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Is Australian housing supply adequate?

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2. Is Australian housing supply adequate?

Professor Chris Leishman

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This chapter looks at the trends in the costs of acquiring land and building on it; the impact of regulation on land availability; and changes in the composition of the housing stock. It questions whether the housing system is designed to add new housing to the market at a slower rate than it's needed, in order to make the housing development and construction market viable.

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by UK central, devolved and local government departments, for third sector organisations including CRISIS and Centrepoin, and a range of academic funders including the UK's Economic and Social Research Council (ESRC). He has led numerous consultancies for private sector firms, third and public sector organisations, and has published extensively in the economics of housing systems and markets, and subjects concerning the interface between individuals' choices (behavioural analysis), and outcomes in the housing system. He is perhaps best known for his contributions to understanding the economics of new-build housing supply, the linkages between housing supply and housing affordability, and modelling the housing system as a complex interaction between demographic, housing, labour market, housing supply, and migratory dynamics.

Housing supply – the Australian policy context

“Planning and zoning requirements can restrict competition by creating unnecessary barriers to entry. The regulations should encourage competition and not act to limit entry into a market.”

*Harper Review*¹

Debates concerning housing supply – and associated issues such as the adequacy of the supply of land, the responsiveness of the housing construction industry to housing prices and affordability, and the degree of competition in the housing development sector – have followed a fascinating path in the United Kingdom, and now Australia, during the past 10 years. In the UK, government concern that there may be structural deficiencies in the private housing development industry began to surface in the mid-2000s, not long after a wave of very significant planning reforms that followed the *Barker Review of Housing Supply and Affordability*.² To put it simply: the UK government appeared surprised and concerned that significant efforts to simplify planning and boost the supply of land

suitable for development had yielded a more modest increase to annual housing completions than hoped for, putting long-term housing affordability targets at jeopardy. As I recount in *Housing supply and suppliers: are the microeconomics of housing developers important?*,³ the UK's Office for Fair Trading launched a market study on homebuilding in the UK⁴ and the government announced a further review of housing supply⁵ but these largely gave the industry a clean bill of health in the sense that they reported improved levels of customer satisfaction and no evidence of “unhealthy” lack of competition.

Returning to the Harper Review⁶ and the Commonwealth Government's response, concerns over competition in new housing supply have risen high on the policy agenda, but the debate looks through the lens of the planning and development permit system rather than the structure and organisation of the development industry itself. In this regard, the debate differs from the slightly earlier UK discussions. The Australian Government, in its response to the Harper Review, has accepted that development permit processes should be simplified, and that planning systems “should be consistent and transparent to avoid creating incentives for gaming appeals”. These are probably the most interesting and relevant aspects with respect to the residential development industry and housing supply (many of the recommendations relate, in fact, to commercial/retail activities and development).

Planning and developer competition in Australia

Gurran and Whitehead,⁷ discussing the role of planning regulation in housing systems, argue that Australia has a more efficiency-orientated market housing system while the UK has a more redistributive housing system. In the former, planning works to reduce negative externalities and promote more equitable market outcomes, but is very much seen as intervention in an otherwise private market. In the latter, they note a stronger role for promoting land supply, but coupled with financial policies such as development charges or land taxation. They describe the Australian planning system as having its roots in the pre-1947 UK town and country planning system, whereas in the UK there was a move away from zoning and towards discretionary planning in the 1947 *Town and Country Planning Act*; Australia did not follow suit. They argue that this significantly reduces the scope for negotiating planning gain because, in effect, land values are fixed by expectations arising through zoning far in advance of development decisions.

Gurran and Whitehead⁸ mention that dwelling completions matched the growth in households in only one year of this century although, of course, this study is now several years old. They cite the National Housing Supply Commission⁹ in their finding of a 493,000 shortfall in affordable dwellings in 2007–08. They go on to analyse the development of reforms designed to reduce planning delay and promote the supply of land that took place simultaneously in Australia and the UK between 2004 and 2008.

In more recently published work, Gurran and Phibbs¹⁰ emphasise the vested interests that exist in the housing system. Current home owners have an interest in seeing housing values persist, and preferably rise, and are considered to have an important political voice. This relationship is also evident in the UK, where there exists an uneasy relationship between the policy goal of rendering housing more affordable to lower income and younger households, and the imperative to protect the asset values of more established voters. A similar paradox exists in relation to the interface between the new and second-hand (established) sectors of the owner occupier housing market. The relationships are much more complex than simplistic policy analyses would have you believe. To illustrate, consider a recent study by Ryan et al,¹¹ who carried out a mixed methods project to examine the response of housing supply in relation to deteriorating affordability. A strand of qualitative analysis based on interviews with 17 housing developers makes particularly interesting reading given the strong echoes of causes of poor housing supply cited in a UK context. For example, the Australian developers' responses emphasise high land prices, competition and planning delays.

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These are familiar UK arguments. But responses to questions about land supply do appear quite different for Australian compared to UK developers. In Adams et al¹² it was noted that UK housing developers often trade or swap land with other developers owing to their own capacity constraints, but there is a strong preference to trade within groups or networks of trusted land buyers. Leishman¹³ builds on this, and the work of Adams et al¹⁴ who argued that developers have no option but to build slowly in a rising housing market in order to realise profit sufficient to compensate for the bid required to secure the development land in highly competitive and aggressive land markets. Leishman's¹⁵ argument is that housing developers themselves face downward sloping demand curves, rather than being price takers, with the result that they must also drip feed new supply onto the market. Meanwhile, reflecting the Australian experience, Ryan et al¹⁶ report qualitative data indicating that housing developers regard the supply of serviced land from land developers as being deliberately restricted. Again, the argument being put forward is that the restricted supply of land helps land developers realise the prices they want (or need). This probably also reflects the fact that Australian development land prices reflect future hope value from the moment of zoning for residential use.

Later in the chapter, I will return to the question: how much of a difference will recent regulatory reforms really make to housing supply and housing affordability? In the next few sections, the chapter examines recent trends in housing supply, beginning with a definition of the scope of this chapter.

Defining housing supply

It is convenient to think of housing supply as exclusively relevant to the flow of newly constructed dwellings onto the home ownership, investment and rental markets. Indeed, this is the implicit assumption of most commentaries. Yet, housing supply has other components, and these are often omitted from analysis of housing market performance. For example, we know that people move home from time-to-time, and may switch between home ownership and private rental tenures. Depending on demographic circumstances, life cycle effects, lifestyle factors and the performance of the economy, people may increase or reduce housing consumption. Even in the simplest case of a household moving from one second-hand or established dwelling to another, the impact on housing supply is not straightforward. We often think of households moving up the housing ladder, and this entails the supply of a smaller or lower quality dwelling to the market than the new dwelling being demanded. But, this is not always the case: older households may downsize to reduce consumption or free up housing equity to be used for non-housing consumption, or for intergenerational transfer.

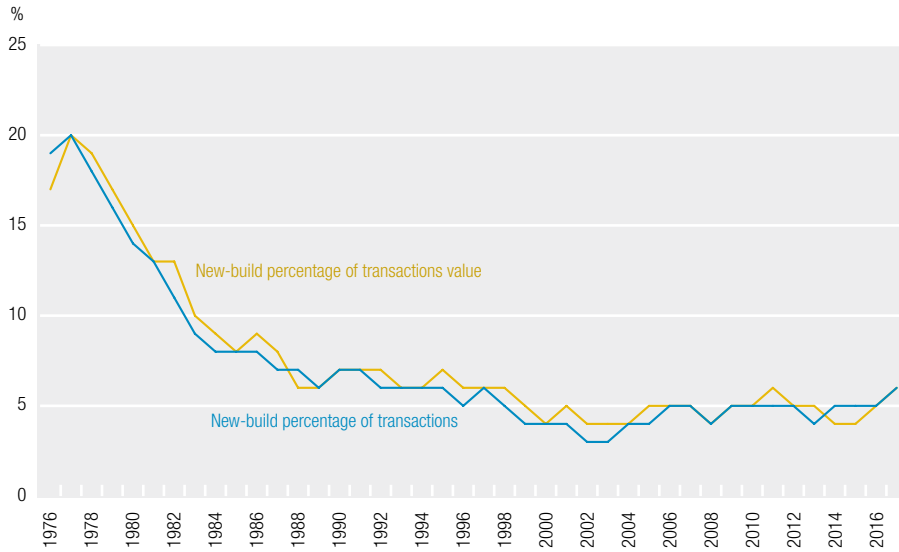
Trends in relationship breakdown are also important, given that such life events generally act to split households, leading perhaps to greater demand for smaller dwellings. The rate children reach adulthood, and the age they seek to leave home and form new households is also important, though these are clearly demand side effects. We will examine these trends later in the chapter, looking specifically through the lens of housing supply, i.e. in this chapter we are really only interested in the trends as they pertain to housing supply effects.

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The supply of new housing

In this section, we consider the recent performance of new-build housing supply, i.e. the volume of newly constructed dwellings. Figure 1 shows a very long term analysis, based on a 1976 through to 2016 time series. When we consider this long time frame, the overall impression is that new housing supply has declined significantly over the years, accounting for around 20 per cent of all market transactions in the mid-1970s, falling to around 10 per cent by the mid-1980s, and then stabilising to account for four to five per cent or so of all housing transactions by the late-1990s.

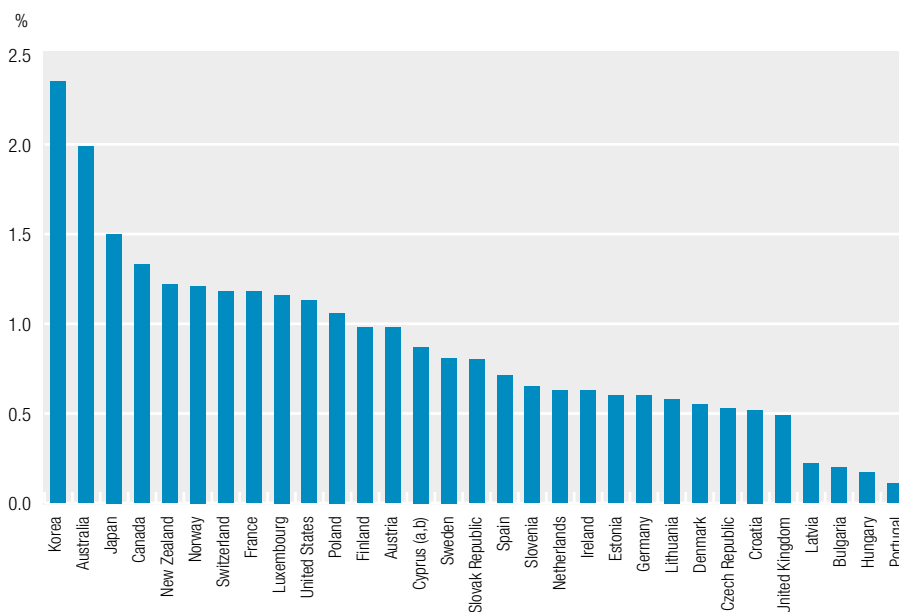
FIGURE 1
NEW-BUILD SHARE OF TRANSACTIONS AND VALUE



Source: Australian Bureau of Statistics

An inspection of more recent trends shows that the volume of newly built dwellings, as a share of all transactions or transaction value, has increased from under four per cent in the early 2000s to just over five per cent in 2015. On the face of it, this level of new housing supply might be argued to compare poorly with levels in other developed countries. For example, in the UK new housing supply accounts for approximately 10 per cent of all private housing each year.¹⁷ In fact, when measured in relation to the size of the existing dwelling stock, new housing supply in Australia is at one of the highest rates in developed countries. Figure 2

FIGURE 2
NEW SUPPLY AS PROPORTION OF DWELLING STOCK IN OECD COUNTRIES



Source: OECD 2015

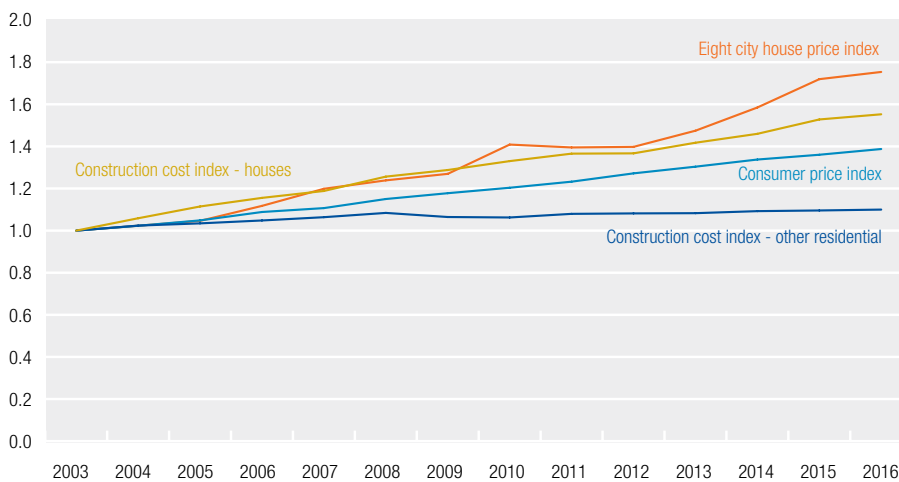
shows that at approximately two per cent of the dwelling stock, Australia's annual new housing supply is the second highest in OECD countries, exceeded only by Korea.

Of course, it is important to be cautious when drawing conclusions on the basis of national data – particularly in a country in which housing supply and affordability vary markedly between states and cities. It has been argued by a number of commentators recently that this level of new housing supply is poor, and inadequate to deal with the nation's burgeoning problems with the affordability of housing. A number of possible explanations have been put forward by such commentators, including that:

- Australia has an inadequate supply of development land, perhaps arising from irresponsive planning or planning processes inherently subject to delay;
- High construction costs have had a knock-on impact to development viability; and
- As a consequence of unionisation, Australia has an irresponsive construction industry.

Stanford¹⁸ analyses these arguments, arriving at the conclusion that an inadequate supply of land almost certainly lies at the heart of insufficient new housing supply. He demonstrates that construction cost inflation has fallen well below general inflation in recent years, and that the level of strike activity during the past five years is at a much lower level than the 10 years hitherto. This can be seen from Figure 3. This shows that the house price index for Australia (based on a weighted average of the ABS published indices for eight capital cities) has out-stripped consumer price inflation and construction cost inflation. A particularly interesting trend is the divergence between the construction cost index for houses, and the index for other residential, such as units. The cost indices are based primarily on the prices and quantities of building materials, and wages, and exclude land costs. On the face of it, there does seem to be a very discernible trend in the divergence between the costs involved in constructing houses,

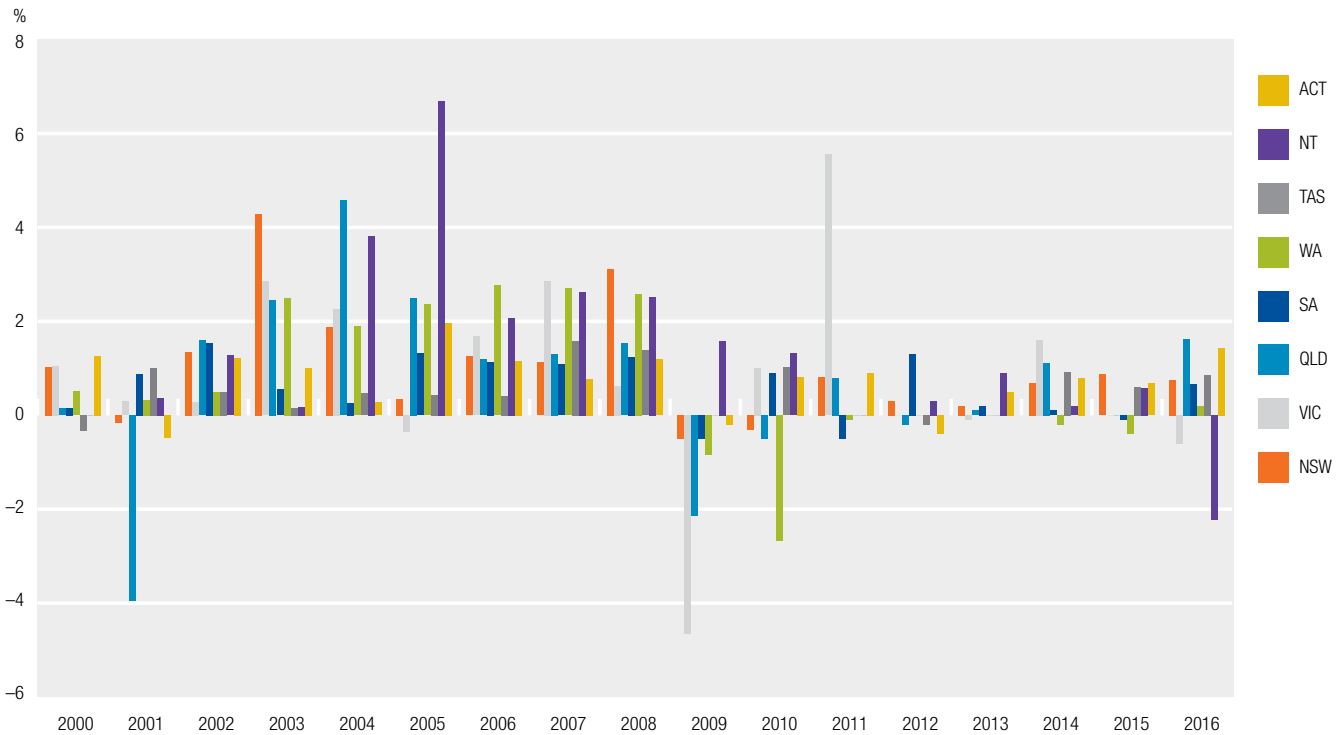
FIGURE 3
HOUSE PRICE AND CONSTRUCTION COST INFLATION



Source: Australian Bureau of Statistics

and units. A much more detailed analysis would be needed before any firm conclusions are drawn, but the trends might indicate rising quality in housing construction or a rising emphasis of new-build housing to the top end of the market. The relatively flat performance of other residential construction costs might be interpreted as arising from increasing efficiency, economies of scale, or simply cheaper construction methods.

FIGURE 4
STATE/TERRITORY COST INFLATION (OTHER RESIDENTIAL)



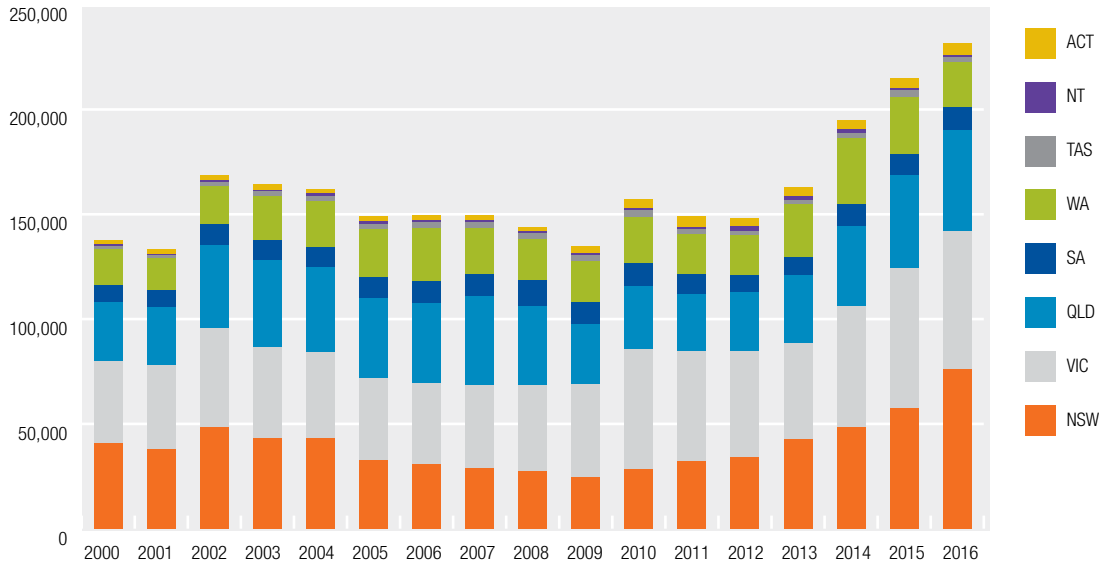
Source: Australian Bureau of Statistics

Breaking the figures down further, by state or territory, reveals some interesting insights as shown in Figure 4. In general, there is a noticeable shift in construction cost inflation rates after around 2008–09. Inflation is much lower in this time period, and there is also evidence of lower variation between states/territories.

The more recent trends shown in Figure 1 do not account for the general level of housing market activity – the analysis is based on newly built dwelling transactions as a proportion of all transactions. This may be misleading given that it is well known that housing market activity, i.e. the transactions volume is a leading indicator. Transactions tend to rise significantly and earlier than prices rise. It is also received wisdom that rising housing prices act as a price signal to developers with the result that new construction tends to lag any upswing in transactions volume.

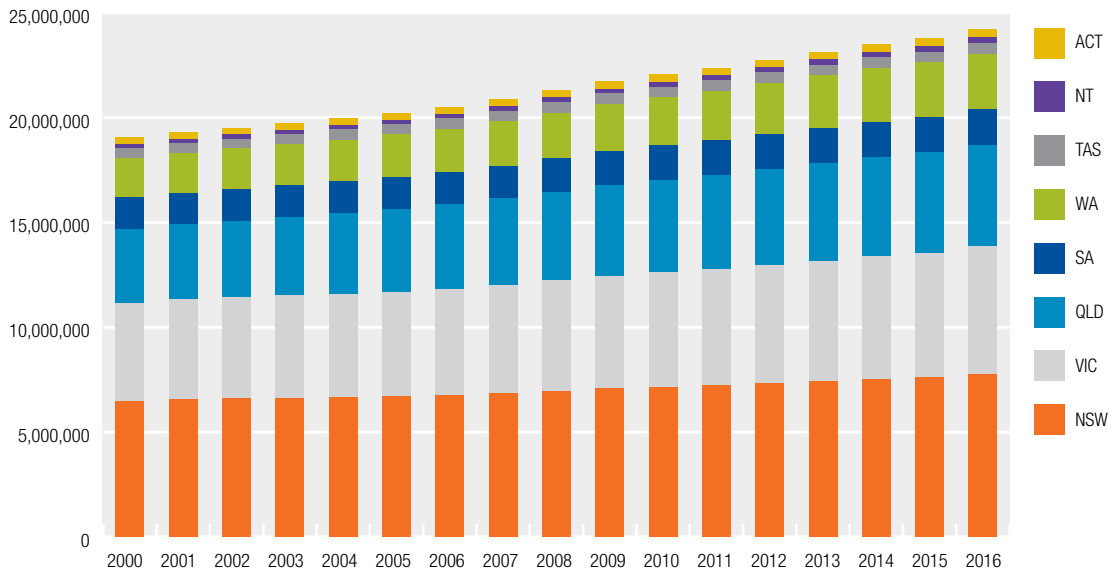
Figure 5 shows the trend in the total volume of private housing commencements. The impression stands in stark contrast to the pattern shown in Figure 1. When we consider the absolute number of dwellings being constructed it is clear that

FIGURE 5
TRENDS IN PRIVATE HOUSING COMMENCEMENTS



Source: Australian Bureau of Statistics

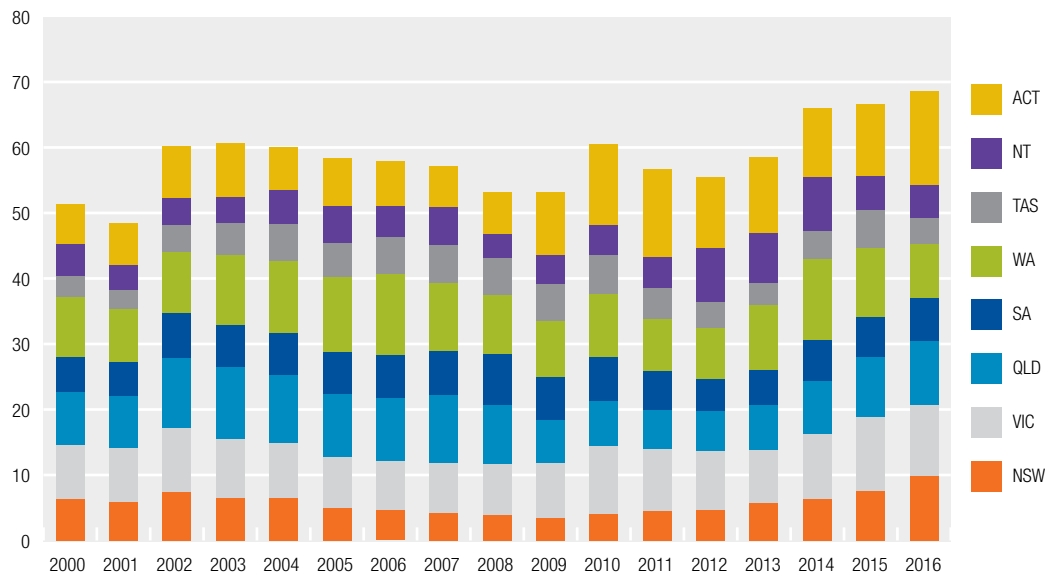
FIGURE 6
POPULATION IN AUSTRALIAN STATES AND TERRITORIES



Source: Australian Bureau of Statistics

there has been a significant rise since 2012. For the previous 10 years, commencements were on a plateau of around 150,000 per annum. From 2012 this volume increased rapidly and rose to a new high of around 225,000 in 2016. In addition, we can easily see that NSW, and to a lesser extent Victoria and Queensland, have contributed disproportionately to this growth. Yet, this analysis is also a partial picture given that Australia is experiencing pronounced and prolonged population growth (see Figure 6). The important question is whether the growth in new housing supply is adequate to meet the needs of the growing population.

FIGURE 7
COMMENCEMENTS PER 1000 HEAD OF POPULATION



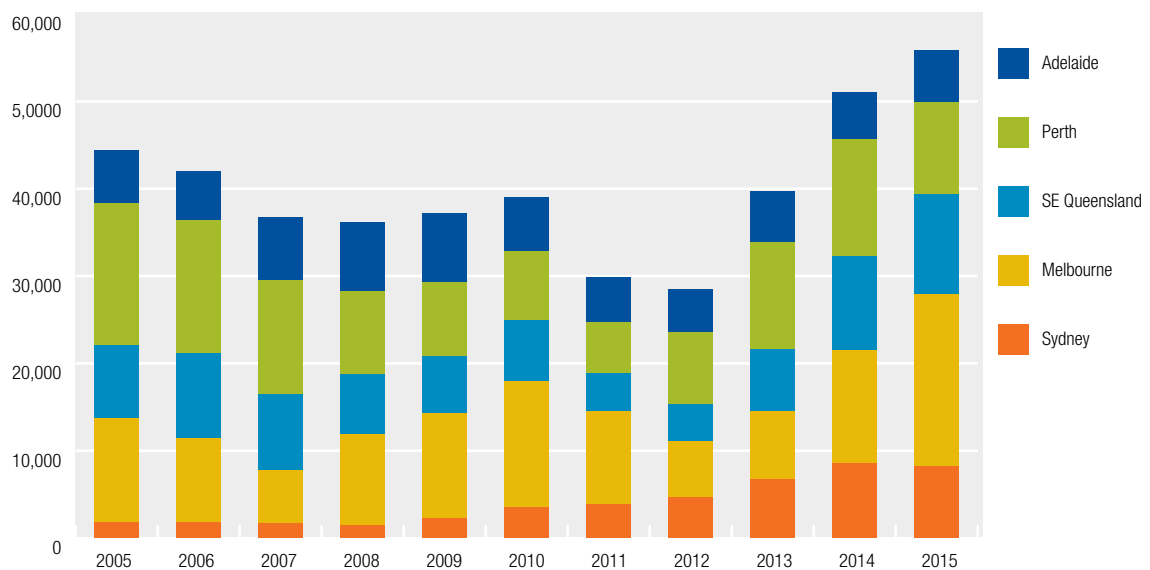
Source: Australian Bureau of Statistics

Once again, a very different picture emerges when we examine development activity in relation to a control variable. Figure 7 shows trends in the volume of private housing commencements with respect to 1000 head of population. We can immediately see that the growth since 2012 is more subdued, as we might expect, because both variables have been growing since this period. Yet, there is still net growth in private housing commencements even after controlling for population growth during this period.

A number of other interesting trends can be seen in Figure 7. For example, commencements in NSW were very low (with respect to population) between 2005 and 2012, and have only recently recovered to a level comparable to Victoria, Queensland or WA. We can see a modest decline in the level of new supply in WA from around 2008 onwards. Meanwhile, the level of supply appears much lower in Tasmania, NT and SA compared to Victoria, Queensland and WA. The ACT jumps out as having a much higher level of housing commencements than any other state, with respect to its total population.

The viability of housing development is a function of expected new-build housing prices (sale prices), construction costs, land costs, interest rates and required profits. The relationship between construction output and housing prices is a complex one because there is a degree of dual causality: higher house prices should trigger a development response but, in theory, higher levels of housing supply should help to control rates of house price growth – at least, in the long run. Given that lending conditions have been generally fairly benign in Australia, compared to other developed countries in the aftermath of the Global Financial Crisis, it is logical to look to the supply of land and the planning system as a

FIGURE 8
ESTIMATED SUPPLY OF DEVELOPMENT LAND



Source: Urban Development Institute of Australia

possible contributor to inelastic/irresponsive new housing supply. Earlier in the chapter, it was shown that high construction costs are unlikely to be a major factor in having suppressed new housing supply.

Absence of data

Data on land supply are not easy to come by, and there is no single, centralised statistical source that can be relied upon. This is not unusual in an international context. The assembly of data on development land availability or supply is very much a bottom-up process involving piecing together considerable detail at local or sub-regional level. Different planning authorities and jurisdictions tend to have slightly different data systems and working practices, with the result that variables are not readily comparable over time or between different geographical units. In Australia, perhaps the most robust source of land supply data is the Urban Development Institute of Australia (UDIA). Their annual reports provide estimates of the volume of development land released for Australia's main cities, but the coverage is patchy outwith capital cities, and the data are difficult to monitor on a time series basis.

Nevertheless, Figure 8 reveals the approximate land supply for Australia on a time series basis, using figures derived from the annual UDIA reports. The pattern very much mirrors the trend in housing commencements, with significant annual increases evident after 2012, largely reflecting activity in Victoria and Queensland and, to a lesser extent, NSW.

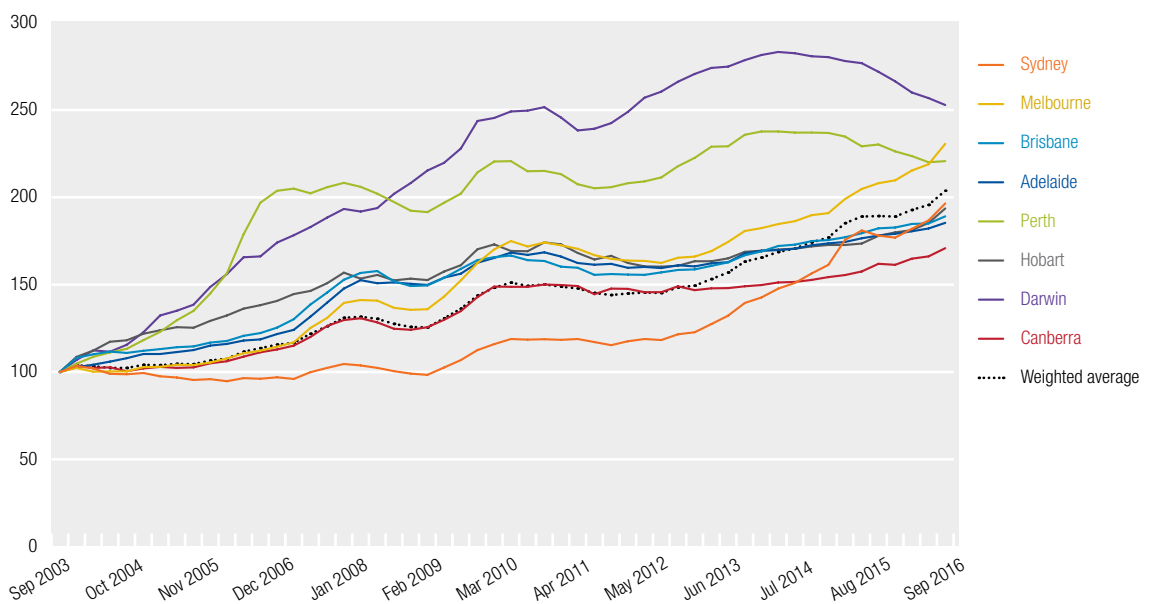
Is the supply of new housing adequate?

Whether the supply of development land or the flow of newly constructed dwellings are adequate are matters open to debate. As noted earlier in the chapter, the relationship between housing supply and house price (change) is more complex than some commentators suggest. There is undoubtedly a relationship between the size of the dwelling stock (hence, stock generated supply) and the housing price level in the long run (see Meen,^{19,20}; Leishman et al,²¹). Yet, the relationship between new housing supply, i.e. the annual flow of new housing completions, and annual change in the housing price level is much weaker. Behavioural, and also pragmatic business considerations, are also at work. While this has not yet been tested in an Australian context, Adams et al²² and Leishman²³ have shown that the design and operation of the UK planning system and development land market compel developers to build slowly to ensure that this “trickle feed” of supply permits completions to capture rising market prices. Thus, while higher levels of new supply help to control rising prices, there is a lag at work with the appearance that rising prices slowly “drag up” new supply levels, yet at a lower level than required to fully prevent further price rises.

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Casual evidence of this effect can be seen visually in Figure 9, which shows the private housing price index for Australia’s capital cities. An overall price index for Australia reflects a weighted average index of housing prices in the capital cities.

FIGURE 9
HOUSE PRICE INDICES FOR AUSTRALIA'S CAPITAL CITIES



Source: Australian Bureau of Statistics

The period since 2011 has seen price growth in Sydney far out-stripping price inflation in other cities, although Melbourne and Brisbane have grown at the next higher rate, noticeably ahead of the remaining cities. Yet, these cities have had the highest rates of new housing supply as shown in Figure 9. It is noteworthy that the supply of housing development land and the flow of new completions has been lower in Sydney than Melbourne and Brisbane, lending weight to the idea that the supply has not been adequate to control the inflationary pressures on prices.

It is clear that the annual level of housing supply in Australia has fallen dramatically since the 1970s, but when we look at the past 20 years the picture is different: the level of supply plateaued and has been gradually rising over the past 15–20 years. Figures published by OECD show that Australian annual new housing supply remains at the very high end. It is notable that there has been no serious examination of the relationship between housing supply and housing prices, or affordability, in the long run in Australia. There is a clear gap in the evidence base, and a significant piece of research is urgently needed to address this deficit. In the absence of such an evidence base it would not be appropriate to draw firm conclusions about the next steps for policy makers, but it is worth reflecting on several emerging facts about the interfaces between land markets and new housing supply, and between new and established sectors of the home ownership housing market.

Developer competition

There is evidence that competition is a potential problem. In the UK, housing developers cite intense competition for land with the result that they bid aggressively to acquire land, paying high prices and are then compelled to build slowly to take advantage of rising housing prices. Some UK housing developers are orientated towards high volume, low margin housing completions. Others make as much money from land speculation and development than housing development. Concern about the level of competition in the UK housing supply system led the UK's Office for Fair Trading to launch a market study.²⁴ The system in Australia is clearly very different, but similar concerns arise. There is some evidence of concern among housing developers that serviced land is priced to the margin of viability.

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Some commentators have pursued the argument that planning gain, betterment or contributions to the development of affordable housing, might be yielded through inclusionary zoning. Indeed, there is potential for Australian housing policy to learn from the successes (and failures) of UK policy (see Leishman and Rowley²⁵ for a discussion).

With discretionary zoning, the potential for success rests on the ability of the state (policymakers) to second-guess the potential locations of viable new housing development more effectively than the private sector. The underlying idea is to secure a commitment to societally-beneficial contributions from developers before land suitable for housing development is identified and zoned as such, and

the hope value reflected in the market value of the land. However, economists have long recognised the superior ability of private markets to find viable development opportunities in advance of policy markets. We should be cautious about the potential for the public sector to realise planning gains through inclusionary zoning.

Perhaps the greatest problem for policymakers lies in the interface of complex markets with very different market structures. This might sound unappetisingly theoretical, but perhaps it is time to acknowledge that housing and land markets, and housing supply, are simply not understood well enough? Perhaps we should permit ourselves to theorise the problem. Consider the headline market structure attributes of the following markets, to illustrate:

“Huge numbers of non-urban land owners exist as potential suppliers of land suitable to be zoned for residential development land, serviced and sold to housing developers. These owners are clearly in a weak position in terms of market power. Land developers are in a stronger position in the negotiation process, but are exposed to risks...”

Market	Potential vendors	Potential buyers	Possible market structure
Unserviced development land market	Very many	Very few	Oligopsony
Serviced development land market	Very few	Few	Oligopoly
Construction contracting	Many	Many	Monopolistically competitive
Market for established housing	Very many	Very many	≈ perfectly competitive
Market for new-build variant of housing	Few	Very many	Monopolistically competitive

Putting this into words, huge numbers of non-urban land owners exist as potential suppliers of land suitable to be zoned for residential development land, serviced and sold to housing developers. These owners are clearly in a weak position in terms of market power. Land developers are in a stronger position in the negotiation process, but are exposed to the risks inherent in purchasing or taking options on land without official approval to be developed for housing. Housing developers are in the weakest position of all in that they must purchase development land from the few land developers in the local market, and have weak market power as a result, but must supply finished housing to a market dominated by established or second-hand housing units, and thus have weak market power in that market also. Overall, the conclusion must be that our housing system has been designed – inadvertently, of course – to supply new additions at a lesser rate than needed to keep housing prices and affordability within acceptable limits.

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