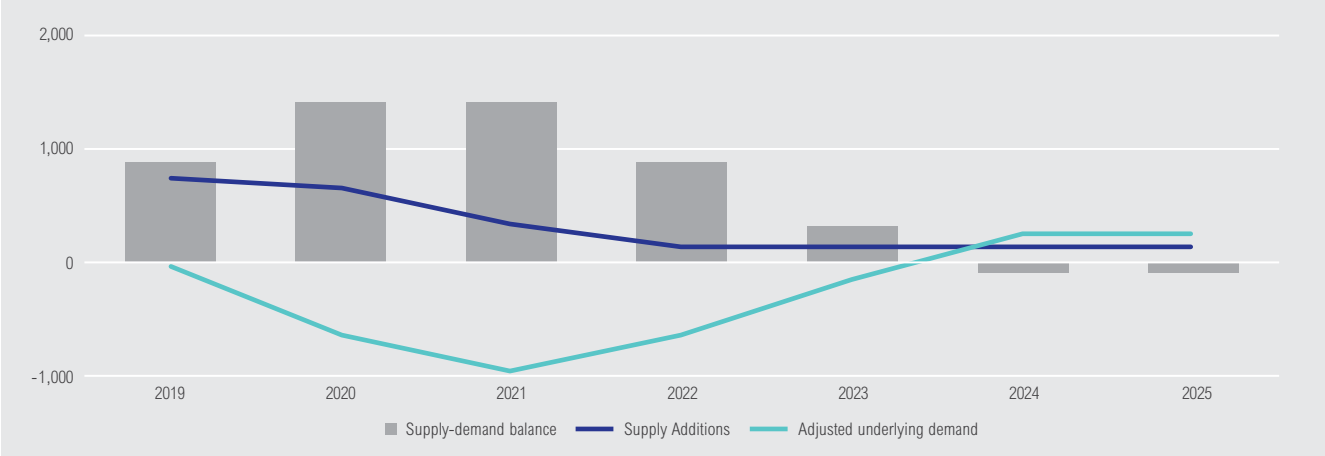
Rest of Tasmania



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	1,300	1,600	800	1,500	1,300	1,100	1,100
Change in annual underlying demand	1,900	1,600	1,100	1,200	1,100	900	900
New net annual dwelling supply	1,300	1,000	1,500	1,000	1,200	1,300	1,300
Supply-demand balance	0	-600	700	-500	-100	200	200

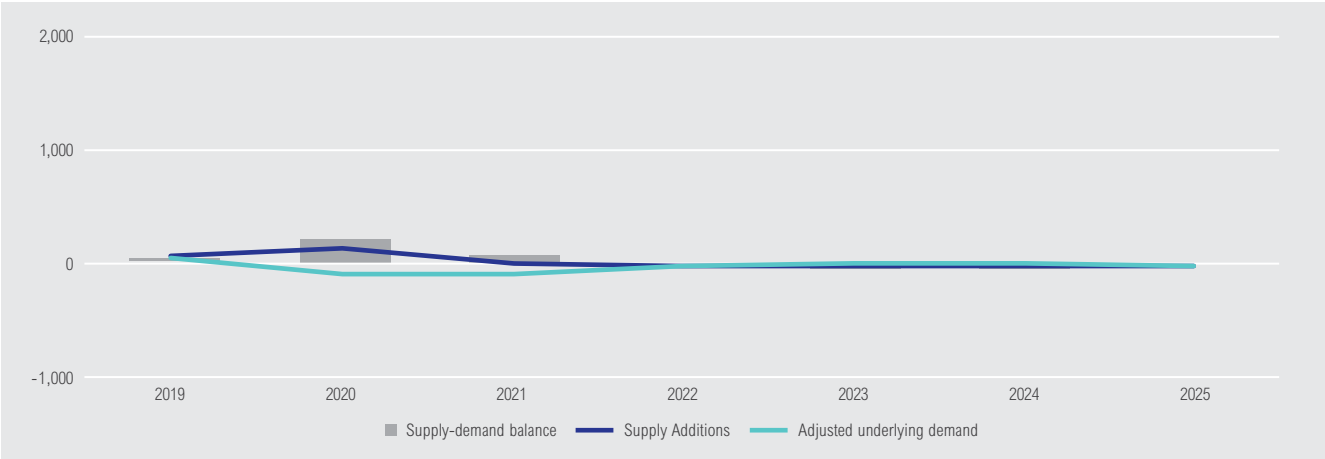
Northern Territory

Greater Darwin



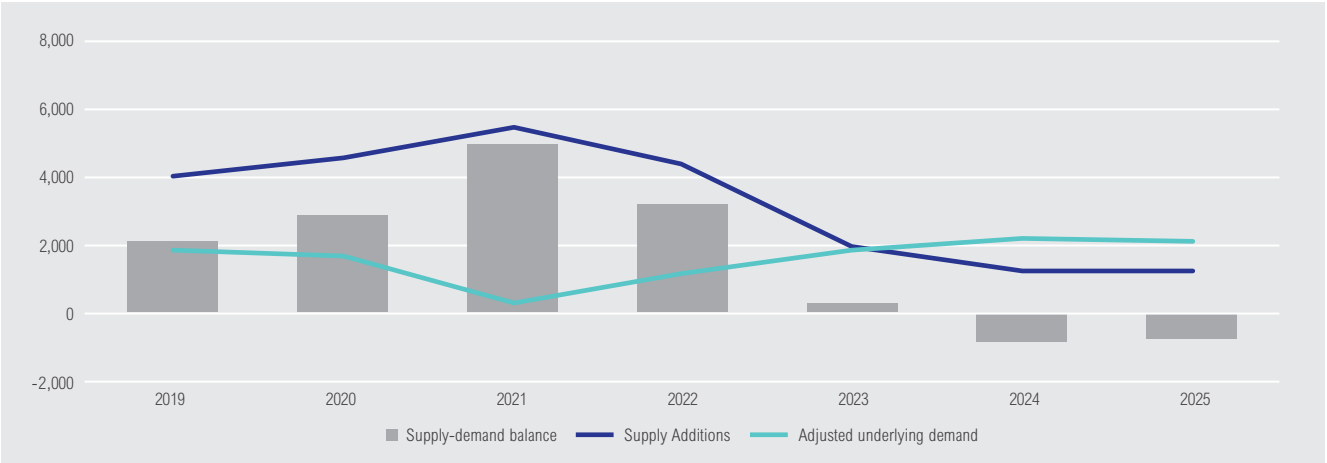
Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	-100	-700	-1,000	-700	-200	200	200
Change in annual underlying demand	-100	-800	-800	-900	-300	100	100
New net annual dwelling supply	700	600	300	100	100	100	100
Supply-demand balance	800	1,300	1,300	800	300	-100	-100

Rest of Northern Territory



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	100	-100	-100	0	50	50	0
Change in annual underlying demand	200	-50	-50	-50	0	0	0
New net annual dwelling supply	150	250	50	0	0	0	0
Supply-demand balance	50	350	150	0	-50	-50	0

Australian Capital Territory



Year	2019	2020	2021	2022	2023	2024	2025
Change in adjusted underlying demand	1,900	1,700	300	1,200	1,900	2,300	2,200
Change in annual underlying demand	2,700	1,800	1,200	1,000	1,600	1,900	2,000
New net annual dwelling supply	4,100	4,700	5,500	4,500	2,100	1,400	1,400
Supply-demand balance	2,200	3,000	5,200	3,300	200	-900	-800