



Final Report

Housing markets, economic productivity, and risk: international evidence and policy implications for Australia

Volume 2: Supplementary papers

authored by

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ACRONYMS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AHURI	Australian Housing and Urban Research Institute Limited
BTS	Bureau of Transport Statistics
CINCH	Components of Inventory Change (USA)
COAG	Council of Australian Governments
DCLG	Department for Communities and Local Government
DHCD	Department of Housing and Community Development (USA)
EU	European Union
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GIS	Geographic Information Systems
HADS	Housing Affordability Data System
HIA	Housing Industry Association
HUD	Department of Housing and Urban Development
JCHS	Joint Centre for Housing Studies
LGA	Local Government Area
NAHA	National Affordable Housing Agreement
NAO	National Audit Office
NHSC	National Housing Supply Council
NSW	New South Wales
OECD	Organisation for Economic Cooperation and Development
OTF	Office of Fair Trading
SA	South Australia
SCRGSP	Steering Committee for the Review of Government Service Provision
TfNSW	Transport for New South Wales
UK	United Kingdom
US	United States
USPS	United States Postal Service
WA	Western Australia
WAPC	Western Australian Planning Commission

INTRODUCTION TO THE DISCUSSION PAPERS

The four papers in this volume are provided as supplementary material to the Final Report, *Housing markets, economic productivity and risk: international experiences and implications for Australia*. These papers were prepared as background material to inform and stimulate the Investigative Panel discussions. Minor edits and amendments were made following the panel deliberations, in response to panellists' comments.

The first discussion paper defines key concepts surrounding housing market efficiency and responsiveness, drawing on the established international literature in this field. It situates the housing market in relation to the wider urban and regional economy. It also proposes a policy relevant definition of housing market efficiency and a set of indicators for measuring the responsiveness of housing supply. The second discussion paper draws on international experience relating to under/oversupply in housing markets, and policy implications for Australia associated with related economic opportunities and risks. The third discussion paper proposes an analytical typology of housing market contexts, drivers and supply responses, for the Australian context, as a basis for identifying and monitoring the impacts of urban planning and wider policy interventions for housing affordability and economic productivity. The final discussion paper canvasses information sources and approaches to analysing housing markets and supporting responsive supply at regional and local levels.

DISCUSSION PAPER 1—UNDERSTANDING AND MEASURING HOUSING MARKET EFFICIENCY AND RESPONSIVENESS IN AUSTRALIA

This paper, which is the first in the discussion paper series, defines key concepts surrounding housing market efficiency and responsiveness, drawing on the established international literature in this field, and situates the housing market in relation to the wider urban and regional economy. It proposes a policy-relevant definition of housing market efficiency and a set of indicators for measuring the responsiveness of housing supply.

1 INTRODUCTION

Over the past decade, and particularly since the Global Financial Crisis (GFC), there has been increasing policy interest in relationships between housing and the wider economy, both in Australia (Berry & Dalton 2004; Beer et al. 2011; Yates 2011) and internationally (Muellbauer & Murphy 2008; OECD 2011; Levitin & Wachter 2013). Such work highlights how economic goals including industry productivity, high employment, and overall financial stability are threatened by poorly functioning housing markets. Further, as highlighted by a number of studies and government inquiries in Australia, policy settings designed to encourage home ownership and property investment may exacerbate price inflation and consequent affordability pressures for lower income groups without supporting aspiring purchasers or generating new housing supply (Parliament of Australia 2008; Yates 2010; Wood et al. 2012a). Although there has been considerable policy development around these distortions (Henry et al. 2010; Wood et al. 2012b), a key additional area for policy intervention is around the supply of new housing in response to demand (National Housing Supply Council (NHSC) 2014).

Despite concerted efforts by the Australian states and territories to reduce regulatory burdens perceived to affect housing supply (COAG Reform Council 2012b), overall there has been very limited analysis of the efficacy of these reforms in alleviating supply pressures. Further, although Australia's National Affordable Housing Agreement (NAHA) identifies a number of outcomes relating to the supply of housing, including that 'people are able to rent housing that meets their needs; that people can purchase affordable housing' and that 'people have access to housing through an *efficient and responsive* housing market" (COAG 2009, p.4 [italics added]), there has been very little systematic analysis of the capacity for regional and local urban planning policy and procedural frameworks to respond to changing housing needs and affordability pressures in Australia. Indeed, although performance against the NAHA is subject to annual review (Steering Committee for the Review of Government Service Provision (SCRGSP) 2012, 2014), outcome 3—'an efficient and responsive housing market' remains unmeasured.

1.1 About this project

In this context, and building on recent international experience, this project, funded by the Australian Housing and Urban Research Institute (AHURI), aimed to address these themes. Through deliberative discussion with an investigative panel of national and international experts (October 2014), the project aimed to critically examine the notion of housing market efficiency within the wider economic context, and to identify meaningful indicators of housing market responsiveness and risk, relevant to the Australian setting. The project also aimed to examine the ways in which particular housing supply settings (planning frameworks) and outcomes (affordability, tenure, location, density and design of housing) may influence economic productivity in Australian cities and regions. An important objective of the panel deliberations was to examine and connect the range of data potentially available to planners to more accurately monitor and respond to trends in housing supply and demand at regional and local scales.

1.2 Overview of this paper and the discussion paper series

This paper is the first in a series of four discussion papers originally prepared to inform the panel deliberations. Revised following the panel meeting, the paper sets out the key concepts framing this project and draws on the established international literature in this field and a number of Australian research and policy papers, to situate the housing market in relation to urban and regional policy and the wider economy. It asks:

How should housing market efficiency and responsiveness be understood and measured in Australia?

The introductory material presented in this paper is also intended to provide a basis for understanding the reasons for, and the potential implications of, government intervention in housing markets through urban planning, as a basis for identifying relevant indicators to inform these interventions at regional and local scales.

The second discussion paper draws on international experience relating to under/over supply in housing markets, and policy implications for Australia associated with related economic opportunities and risks. The third discussion paper proposes an analytical typology of housing market contexts, drivers and supply responses for the Australian context as a basis for identifying and monitoring the impacts of urban planning and wider policy interventions for housing affordability and economic productivity. Paper 4 canvasses information sources and approaches to analysing housing markets and supporting responsive supply at regional and local levels in Australia.

2 ECONOMIC EFFICIENCY, PRODUCTIVITY, AND THE HOUSING MARKET

The social and economic importance of housing is recognised by all levels of Australian government. Among the strategic themes addressed under the Council of Australian Governments' (COAG) reform agenda, priority three 'aims to ensure all Australians have access to affordable, safe and sustainable housing which can, in turn, contribute to improved social and economic participation' (COAG 2014, p.1). However, the connections between the housing market and wider economic policy objectives are not always well understood. The following sections introduce the key concepts of economic efficiency and productivity, and outline intersections between these objectives and the housing market.

2.1 Economic efficiency

The concept of 'efficiency' is used in many different ways (Productivity Commission 2013; Stone 2013). In a descriptive sense, 'efficiency' means making the maximum use of available resources, including labour, capital, and time (Monkkonen & Ronconi 2013). The Australian Productivity Commission describes economic efficiency as the central criterion used to evaluate policies and programs:

Essentially, overall economic efficiency is attained when individuals in society maximise their utility, given the resources available in the economy. In other words, an increase in economic efficiency improves the wellbeing of the members of the community—the ultimate goal of most policy or regulatory endeavours. (Productivity Commission 2013, p.2)

Dimensions of efficiency can be understood in relation to:

- 'Productive' or 'technical' efficiency—that is, that 'every item that is produced, or service that is provided, is done with the least expenditure of time, money, materials'.
- 'Allocative efficiency'—'allocating resources to produce and provide items and services of the highest total value', having regard to existing investments and opportunities.
- 'Dynamic efficiency'—'finding new ways to fill needs ... ensuring that new technologies, new ways of operating, and new ways of thinking are able to be used' (Stone 2013, p.4).

While there is often an emphasis on productive efficiency, the other dimensions of efficiency are also important. For instance, the Productivity Commission describes allocative efficiency as 'ensuring the community gets the greatest return (or utility) from its scarce resources':

A country's resources can be used in many different ways. The best or 'most efficient' allocation of resources uses them in the way that contributes most to community wellbeing. (Productivity Commission 2013, p.3)

Dynamic efficiency is an important concept for evaluating investments that may generate returns over time by supporting innovation and productivity (producing more with less), which should 'enhance future outcomes in a way that supports the community's ongoing wellbeing' (Productivity Commission 2013, p.6).

Applying these dimensions of economic efficiency to the housing market and urban development, efficiency criteria might imply that:

- The existing stock of urbanised land and dwellings are used to their maximum potential.
- New urban and housing development is carried out at least resource cost, maximising the latest technological advances and supporting future changes in the ways that cities and dwellings are inhabited.

- The range of explicit and implicit government subsidies relating to housing support optimal outcomes in terms of enabling a supply of affordable and appropriate housing options for households, especially those who would otherwise be unable to meet their housing needs in the market (Table 1).

Table 1: Notions of economic efficiency, urban development, and the housing market

Dimension	Efficient	Inefficient
Productive / Technical	<p>New housing development occurs at least resource cost (time, money, materials)</p> <p>New infrastructure and services, where necessary are designed and delivered at least resource cost</p>	<p>Slow production of new homes in response to increased demand</p> <p>Construction industry/infrastructure provision practices wasteful, incompetent/unskilled labour</p>
Allocative	<p>Existing housing is maintained and renewed/redeveloped to meet changing preferences of owners/retain & enhance value of original investment</p> <p>Owners of existing housing sell homes when their circumstances change, to better meet preferences</p> <p>New housing supply generates a 'trickle down effect' so that a quantum increase in total supply improves availability across the housing market</p> <p>Rental housing available at a variety of price points, in locations near employment, to meet changing demand</p> <p>Sunk investment in urban infrastructure is maximised by focusing new housing opportunities in existing areas</p> <p>New housing provided in areas of employment growth/increasing housing demand</p>	<p>Excess housing produced/vacant/under-utilised housing in lower demand locations</p> <p>Existing home owners 'locked in' to homes that no longer suit preferences because of high transaction costs (e.g. incomplete knowledge of alternatives) or inability to recoup original investment (negative equity)/afford replacement</p> <p>Home owners 'over-capitalise' on house</p> <p>Increases in housing supply fail to 'filter down' the market, while affordable housing options 'filter up'</p> <p>New housing areas produced in greenfield areas, despite potential redevelopment opportunities in existing urban footprint</p> <p>Jobs/housing mismatch</p>
Dynamic	<p>New investments are designed to deliver maximum returns (productivity, value, welfare)—for instance, infrastructure to support job retention/creation near housing</p> <p>New housing developments capitalise on latest technologies in construction/design</p> <p>New investment in housing supports adjustment of existing stock over time, to support new demographic trends and new technologies affecting work, communication, and transport</p> <p>Housing stock designed to enable householders to adapt to future changes in climate/energy costs</p>	<p>Existing urban infrastructure has latent capacity but new infrastructure produced to support housing on fringe</p> <p>Industry unable to innovate—new housing development replicates existing patterns of production, despite changed market preferences/needs</p> <p>Infrastructure investment does not maximise potential for future returns (e.g. to support complimentary housing/employment growth)</p>
Public financial	<p>Housing development occurs in areas where little net public investment is required</p> <p>Subsidies overcome barriers to the supply of affordable housing in high demand locations</p>	<p>Housing development occurs in areas where significant public investment is required, e.g. leapfrog urban development</p> <p>Housing subsidies don't generate additional housing supply for lower income groups but rather support housing development that would likely happen anyway</p> <p>Housing development in lower demand locations is subsidised</p>

Source: The authors

Overall, it is assumed that the private market, if operating efficiently, will deliver efficient outcomes through the allocative mechanism of price. Therefore, inefficient housing market outcomes such as those outlined above would, in theory, arise from a policy failure, such as excessive regulation.

There are a number of reasons why this theory does not play out as predicted, overall, and in relation to housing markets in particular, discussed further below. Nevertheless, the dimensions of efficiency might provide a diagnostic basis for deciding when to intervene to improve housing market efficiency overall or at regional and local scales; as well as for evaluating the efficacy of the intervention itself in supporting an adequate flow of homes on the market to meet the needs of households across the income spectrum.

2.2 Efficient markets, demand and supply

As noted, an efficient market will assign resources to produce optimum outputs, with price operating as the mechanism for allocation. According to the efficient market theory, a change in the price of a particular good should trigger a commensurate change in supply.

However, there are a number of conditions that need to be satisfied for market efficiency. These include perfect competition (many producers/sellers and buyers), accurate and timely information (about the value of the particular good and potential alternatives/substitute goods), and no 'externalities' (positive or negative spillovers that are not captured by price) (Evans 2004).

Within this idealised market, the optimum quantity of goods and services will be produced in relation to consumers' needs and budgets, with no surplus provision of goods for which there is no market (i.e. goods people are not willing or able to pay for):

Abstract economic models predict that well-functioning markets will match supply and demand so that goods and services are produced at prices and in quantities that will be purchased to provide maximum satisfaction of consumers' needs within their constrained budgets. So no effort is wasted on production of items or the provision of services that people are not willing to pay for. (Stone 2013, p.7)

In theory an efficient market will self-correct, allowing lag times for production to catch up to demand, and for information about new supply to reach buyers and other sellers, moderating expectations about price. Thus, there is always likely to be some cyclical volatility in markets as this relationship between demand and supply moves back towards equilibrium.

Markets are thought to fail when there is an interruption between the 'self-correcting' nature of the forces of demand and supply:

Deviations from efficiency, be they in terms of high or excessive costs, or other forms of imperfection on demand or supply side, may ultimately reflect market failures which require correction through appropriate intervention to increase efficiency. (Gibb 2009, p.30)

In an inefficient market, increases in demand will not generate increased supply, so prices will rise. Inefficiencies can arise through several types of market failure:

- Monopolistic conditions—when there is inadequate competition, because a single seller or group of sellers operating together, dominate the market.
- Externalities—positive or negative 'spillovers' not reflected in price.
- Public goods—goods that are unable to be rationed, or for which rationing would undermine a societal goal.
- Information asymmetries—where not all potential buyers or sellers have access to information to inform their decisions.

A limitation of the concept of economic efficiency is that it tends to overlook equity concerns associated with uneven income/unemployment—where income constraints prevent some sectors from adequately participating in the market.

Governments can intervene to assist in improving economic efficiency—for instance, by trying to ensure that market prices of goods and services reflect their 'true economic costs' (Productivity Commission 2013, p.4). Where there is significant market failure, or to address policy objectives relating to wealth distribution and quality of life, other forms of government intervention—principally through powers of taxation, expenditure, and regulation, are used. Berry (2006) notes that Australian governments have intervened in housing markets to address allocative inefficiencies—arising from uneven distribution of wealth, to fund social housing provision and to support home ownership and property investment. However, these interventions in turn may affect patterns of production, consumption and investment.

2.3 Why the housing market is different

Housing markets operate in different ways to other markets so the concept of efficiency is particularly problematic. These differences arise in part due to particular characteristics of housing and real estate, and in part due to characteristics of the psychology of buyers and sellers. Again, much has been written about these differences in the literature. The sections below summarise deeper accounts provided by MacLennan (2012), Evans (2004) and Gibb (2012).

2.3.1 *Why the housing market is different*

The housing market differs from other markets in a number of ways:

... the housing market is not really a single market in the neoclassical sense, but a series of overlapping submarkets differentiated by location, dwelling type, tenure form, age, quality and financing. (Smith et al. 1988, p.30)

Since houses are fixed in a particular location, locational attributes (land value) are implicitly part of price. This locational fixity creates potential monopoly power and also significant risks over time. Like locations, dwellings themselves are unique and heterogeneous, with limited substitutability, meaning that price is difficult to determine and there is likely to be limited information.

Houses also take a long time to produce, and are very durable, meaning that new houses will make up only a small proportion (around 2%) of overall supply in Australia. While new housing production and adjustments to the existing stock through alterations and additions requires a long lead time, demand can change very quickly in particular market conditions as there is a large pool of potential participants, including from other countries.

Further, houses have a use value and a status value, satisfying both needs and wants. Houses also have an asset value, explaining why, in contrast to other goods, where upward price movements reduce consumer demand and downward signals tend to increase consumption, in housing markets the reverse is often true. Thus, increasing demand as expressed in rising prices can continue along with increased supply, interrupting the predicted equilibrium relationship between increased supply acting to moderate price.

While over time the relationship is expected to adjust, thereby, correcting the market imbalance, in practice there are many potential inefficiencies that can arise from a situation of excess housing supply, particularly at the local or neighbourhood scale. Unlike other goods, there are difficulties in discounting housing as a strategy to clear inventory, and the durability of housing means that excess supply is not easily absorbed into the market.

These characteristics make housing markets more volatile than other markets.

The fundamental features of housing and the range of markets that home construction has to interface with means that the housing supply process is likely to be sticky and encounter market failures and imperfections despite a de-concentrated structure of ownership. (MacLennan 2012, p.15).

Although excess supply should initially be reflected in vacancy rates (or excess sales inventory), reducing the price expectations of sellers and offering more affordable opportunities for buyers and renters, this does not necessarily occur:

There is reason to believe that housing markets, especially low-rent segments, do not operate efficiently ... Much of the response to falling housing demand tends to result in declining transaction volumes and rising vacancy rates, rather than falling prices and rents. During the declining phase tenants may also have to bear the impact of increasing rental yields as landlord-investors seek to offset falling expected capital gains; rental yields and vacancy rates tend to fall during a property boom and resume 'normal' levels in the aftermath. Rents may also be 'sticky' in the downward direction because current leases do not allow immediate renegotiation of rent levels. (Berry 2006, p.62)

Nevertheless, over time, if rents or potential capital gain falls beneath the costs of maintaining a property, there is a significant risk of spiralling disinvestment and ultimately abandonment. Depending on the characteristics of the market, neighbourhood disinvestment or excess supply of a particular housing type makes it difficult for potential buyers to secure finance for purchase, exacerbating the spiral of negative neighbourhood effects.

This example illustrates the problems associated with a narrow concept of housing market efficiency in relation to wider dimensions of urban economic stability. While heavy price discounting to clear a surplus of housing supply is an 'efficient' market response, when this results in neighbourhood disinvestment and depopulation, spatial inequalities and uneven housing, wealth effects are exacerbated. Therefore it is important to consider the relationship between housing demand and supply more closely as a precursor to examining the policy settings governing new housing production in Australia.

2.3.2 Responsiveness of housing supply

In economic terms, supply 'elasticity' describes the amount of supply released onto the market in response to demand. When a market is unresponsive to increased demand, prices tend to rise. Supply increases largely through the production of new homes, and alterations or additions to existing houses, where these enhancements result in additional dwellings, net of demolitions. The supply of lower priced housing expands through the direct provision of subsidised housing, low cost market accommodation, and depreciation of the existing stock. Similarly, renovations to existing homes and wider gentrification of an area, typically involves a loss of lower cost housing supply unless measures to offset these effects (e.g. an inclusionary housing scheme) are introduced.

Factors which potentially inhibit supply responsiveness include urban settlement patterns and constraints, regulatory barriers constraining diverse and lower cost housing development, or delaying the development process, as well as inertia within the second-hand housing market, are discussed further below.

Price inflation arising from an inadequate supply response to increased demand, causes affordability barriers for low-income groups and leads to wider economic problems:

An unresponsive housing supply can increase the sensitivity of house prices to demand shocks, and thus, influence private consumption patterns and residential investment. (Sánchez Caldera & Johansson 2011, p.231)

However, Stevenson and Young (2014) also point out that higher elasticities might also have some negative consequences such as the risk of over-supply of housing, which was a particular issue for the Irish economy in the lead up to the GFC. These are explored further in Discussion Paper 2. This is a particular issue in relation to the production of new housing in response to speculative demand. However, flows of both established and new homes affect the balance of housing supply in response to changing demand.

2.3.3 Demand elasticities and flow in the established housing market

The majority of the housing stock already exists within established neighbourhoods, and indeed much of the supply of homes for sale or rent is dominated by this 'second-hand' market. Therefore, understanding market responsiveness to changing demand includes consideration of the factors affecting the release of existing supply. In theory, households should adjust their housing in line with key life cycle stages or to improve their economic circumstances—for instance, to be closer to job opportunities, or to take advantage of lower priced homes. This process generates much of the housing supply on the market—for instance, when younger cohorts form a household and enter home purchase, thus freeing up rental stock; or when 'empty nesters' seek to downsize and sell the family home.

These established patterns have been interrupted by a number of well documented demographic (population ageing, smaller households) and socio-economic changes (e.g. affordability pressures) affecting the housing careers of Australian households over the past three decades (Beer & Faulkner 2009). In turn, these changes have reduced tenure mobility and increased competition at the bottom end of the housing market. Housing affordability factors and the availability of appropriate options may also influence household decisions about housing consumption (NHSC 2014).

Householders often have strong ties to their own dwelling (especially among older households) and to particular areas, because of family, social networks, education, or work. Combined with the high frictions associated with the transaction costs of buying and selling (sales commissions, taxes, vacancy and moving expenses), even if price signals offer an incentive to sell, and there are lower priced homes for sale or rent in alternative locations, householders will seldom move simply because of this price differential. This highlights the importance of understanding and responding to locally different patterns of housing supply and demand.

By contrast, even when highly motivated to move to a different location for work or lifestyle reasons, the lock in effects of home ownership mean that home owners are often reluctant or unable to move if they cannot obtain a sufficient price for their home, or if they cannot afford a replacement home in the new location.

Interestingly, however, while traditional economic models suggest that more expensive housing markets will be avoided by employees, adjusting for householder life stage, more nuanced local market research shows that skilled workers will move to locations for higher wages, notwithstanding the higher house prices in these regions. Unsurprisingly, high amenities also attract skilled workers to higher value housing markets (Plantinga et al. 2013).

In all scenarios, there are high search costs for households associated with identifying alternative, substitute homes and locations. Understanding and addressing these causes of inertia may provide levers for enhancing the flow of homes for sale or rent in established suburbs, discussed further below.

2.4 Demand side factors constraining housing market responsiveness

Residential mobility is an important aspect of an efficient and responsive housing market—promoting the best match of households to existing dwelling services, and supporting labour

force and employment growth. However, residential mobility itself is constrained by a shortage of housing supply—the availability of appropriately priced housing alternatives.

To understand the ways in which household mobility might be optimised, it is important to consider the reasons that households may wish to move—or to stay—in a particular location, some of which were highlighted above. In summary, these factors include:

- Search costs including knowledge or awareness of alternative locations.
- Place/neighbourhood attachment.
- Desire to remain within socio-administrative boundaries (e.g. school catchments).
- Current market trends in house prices and rents expectations of future price changes within the existing area.
- Transaction costs (real estate commissions, stamp duty payments, costs of refinancing).

These are summarised in the table below as a set of 'push, pull, and stay' factors (Table 2).

Table 2: Factors influencing residential mobility and implications

Push factor	Pull factor	Stay factor	Implication
Housing far from employment opportunities	Move to be closer to jobs	Value of house too low/negative equity Lack of appropriate and affordable alternatives in desired location Transaction costs of moving	Labour force constraints Long commuting and congestion
Housing too small for household preferences	Move/upgrade to larger dwelling	Neighbourhood attachment Lack of affordable alternatives (to rent or purchase) in desired location Unaware of potential 'substitutes' Transaction costs	Filtering 'down' not effective Invest in existing home—upgrade—rather than move
Housing too large for household requirements	Downsize and achieve a capital gain	Lack of lower priced alternatives in existing/preferred neighbourhood Transaction costs Financial incentives with tax free capital gains on family home and exemption on asset test for pension	Filtering not effective—supply of larger homes not affordable for younger households
Housing costs too expensive	Move to a more affordable housing market	Neighbourhood attachment Risk of incurring a loss (home purchasers) Transaction costs exceed savings	Housing market unable to adjust Household formation rates decrease
Lease terminated by landlord	-	-	Involuntary move creates financial burden for household, disrupts social networks, etc. May undermine employment opportunities

Source: The authors

While there has been some policy emphasis on the ways in which household mobility decisions can enhance financial outcomes for households, there is only limited research on the 'mobilities of disadvantage'—that is—the personal and financial consequences arising from involuntary moves (Murdie & Teixeira 2011).

Often one of the most significant consequences is the need to relocate in lower priced areas, which are typically characterised by poor accessibility to employment opportunities and other important services. Tracing the spatial mobility of lower income households and the implications in terms of access to employment and other opportunities is an important urban policy consideration. It is also an important issue in terms of the impact of the housing market on overall economic efficiency, as demonstrated in Table 2 above.

The theoretical concept of 'filtering' is closely related to residential mobility. Filtering can be used in relation to the quality and price of homes, as well as to the income levels of residents in particular neighborhoods. 'Filtering' processes occur when existing stock increases or decreases in price and or quality, relative to former market positions, and when lower income groups become 'priced out' of a particular area. The related concept of 'trickle down' implies that any additions to the housing stock increases overall housing supply and improves affordability across the market, not only by promoting equilibrium between supply and demand, but also by enabling second and third home buyers to vacate their original dwelling. However, it is often the case that housing in particular areas 'filter up' rather than downwards, particularly in contexts of inner city gentrification and where households chose to renovate their existing home rather than release it to market.

Overall, there is limited evidence that in Australia's housing markets, the process of 'filtering' works effectively to release lower priced established homes onto the market following a supply change.

2.4.1 Supply of newly constructed homes

The supply constraints in the market for established homes are somewhat different in relation to newly constructed housing. A major difference is that new homes by definition represent an addition to housing supply, while many other factors influence the flow of established homes onto the market. Further, new homes produced as part of a larger housing development are generally easier to market and to price, in part because there is often greater substitutability (among new homes in residential estates and among higher density attached homes and apartments), but they take time to produce. Therefore, much policy attention has focused on the constraints associated with producing new housing and the extent to which new housing production is able to respond to changes in demand.

In simple terms, these factors relate to the availability and costs of residential land for development, materials, labour and finance, and perceived marketability of the finished product relative to likely consumer demand. The impact of regulations—particularly planning controls governing the location and intensity of housing development, have been a focus of intensive policy concern and reform in Australia (Local Government and Planning Ministers' Council 2011; Productivity Commission 2011; COAG Reform Council 2012; Gurran & Phibbs 2013).

International literature suggests that factors affecting the housing development and construction industry are likely to be specific to particular nations (Coq-Huelva 2013). However, understanding these differences may help explain different patterns of supply responsiveness to changing demand. For instance, the integrated land development and house building functions of the residential industry in nations such as the United States and the United Kingdom, where the majority of private housing is produced on speculation, is distinctly different to the Australian context where detached dwellings are generally constructed according to an individual contract between builder and home owner. However, with housing demand increasingly concentrated within existing urban areas, new forms of higher density housing development imply a need for significant institutional change across Australia's

housing industry as has occurred in the UK in response to similar shifts in planning policy in the early 1990s (Karadimitriou 2013).

The limited research and policy literature on Australia's housing development industry (Dowling 2005; Coiacetto 2009) highlights the need to consider:

- Organisation, segmentation, and competition within the industry (across functions such as land development, housing construction, finance, sales and marketing), with some firms combining all functions but most contracting out all or some aspects of the housing development/construction process.
- Productive efficiency of the industry, hampered by a paucity of consistent data about input costs across the various components of the housing development and construction process.
- Influences on industry decisions regarding the location(s) and type of housing developed, levels of specialisation versus diversification of products.
- The capacity of the industry to innovate, particularly in taking up lower cost or more sustainable approaches to production (to date the emphasis has been on building forms, but innovation might also extend across forms of housing design and tenure).

The cyclical nature of housing markets means that important industry skills and capacity is often lost during a downturn, although an active non-profit housing sector may cushion these impacts. For instance, Australia's social housing initiative in response to the GFC was an important measure to sustain the building industry during a period of low demand (KPMG 2012).

The location of new homes is an important consideration in relation to the potential responsiveness of new supply. As noted above, increasing housing supply within existing areas responds to higher demand for homes already accessible to infrastructure, services, and employment opportunities. Diversifying housing opportunities within existing areas is also likely to generate greater flow on effects as households are able to 'trade up' or 'downsize' within their own neighbourhoods. A key constraint has been that development costs are typically higher within existing locations than in greenfield sites, even when allowing for additional expenses associated with infrastructure provision. In established areas, community opposition to additional development is also higher (Ruming et al. 2012). However, as the construction industry adjusts to new approaches to housing production, costs may reduce. For instance, costs associated with medium density housing construction in Sydney are now lower than for detached dwellings (NHSC 2010).

Nevertheless, Australian housing developers continue to face a number of barriers to operating within existing urban, including site assembly and acquisition, securing planning approval, and obtaining finance (Rowley & Phibbs 2012). A major recent study involving extensive interviews across NSW, Western Australia and Victoria, found the significant diversity of development firms across the housing industry influenced responses to policy initiatives (Rowley et al. 2014). Small and medium-sized developers were most likely to respond to initiatives designed to minimise delays in approval and to offer flexibility in infrastructure charging. Some recent government initiatives designed to support private sector provision of lower cost housing, such as joint venture partnerships and government shared equity schemes, have also proved effective in overcoming finance-based impediments to new housing production (Rowley et al. 2014).

2.5 Urban structure, the housing markets, and supply constraints

The preceding discussion has tended to imply that the housing market is a unitary system. While prices vary across this system, these price variations are assumed to reflect the rational trade-offs made by households who swap accessibility (proximity to the urban centre) for

space, with the price of urban space declining as distance from the city (and therefore travel costs), increase.

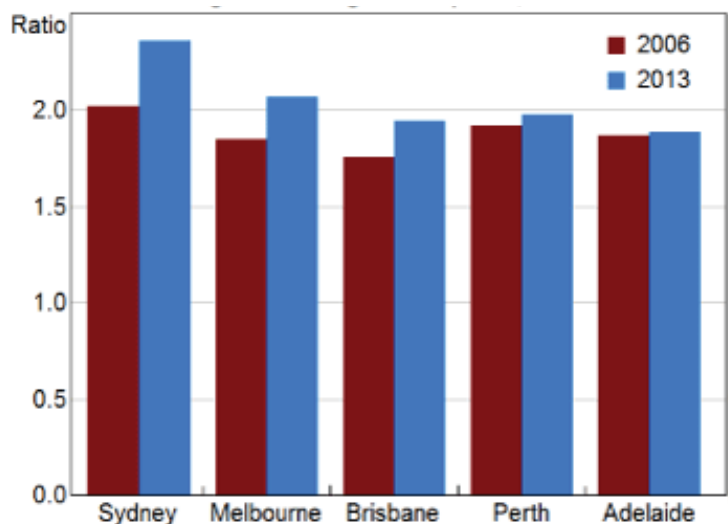
2.5.1 Land markets, central place theory, and urban structure

In theory, the land market prices these trade-offs between distance and space. Under traditional models of urban economics, land markets were explained to operate with reference to 'central place theory' whereby land values fall from the central business district to the urban periphery. Higher land values in the centre (a function of accessibility) would naturally support higher density development (including housing development), which would gradually fall away to the rural fringe:

Smaller units and taller central city buildings followed from the high land rents there ... Cities would adjust in land area and population depending on transportation costs to the center and residents' incomes. (Goodman 2013, p.182)

One trend that has been recognised in many nations is that of increasing centralisation of economic activity within cities. In part this reflects urban planning policies designed to prevent further outward expansion of cities, to better utilise existing and new infrastructure through more concentrated use of land. There may also be an increasing shift in preferences as households become smaller and prefer proximity to services and urban amenities over the larger space offered by detached homes in suburban locations. The trend also reflects a movement in many developed economies away from more dispersed manufacturing jobs to higher-order services. High value jobs are increasingly concentrating in central areas through agglomeration effects, while jobs in lower density areas appear to be diminishing. The importance of homes being accessible to employment opportunities has intensified with the rise in female workforce participation and dual income households. In Australia, such factors have combined to increase housing values within central, established inner areas, relative to outer ring and new suburbs (Figure 1) (Ellis 2014, p.12).

Figure 1: Housing price gradient—ratio of inner to outer ring house prices, Australian cities 2006–13



Source: Ellis 2014, p.12

However, even in contexts defined by strong central city structures, housing markets are complex spatial entities, structured by more than the traditional relationship between work and home. These nuances need to be better understood in predicting and identifying shifts in demand and facilitating appropriate new supply:

Decentralisation of homes and jobs, growing incomes, diversification of preferences and lifestyles have all contributed to the emergence of the metropolitan market as a complex choice mosaic of housing and neighbourhood 'products' for 'consumer' groups. The core employment location and ring structures of the old model now mask so many important aspects of cities that they need to be pushed to the background ... access is required to a multiplicity of non-CBD household activity points and households of the same incomes make quite different choices of what to do and where to do it. (MacLennan 2012, p.16)

In other words, housing markets are increasingly complex due to changing urban and regional structures, and household preferences and lifestyles.

While in nations such as Australia, central place theory continues to reflect capital city markets (Kulish et al. 2012), in the case of North America, 'low rents, poor provision of public services, or difficulties in site assembly, made redevelopment "infeasible" or "unattractive" compared to development at the urban periphery' (Goodman 2013, p.182).

While it was once thought that the agglomeration effect of concentrated population and investment in urban infrastructure in cities over a certain population threshold made them too large to fail, in recent years this has proved otherwise in several cities of the US, such as Detroit, where the population has more than halved since 1970 (Goodman 2013). While Detroit's falling population is explained in part by its regional employment downturn, rates of housing abandonment in the city suggest that additional factors, such as systemic disinvestment in the inner area and dispersed new urban housing on the fringe, have contributed to this downfall, highlighting risks to housing markets and productivity when new development frontiers offer excess housing opportunities without a balanced strategy for adapting and sustaining existing centres.

In addition to long-term disinvestment within existing areas in favour of new alternative development opportunities within the same regional market, excess supply may arise in the context of an overly responsive cycle of production fuelled by a speculative boom. In other words, where there is new housing production, but no additional or long-term housing demand associated with local or regional economic development, excess supply and market failure is likely to occur. In strict market terms, if prices fall to reflect the availability of housing stock over time, an equilibrium may return. However, the regional economic, social, and environmental effects of this process have far wider repercussions, examined further in the second discussion paper.

2.5.2 Using latent capacity in the existing housing stock

Importantly, when submarkets are characterised by supply constraints and high demand, such as in central city locations, increases to the housing supply in another submarket will relieve demand pressures to the extent to which the alternative area offers a genuine market substitute for potential buyers or renters. While this is really a measure of cross-elasticities—the changes in demand in area A when prices change in area B, it might be described as 'place elasticity' of demand to reflect the extent to which potential buyers are willing to shift their preferences.

Strategies to enhance this 'place elasticity' might include increased provision of information to potential buyers or renters of alternative locations, and attempts to enhance the accessibility or other attributes of these alternative markets through investment in transport or other regional infrastructure. Such enhancements may require a careful analysis of the drivers of sub-market demand rigidity—for instance, access to a particular school catchment may represent an almost invisible boundary beyond which house searchers will not move.

Promoting variety in the type and size of new dwelling stock in each location also provides a way of maximising the potential substitutability of housing across a wider regional area over the

long term. Strategies include adjusting regulations to make it easier for existing residents to adjust or add to their home, enabling dual occupation, the provision of accessory dwelling units, and even small lot subdivision.

Seeking to respond to housing demand by maximising the latent capacity of the existing housing stock, and of existing urban areas, is often preferable to focusing solely on the production of new homes in greenfield locations.

2.6 Government intervention in housing markets

As noted, there are many different ways in which governments can intervene to support the efficient operation of the housing market and to address important public objectives that are not able to be met by the market alone. Much has been written about the impacts of these interventions, which include taxes and transfers/subsidies (Castles 1994) that support demand by creating incentives for investment in housing as an owner occupier or a landlord, and are also used to subsidise low-income renters; regulations, which influence both the supply of housing (land use planning and building legislation) and demand (financial regulation); and capital, for construction and management of homes for lower income groups, through social housing.

Berry (2006) notes that although there has been increasing recognition of the need to address the urban and regional economic consequences of poorly functioning housing markets (associated with low social and economic participation and labour market constraints), there is also a need to consider wider macroeconomic implications of housing market failure:

In particular, developments in the housing system can influence the level of and change in aggregate demand in the economy through impacts on consumption and savings decisions, investment and imports. In other words, dealing with housing stress brings into play the stabilisation branch of government. In order to meet the continuing macro imperatives of full employment, low inflation and balance of payments equilibrium over time, governments may need to ensure that the factors giving rise to housing affordability problems do not get out of hand. (Berry 2006)

In recent years there have been a number of studies and inquiries examining wider demand side distortions (e.g. Henry et al. 2010; Yates 2010; Wood et al. 2012a, 2012b) and financial risk and stability in Australia's housing system (Burke & Hulse 2010; Ellis 2014). However, the supply side response remains a key challenge, given declining government social housing provision which is not keeping up with demand, and the shortage of affordable homes for low and moderate-income earners to rent or buy, particularly in the major capital cities.

Therefore, in this project a key focus is on existing and potential supply side interventions to address housing market failure, but it is important to contextualise these within the full spectrum of measures that influence demand and supply for housing, recognising that their interactions may create repercussions throughout the urban and regional system and the wider economy. Table 3 below provides a summary of the different forms of market failures associated with housing and urban development, and potential government responses.

Table 3: Market failures and government responses

Market failure	Response	Demand	Supply
Externalities—housing consumption / development	Incentivise home ownership through beneficial tax treatment/grants	✓	
	Maximise positive externalities (e.g. diverse housing near jobs) and minimise negative externalities (e.g. poorly designed homes far from transport) through regulations (location and design of housing and associated infrastructure)	✓	✓
Missing market (e.g. housing affordable to low-income groups)	Provide/incentivise/subsidise provision of social rental housing	✓	✓
	Subsidise incomes to assist with private rental costs		
	Require retention/provision of affordable housing (through planning system)		✓
Over-consumption or under provision of public goods (e.g. environmental quality; public space; shared infrastructure; affordable housing)	Regulations to preserve environmental quality/attributes (clean air, water, views, noise, etc.)	✓	
	Regulations to require provision of public goods as part of development (e.g. reservation of roads, parks, etc.)	✓	✓
	Financing arrangements for infrastructure as part of planning process		✓
	Provisions to preserve existing affordable housing opportunities/offset its loss		
	Capacity to hypothecate private 'windfall' for public purposes (e.g. development contributions/betterment taxes)		
Monopolistic conditions	Flexible planning rules allow a variety of house types in different locations		✓
	Ensure a spread of residential development opportunities (over-allocations of sites able to be used for housing development)		✓
	Incentives for development take-up or penalties for speculative withholding in areas of high demand		✓
Information asymmetries; e.g. house buying public has limited knowledge of housing market	Public provision of data about housing market/supply trends (e.g. ABS), media dissemination	✓	
	Land use plan provides information to other actors, consistent application & enforcement of plans (through approval processes) supports confidence		✓
Equity impacts Unemployment/unequal income distribution	Promote spatial equity of access by:		
	→ Coordinating land use and infrastructure planning	✓ ✓	✓
	→ Preserving existing employment lands and supporting new employment development opportunities near transport and housing	✓	✓
	→ Targeted new infrastructure investment		✓
	→ Social/affordable housing development in accessible locations		

Source: The authors

Much has been written on the way in which Australia's housing system is underpinned by preferential taxation for home owners and landlords, which increases demand for housing (Castles 1994; Yates 2011). As shown in Table 3 above, the important externalities associated with housing consumption—which accrue to society as a whole—provide a rationale for government intervention in the market to support home ownership, often through beneficial taxation treatment or grants. The benefits of home ownership—such as secure tenure and relatively predictable housing costs—might also be able to be provided through changes to regulations governing rental housing.

There are other potential positive externalities associated with the supply of housing through residential development, particularly at the regional and local scale. These include the economic benefits associated with population growth, and the physical impacts of the development within existing urban areas or on undeveloped countryside. As shown in Table 3 above, the main supply side interventions relate to the land use planning system or investment in infrastructure. There are also particular economic benefits associated with new housing development or renovation, primarily through employment in construction industries and flow on neighbourhood impacts associated with investment and population growth.

The need to minimise negative externalities from residential development, such as the risk of irreversible environmental harm, through regulation (rather than simply a tax, which the very wealthy might choose to pay), is a key rationale for planning intervention in the property market. As shown in Table 2, there are other important reasons for spatial regulation of the location and form of new housing through urban planning.

However, these regulatory requirements create costs for housing producers, in terms of the time needed to comply with planning system approval processes, the human resources needed to prepare compliant applications, and the financial and material costs associated with meeting development and design standards. If predictable, these costs should be factored into the value of land, moderating land prices accordingly.

Further, while a well-functioning planning system will, by definition, deliver compensatory benefits—for instance, faster project planning in a context of certainty about infrastructure provision and the likely actions of other developers, and high environmental amenity which can be capitalised in house prices, there is also a risk that poorly operating planning regulation can impede the flow of new housing to the market, or undermine reconfiguration of existing stock through householder alterations and additions or through larger renewal and redevelopment projects.

One observation is that, in contrast to the supply side interventions in the housing market through urban planning, demand side interventions associated with interest rates, and government taxes and subsidies, are not spatially targeted. This means that demand effects will interact with supply constraints associated with locational features and spatial regulation in different ways. Another important observation is that although the demand side measures generally work across the entire housing market, including established homes and new stock (with some exceptions to encourage demand for new housing construction), planning interventions are focused on new housing development. However, in shaping processes of urban change within existing as well as new locations, planning also influences patterns of demand for established homes.

Other indirect forms of intervention in the housing market—such as stamp duties on property transactions—address the need for government revenue rather than addressing a particular problem or objective in relation to the housing market. However, as noted above, because these taxes increase the transaction costs associated with buying and selling, they have implications for the flow of housing supply.

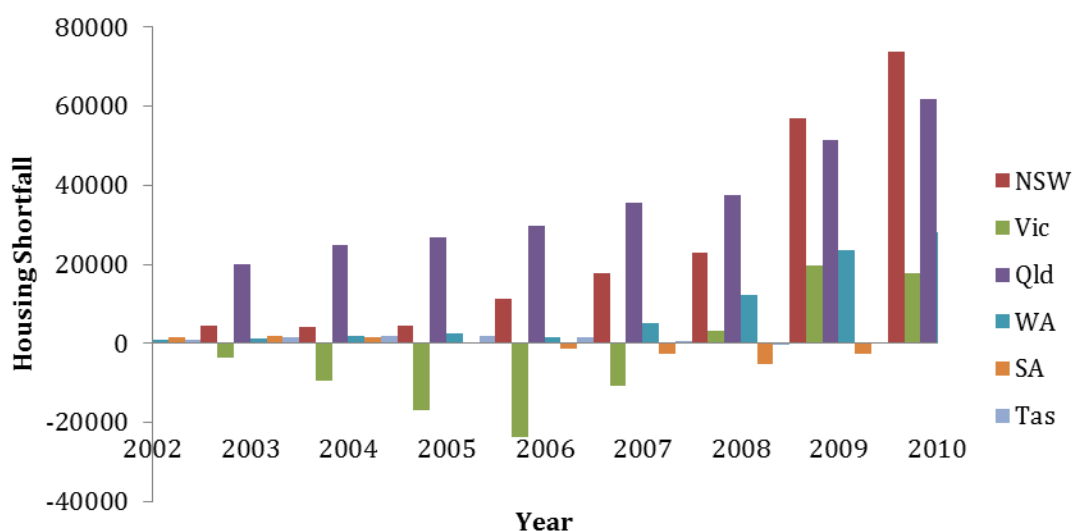
3 POTENTIAL POLICY IMPLICATIONS FOR MEASURING HOUSING MARKET EFFICIENCY AND RESPONSIVENESS IN AUSTRALIA

This paper has discussed concepts surrounding housing market efficiency and responsiveness, which is a key policy objective for Australia under the National Affordable Housing Agreement (COAG 2009). It has outlined why the housing market operates differently to other markets, particularly in relation to factors influencing demand and supply. Significant macroeconomic risks and regional economic consequences arising from housing market failures—such as price inflation, underproduction of new dwellings, affordability pressures for low and moderate-income groups, and labour force constraints—mean that informed policy intervention is critical.

3.1 Housing market efficiency—towards a policy relevant definition and objective

One of the six outcomes under Australia's *National Affordable Housing Agreement* is that 'People have access to housing through an efficient and responsive housing market' (COAG 2009; SCRG2014). As noted above, the economic notion of 'efficiency' is somewhat contested, since the conditions required for perfect efficiency—no externalities, transaction costs, or missing markets, and perfect information—are never able to be satisfied. Nor does the Agreement itself include a specific definition of market efficiency or responsiveness, relying on an interim measure of the cumulative balance between projected housing supply and demand. State performance in promoting market efficiency is assessed under this measure, using former National Housing Supply Council (NHSC) estimations of new production relative to underlying demand (COAG Reform Council 2012), as shown in Figure 2 below.

Figure 2: Cumulative balance of housing demand and supply in Australia, 2002–12



* Negative denotes surplus stock

Source: Data derived from COAG Reform Council 2012, Table 8.1 Statistical data supplement

This implies a simple policy definition of housing market efficiency as a balance between changes in underlying demand for housing (projected household formation), and in changes in supply (defined as net new housing production). Drawing on the literature, however, depending on underlying vacancy rates and capacity within the existing housing market, changes in

demand might be satisfied by increased housing production and or by increased use of the existing housing stock.

Further, the wider discussion of housing market efficiency includes a number of factors not captured in the current indicator. These include time and costs associated with new housing production, across the private and public sector (from industry practices and productivity to public sector infrastructure provision); allocative considerations around the use of existing housing stock; the mobility of householders; and the efficacy of filtering processes; innovation in new housing provision, and the extent to which the housing stock is adjusting to changing household needs.

Important equity dimensions of housing market efficiency are also implied but not made explicit in the current indicator. These include the extent to which the housing system—across the private, non-profit, and social or public sectors—accommodates changing needs across the entire income spectrum through the supply of appropriate and affordable housing. This supply might be generated through household mobility across the existing housing stock, or through new housing production that is targeted towards eligible groups.

In summary, a policy-relevant definition of an efficient and responsive housing market might be stated as follows:

An efficient housing market generates a sufficient supply of appropriate and affordable homes in response to changing demand and need, through adjustments to the existing housing stock and through timely and cost effective production of new dwellings in accessible locations.

The policy questions arising concern whether current approaches to measuring changes in housing demand and supply provide adequate information for decision-makers at all scales of operation. If so, a second question is whether existing policy remedies in Australia are sufficient to address evident market inefficiencies, risks and failures where they arise.

3.2 Potential implications for Australia, and issues for discussion

Table 4 below summarises these existing and potential measures of housing market efficiency and responsiveness with a range of existing and potential indicators. As shown in Table 4 below, a range of standard measures under thematic areas (demand, supply, housing stock change, responsiveness, and risk exposure) are outlined, which would require more nuanced analysis at regional and local levels.

Table 4: Existing and potential measures of housing market efficiency and responsiveness

Measure	Indicator
Demand (different implications for different submarkets)	Mortgage interest rates, financial products
	Employment trends
	Income growth
	Household formation
	Immigration
	Temporary migration (e.g. international students)
	Drivers of international investment (safe havens, incentives)
	Homelessness rates (changes, subject to analysis)
Changes in housing demand	Changes in prices/rents
	Population & household growth/projections & cohort change
	Household incomes
	Employment/industry change
	Investment in new infrastructure (public/private)

Measure	Indicator
	Shifts in housing preferences (housing location, design, tenure) Changes in relative value of housing investment to other investments Education sector change (school quality indicators by location; tertiary student and international student trends) Change in government taxes/transfers affecting housing
Housing supply (established market)	Number of sales listings Auction clearance rates Number of weeks on market Unsold inventory Real estate searches Rental vacancy rates Social housing waiting lists Demolitions
Housing utilisation	Unoccupied/vacant dwellings Residential dwellings diverted to short term/tourist rentals Estimated over-crowding Average number of people per private dwelling
New housing production	Building applications/approvals/completions New completions by dwelling type New completions by sector Sales price of new dwellings Production cost indices Industry organisation, labour availability
Housing stock profile	Dwelling composition change Alteration & additions Average persons per 100 dwellings
Responsiveness	Estimated demand/supply gap Proportion of homes affordable to low/moderate-income groups Flow of homes to market following increase in demand Lag times between demand shifts, dwelling approvals, commencements, and completions Availability of development opportunities Changing tenure distribution
Exposure/risk	% of household wealth/GDP based on home values % of leveraging, changes % of employment in construction/real estate % of government revenue dependent on stamp duty/property taxes

Source: The authors

A number of questions have been raised in this discussion paper for further deliberation.

1. How should housing market efficiency be defined and measured?
2. Is new housing supply responding efficiently to achieve affordability outcomes, particularly for low and moderate income groups?
3. Which policy interventions are supporting more responsive housing supply across the market, and are additional/different interventions required?

DISCUSSION PAPER 2—RESPONSIVE HOUSING MARKETS: INTERNATIONAL LESSONS AND POTENTIAL IMPLICATIONS FOR AUSTRALIA

This is the second discussion paper in the four-part series. It draws on international experience relating to under and oversupply in housing markets, and policy implications for Australia associated with related economic opportunities and risks.

1 INTRODUCTION

There has been ongoing concern about the responsiveness of Australia's housing market, in a context of increasing demand (NHSC 2014). In particular, there are concerns that new housing production has not kept pace with population growth and change, exacerbating affordability pressures for low and moderate-income earners and creating wider economic productivity problems (Productivity Commission 2014). New international research emerging since the Global Financial Crisis (GFC) reinforces the importance of supply responses in understanding potential housing market risks and failures (Ihlanfeldt & Mayock 2014; Stevenson & Young 2014). This paper canvasses this work, highlighting potential implications for the policy settings framing new housing production in Australia.

This is the second in a series of discussion papers prepared for a research project on housing system efficiency and risk, funded by AHURI. The paper asks:

What international policy lessons arise from the GFC, particularly in terms of supporting an efficient and responsive housing market in Australia?

The structure of this paper is as follows. First, the paper outlines relationships between the housing market and the economy, as a basis for better understanding the risks associated with under or overly responsive housing supply, and situates Australia in an international context. The paper then examines international experiences across the US, UK and Ireland in greater detail, highlighting potential policy and research implications for further discussion and investigation in the Australian context.

2 HOUSING AND THE ECONOMY: AUSTRALIA IN AN INTERNATIONAL CONTEXT

Since the GFC, there has been increased policy interest in the relationships between housing and the macroeconomy. A large literature examines these interactions, but recent studies following the GFC have begun to revisit assumptions about the relationships between housing supply and demand under different market conditions and drivers (Immergluck 2011; Muellbauer 2012). Much of this work derives from economics and finance perspectives, but there are also potential implications for urban policy and planning. A key theme is the changing drivers of housing demand following financial innovation in the 1980s and 1990s, and the implications for policy settings framing new housing supply. The sections below summarise this literature, situating key attributes of Australia's housing system in an international context.

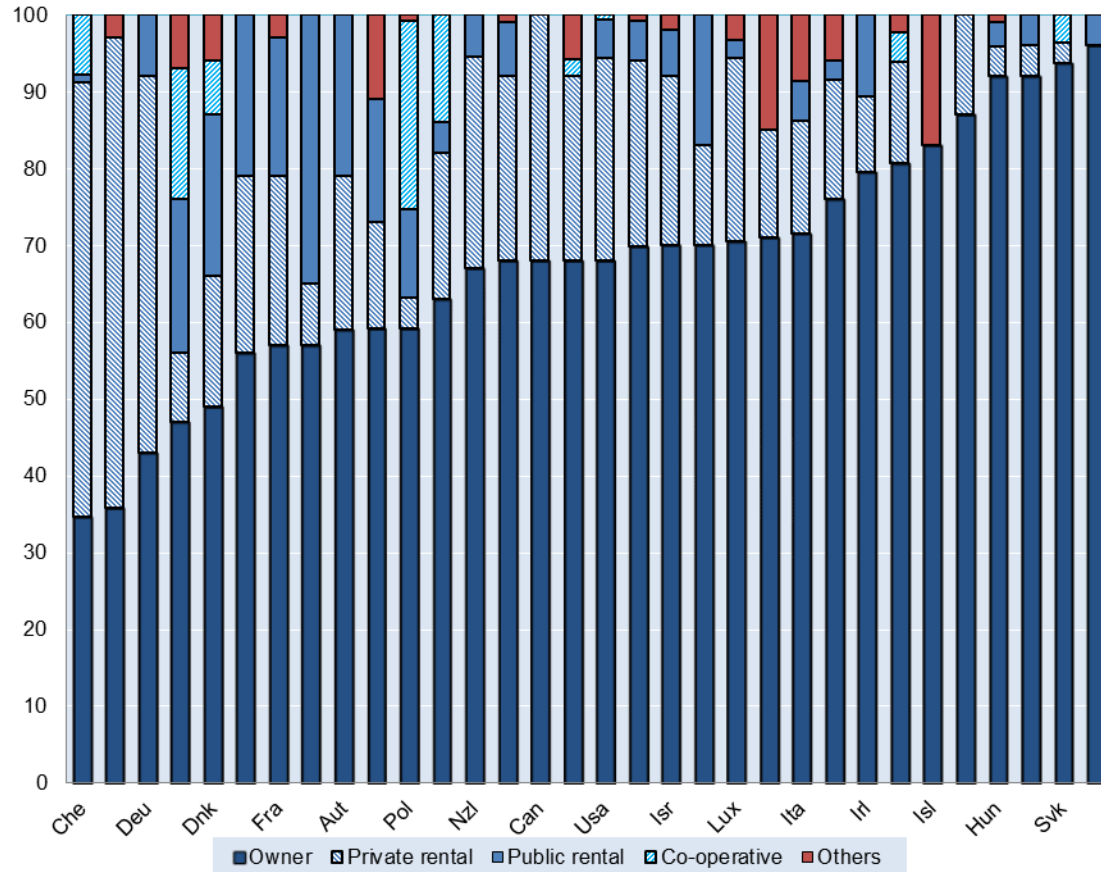
2.1 Housing and the economy

Housing is a large component of the macroeconomy, comprising an important part of household expenditure and total wealth (Leung 2004). Therefore, shifts in housing costs can have important impacts on consumer spending. The value of Australia's housing stock is currently worth more than three times GDP (ABS 2014). New housing production itself makes an important contribution to annual GDP (around 5%), while nearly 10 per cent of the workforce is employed in housing construction, real estate, and related industries (Housing Industry Association 2014).

There are also economic implications associated with particular forms of housing tenure. Home ownership is usually associated with increased wealth and financial independence in old age, as well as social benefits such as security of tenure for owner-occupiers. However, more flexible rental tenure might better support labour market mobility and even more efficient occupation of the existing housing stock (OECD 2011).

Australia has a relatively high rate of home ownership, in world terms (see Figure 3 below). Nearly a quarter of households are in private rental, which is considerably more than Great Britain (12%, with 17% in social housing), but fewer than Canada (32%), New Zealand (27%) and the United States (27%). In general, rates of home ownership have fallen worldwide since the GFC.

Figure 3: Housing tenure (percentage)—international comparison



Source: Andrews et al. 2011, p.16

Financial deregulation and innovation since the 1980s has facilitated increased demand for housing, both in Australia and internationally (Nguyen 2013). However, easy access to credit has contributed to higher house prices, which has reduced access for potential first home buyers (as demonstrated by the decline in home ownership among younger generations since financial deregulation). New financial products have also meant increasing propensity for households to use housing assets as leverage for other borrowing or investments. In turn, this increased leveraging against housing assets connects the wider economy to the housing market in new ways. The implications arising from this 'financialisation' of housing (Rolnik 2013) for the policy settings governing the production of new homes are yet to be fully understood. What is clear is that although decisions affecting new housing production are made at regional and local scales, the drivers of housing demand and the effects of market volatility cut across the wider economy.

2.1.1 Housing market volatility

These close connections between the housing market and macroeconomy were most recently exposed by the GFC. The crisis was initially precipitated by the collapse of the subprime mortgage market in the US, which began in early 2007. By the middle of that year this had turned into a wider housing market downturn, which spilled over into Europe following the Lehman default in 2008 (Agnello & Schuknecht 2011). This global credit crunch precipitated housing market contraction across Europe, but some nations (particularly Ireland and Spain) were more vulnerable than others (Coq-Huelva 2013; Norris & Coats 2014). In these nations, credit-fuelled housing speculation and overshooting of construction had created boom and bust conditions (Duca et al. 2010).

Housing 'booms' are periods of major price rises that persist and appear to differ from long-term trends (Agnello & Schuknecht 2011). Table 5 below summarises the major changes in international house prices since the 1980s, in terms of stable or declining markets, those that have experienced moderate gains, and those that have experienced significant price inflation. Figure 4 below shows the duration of boom and bust periods.

As shown in Table 5, Australia is among those nations that have recorded very large rates of price inflation between 1980–2008.

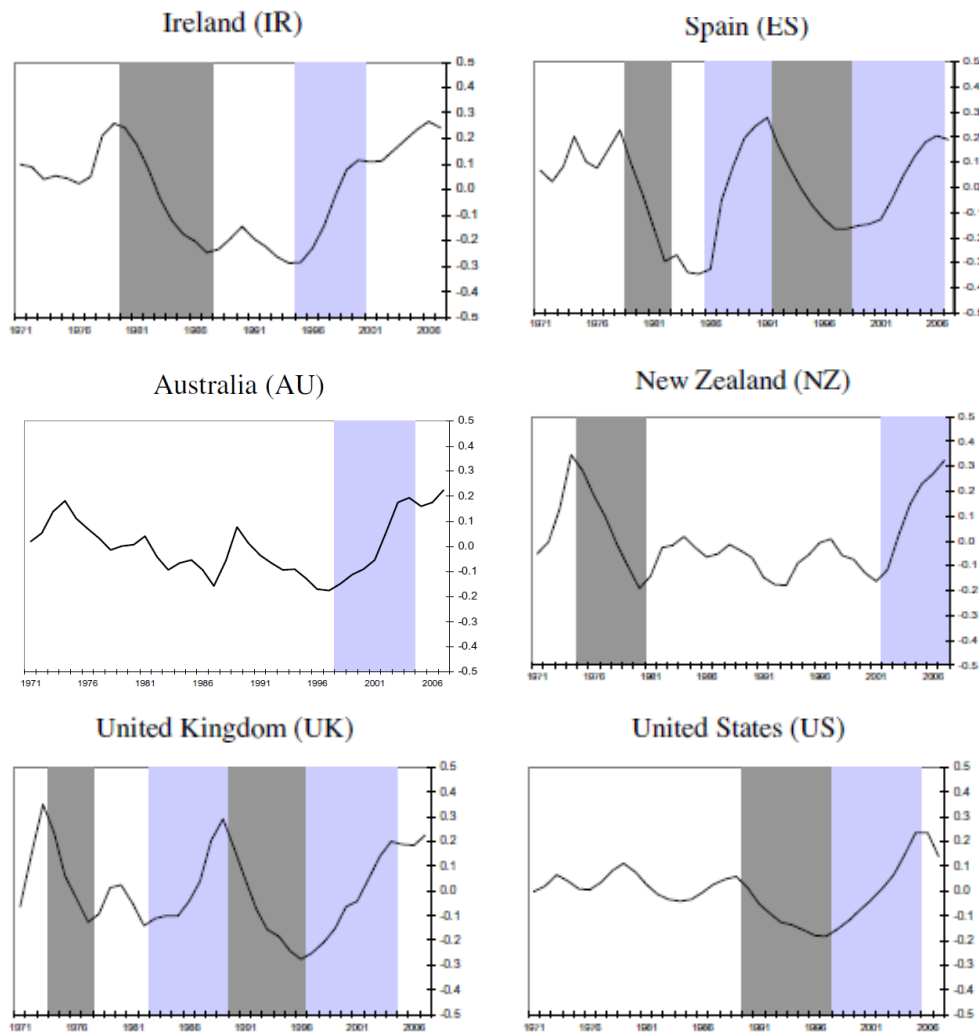
Table 5: Changes in house prices, 1980 (or earliest year available) to 2008 for select OECD countries

Very large increases (90% or more)	Moderate to large increases (20%–90%)	Stable or declining (less than 20% increase)
Australia	Austria	Chile
Belgium	Canada	Hungary
Ireland	France	Israel
Netherlands	Greece	Japan
New Zealand	Italy	Korea
Norway	Slovenia	Portugal
Spain	Sweden	Switzerland
United Kingdom	United States	

Source: Andrews et al. 2011, p.10

Over the past few decades, housing booms worldwide appear to have lasted for longer—typically between eight and 11 years, while the severity and length of busts also appears to have deepened (Agnello & Schuknecht 2011). In comparison to the other nations in this cohort, Australia has not recorded significant house price declines ('busts') over this time (Figure 4).

Figure 4: Comparison of boom and bust periods, Australia, UK, US, Spain, Ireland and New Zealand



Dark shade = bust, light shade = boom

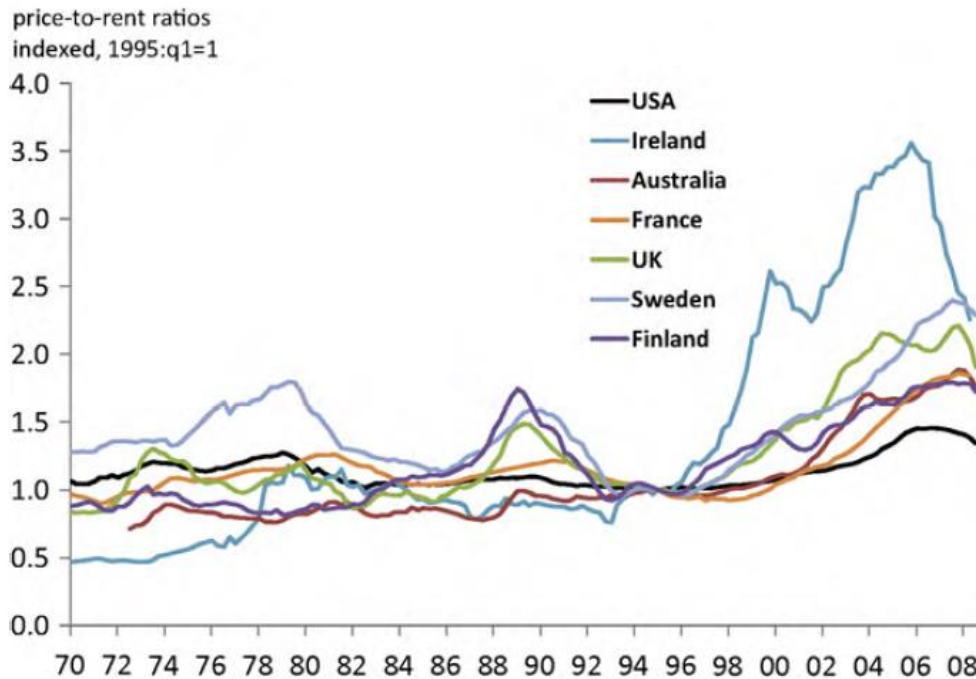
Source: Agnello and Schuknecht 2011, p.176

Several analysts have sought to explain why Australia's latest period of price inflation (1996–2004) was followed by a period of relative stability rather than significant decline even in the context of the GFC (see particularly Yates & Berry 2011). In summary, the factors that appear to have cushioned the Australian housing market include tighter regulation in the banking and finance sector, despite the increasing prevalence of innovative financial products and non-bank providers; relatively stable levels of housing output (there was limited or no increase in speculative housing production despite rising prices); ongoing high housing demand buffered by high international immigration (which actually spiked during the peak years of the GFC) and economic demand for Australian resources particularly from China.

2.1.2 Financialisation of housing and implications for demand and supply

Increasingly, international global liquidity is a factor influencing national housing market volatility (Duca et al. 2010). This is highlighted in Figure 5 below, which shows the changing ratio of house prices to rents, following financial deregulation and the availability of cheaper housing finance in the mid-1980s. Cheaper finance helped lift the ceiling on house prices, allowing prices to reflect expectations of future capital gain and therefore detach from rents.

Figure 5: Changing house price to rent ratios, international comparison



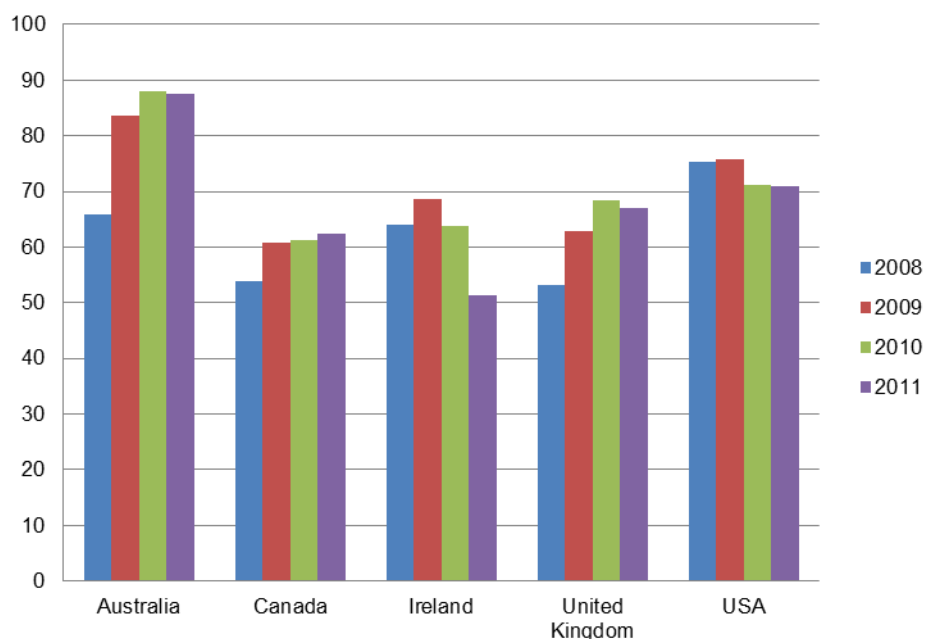
Source: Duca et al. 2010, p.210

Access to cheap credit for housing finance has enabled home owners to use their homes as leverage for other spending. This leveraging increases risk as householders are able to borrow against housing equity; thus perpetrating the cycle of price inflation. This is sometimes described as the financial accelerator effect:

Once the demand for housing increases the housing price goes up, which in turn raises the collateral value, hence allowing impatient households to borrow more to consume and further fuelling the demand for housing. This is the financial accelerator effect or financial multiplier of housing collateral constraint, which helps [in] explaining the highly volatile behaviour of housing investment. (Nguyen 2013, p.164)

Further, as households withdraw equity from their homes to finance other expenditure, ongoing house price rises remain important to maintain levels of consumer spending (Berry 2006). The rate of leveraging against housing assets in Australia is almost equivalent to GDP (see Figure 6 below), and very high in global terms. Even without equity withdrawal, the wealth effects of rising house prices supports consumer spending.

Figure 6: Mortgage loans as a proportion of GDP—International comparison



Source: Data derived from Helgi Analytics 2014

These changing, financial drivers of housing demand present challenges for the policy frameworks governing housing supply. Urban policy and planning approaches in Australia have traditionally sought to accommodate projected housing demand arising from underlying drivers such as household projections and employment growth. Maintaining this emphasis on these demographic fundamentals may remain an important strategy for avoiding oversupply in certain markets. However, such strategies will come under pressure as demand for housing reflects increasing emphasis on housing as a source of and repository for wealth, rather than on demographic drivers. Urban planners often describe this colloquially as a tension between responding to a 'build it and they'll buy it' model of (speculative) development, versus a planned approach to measuring existing and projecting future demand and ensuring that the regulatory frameworks governing land supply and infrastructure provision can accommodate forecast growth within preferred locations. This is discussed further below.

2.2 Responsive housing supply in Australia

As set out in the first discussion paper, an efficient and responsive housing market can be defined as a market in which supply increases in response to changing demand. Changing demand for housing is driven by fundamentals—underlying population change and household formation rates (which dictate the number of dwellings needed to accommodate the population) and economic drivers (which affects demand for the quality of housing consumed) but may also influence demand for increases in the use of homes used for leisure (e.g. holiday homes). Changing demand for housing is also influenced by shorter term swings in the economy (e.g. mortgage interest rates, employment trends, and the potential return from housing investment itself).

Housing supply consists of the existing dwelling stock, and the construction of new dwellings. The urban planning framework sets the policy and regulatory parameters governing the location and design of new dwellings, responding to fundamental shifts in demand (projected population growth and change, household formation, and changes in living standards). However, while planning is a long-term process, many of the key economic drivers inflecting housing demand, such as changes in interest rates, can change very quickly. Therefore, the extent to which adjustments to the planning framework are able to moderate house price movements is limited.

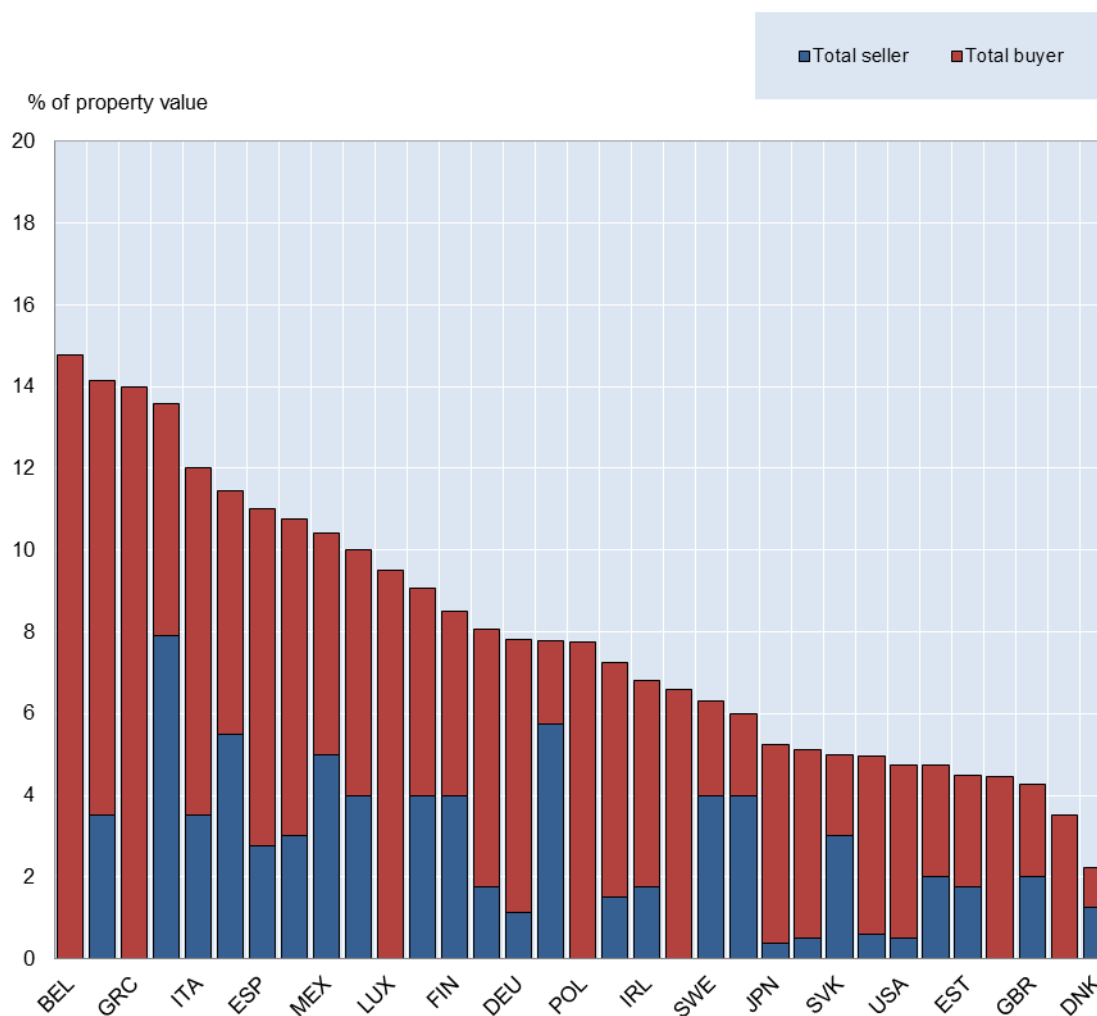
It is also important to distinguish between shifting demand associated with changing levels of housing consumption (as people move within the existing housing stock in response to changed economic or demographic circumstances), and changes in demand for new dwellings as a result of population growth and economically influenced demand for second dwellings.

2.2.1 Established housing supply

Supply within the established housing market is able to respond more directly to shifts in demand. However, as noted in Discussion Paper 1, owner-occupiers are constrained by the need to identify an appropriate alternative home and the search and transaction costs associated with the move.

In world terms, transaction costs associated with selling and purchasing homes in Australia appear high (Figure 7).

Figure 7: Comparison of transaction costs associated with house sale/purchase, 2009



Source: OECD 2011, p.13

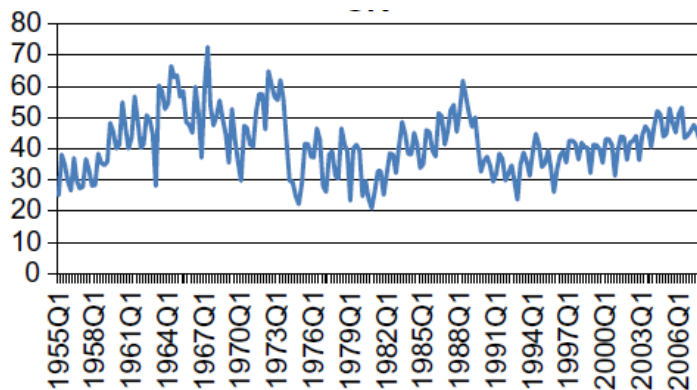
There is a need for more information about the factors supporting and inhibiting the flow of supply in Australia's established housing market, particularly the extent to which 'trading up' by second and third home buyers releases more affordable housing stock to the first home buyers and rental market through effective 'filtering', and relationships between price movements in the established housing market and the drivers of new housing production.

2.3 New housing supply in Australia

There has been a gradual upward trend in overall housing production by the private sector in Australia since the 1950s (see Figure 10 below), in contrast to the United Kingdom (see Figure 8 below) and the United States (see Figure 9 below), where volume has declined. In the United States, falling housing production preceded the GFC, but in the United Kingdom, there has been a long-term contraction of housing production relative to population growth since the 1970s, discussed further below.

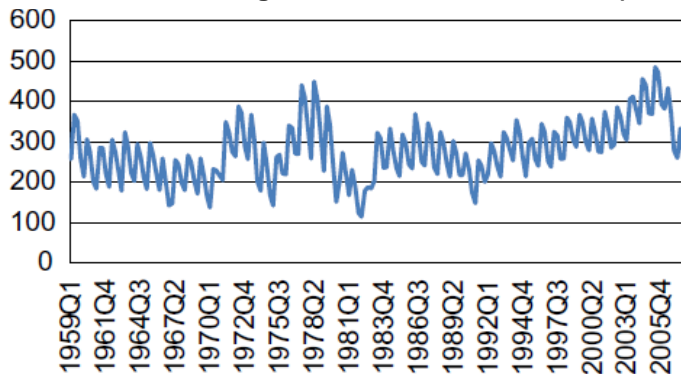
Similarly, levels of Australian housing production did not rise appreciably during the 1990s or 2000s despite a period of both rapid price increase and population growth, which has been a key focus of policy concern (NHSC 2014).

Figure 8: Private housing starts in the United Kingdom (000's)



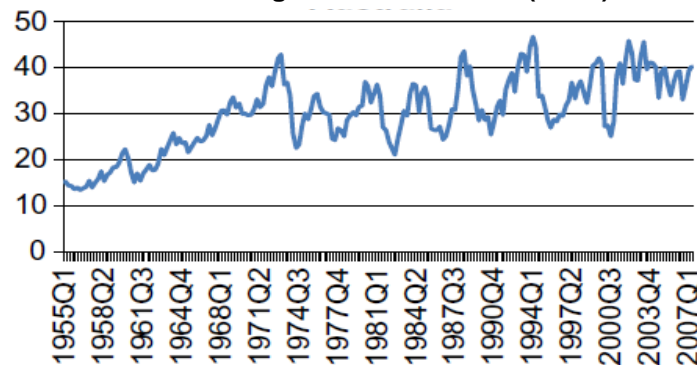
Source: Ball et al. 2010, p.259

Figure 9: Private housing starts in the United States (000's)



Source: Ball et al. 2010, p.259

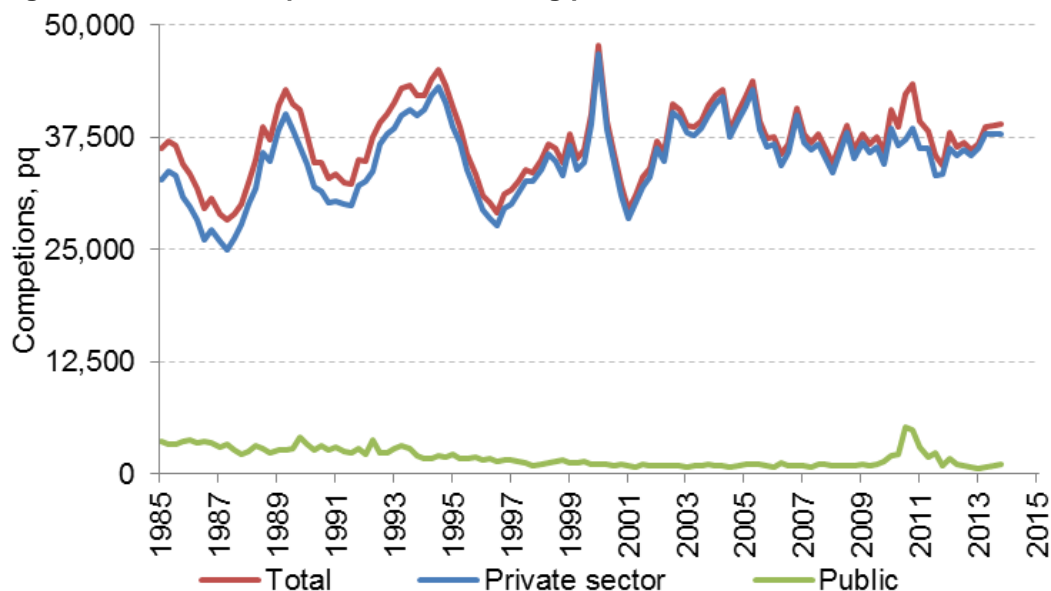
Figure 10: Private housing starts in Australia (000's)



Source: Ball et al. 2010, p.259

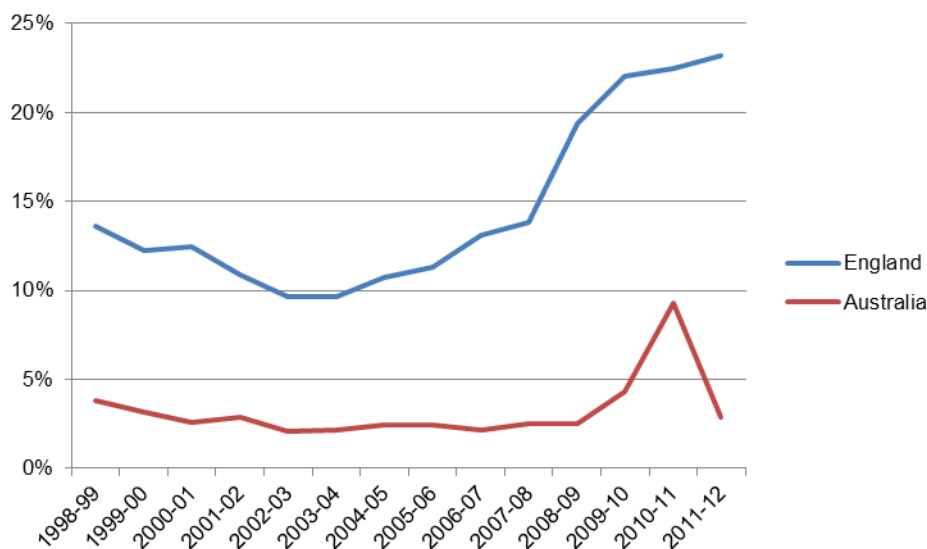
Further, the figures above mask a major change in the provision of residential land and housing in Australia. Between the mid-1980s to mid-1990s, public sector housing development declined sharply (see Figure 12 below), aside from the spike associated with stimulus funding between 2008–11 (see Figure 11 below).

Figure 11: Private and public sector housing production, Australia, 1985–2014



Source: ABS 2014, Cat 8752.0 Building Activity, Australia

Figure 12: Social housing completions as a percentage of total housing supply, England and Australia, 1998–2012



Source: Data derived from ABS 2012, Cat 8752.0 Building Activity, Australia, Department for Communities and Local Government (2014). Table 244 House building: permanent dwellings completed, by tenure, England historical calendar year series. London, DCLG

Capital funds for social housing development fell in the United Kingdom over the same period. However, between 10–15 per cent of housing output continued to be delivered through non-profit associations and local housing authorities, rising to nearly 25 per cent in the years following the GFC.

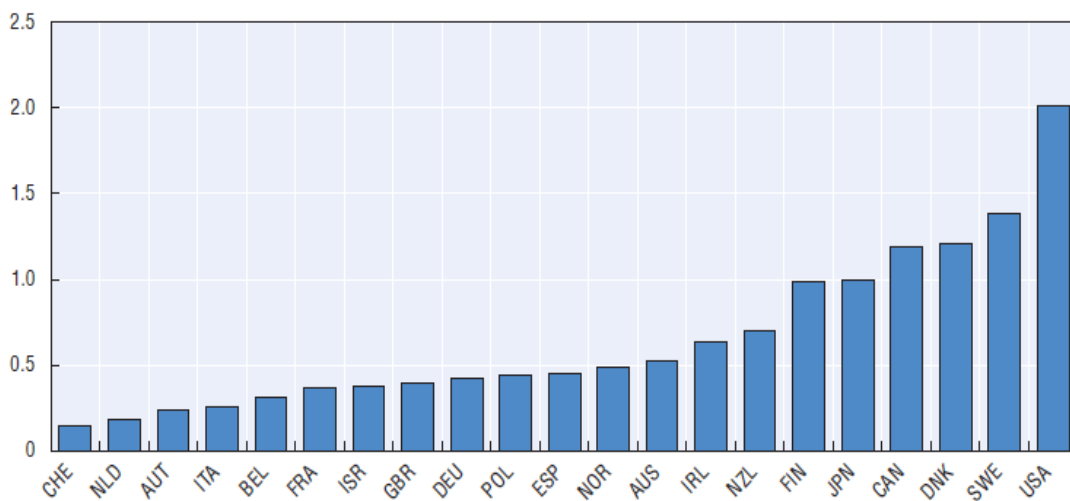
This comparison between current and historical levels of housing production in Australia and the United Kingdom points to the need for analysis of the different actors who produce housing supply across the market. As well as private speculative developers, and non-profit government or community housing providers, much housing supply in Australia is produced by intending owner-occupiers who commission a new house or add an accessory dwelling to increase rental income. Understanding how these diverse producers react to different market and regulatory conditions may provide important insights for better supporting new housing supply.

2.3.1 Measuring responsiveness

As outlined in Discussion Paper 1, the responsiveness of new housing supply is usually measured in relation to the level of house prices (relative to rents or income) or to house price changes. There is a strong argument for measuring the responsiveness of new supply in relation to house price changes, since the change in price should, in theory, trigger a change in the volume of production.

Overall measures of the price elasticity of supply vary between and within nations. A recent OECD study found Australia roughly in the middle tier of 21 nations (over a 20-year period from the early 1980s to the mid-2000s, measured in terms of price and speed (Sánchez Caldera & Johansson 2011). Several European nations (including Spain, the Netherlands, France, and Israel) and the United Kingdom had the lowest levels of responsiveness, while North America exhibited the highest degrees of elasticity.

Figure 13: Variations in responsiveness of new housing supply to price in select OECD countries (long-run price elasticity estimates of new housing supply)



Source: OECD 2011, p.8

Price elasticity to supply changes is a common measure of housing market responsiveness, but illustrates the potential problems arising from a narrow focus on housing market in isolation to wider economic efficiency. Rather than price signals, Australia's former National Housing Supply Council focused on the concept of 'underlying' demand (projected population and household formation rates) to measure the need for new housing supply (NHSC 2011). This approach suggested that there was a considerable shortage of dwellings in Australia, with the last report of the Council suggesting that there was a shortage of 284 000 dwellings, based on 2001 rates of housing occupation (reduced to 76 000 dwellings if 2006 is the reference year) (NHSC 2014).

However, their approach has been criticised by Wilkinson (2011) who suggests that these estimates of housing shortage are flawed, as they do not recognise the excess capacity of the

existing housing stock or the role of higher prices in reducing real demand by lowering household formation rates. This is an important issue because the increasing gap between the increase in population growth and dwelling completions is often used to argue that housing supply is not 'responsive' in Australia. Although Wilkinson argues that the housing market is adjusting to higher prices by reducing household formation rates and potentially by using existing dwellings more efficiently (Wilkinson 2011). In theory, more efficient use of the existing stock would be a desirable outcome, given that many of the dwellings in capital cities have increased in size as a result of the renovations boom which followed the decline in housing interest rates and in the context of ongoing taxation incentives for investment in the family home. However, in practice such adjustments are typically made by those least able to afford housing (for instance, by moving to less accessible locations with poorer amenity and fewer employment opportunities, or by overcrowding), while wealthier households continue to have spare bedrooms (Wulff et al. 2004) and holiday houses (Paris 2013).

Factors affecting supply responsiveness include the availability of land for new housing development (having regard to geographic and regulatory constraints) and the availability of finance (for producers and for potential buyers). Additionally, a crucial factor influencing the responsiveness of new supply is the investment decisions made by those involved in the housing development process and the productive capacity of the housing industry.

2.4 The housing development industry

Characteristics of the housing development industry may influence the relative responsiveness of new housing supply. For instance, in Australia, a relatively high proportion of new homes are commissioned by intended occupants, in comparison to the more speculative building practices in nations such as the US and UK (Ball 2013). Another distinction is the typical separation between land developers and housing construction firms in Australia.

Research on the economics of the house building industry in the UK notes that the cyclical and speculative nature of housing development, and the need for capital expenditure to finance land acquisition and house building, means the industry is essentially cautious (Lovell & Smith 2010). Overall, speculative production is dominated by a small number of major companies (Jones & Watkins 2009). In Australia, the rate of speculative house building is much lower than in the UK, but there are strong parallels with the land development industry within which a small number of large firms predominate (NHSC 2011).

Australia's house building industry is diffuse (around 67 000 firms according to the Housing Industry Australia (HIA)) with a high degree of sub-contracting to other trades (HIA 2014). Even large house builders in Australia have only a modest market share (the largest 100 Australian firms hold around 40% of market share), which is slightly higher than in the US, but much lower than in the UK (70%) (Coq-Huelva 2013).

A key difference between land development and house building firms relates to the need for land and capital—Australian house building firms can operate without needing to acquire sites on the market, and without large numbers of permanent employees—facilitating more flexible industry practices able to adjust to changes in the market cycle. However, these cycles also mean that inefficiencies arise in retaining labour with appropriate skills.

Of particular interest to Australia is the extent to which the industry is able to increase productivity in response to demand—that is, the time taken to construct new dwelling supply. HIA figures suggest that Australian house building firms are among the most productive in the world (Table 6 below). One of the factors explaining this relative productivity is that the Australian climate allows house building to occur for twelve months of the year.

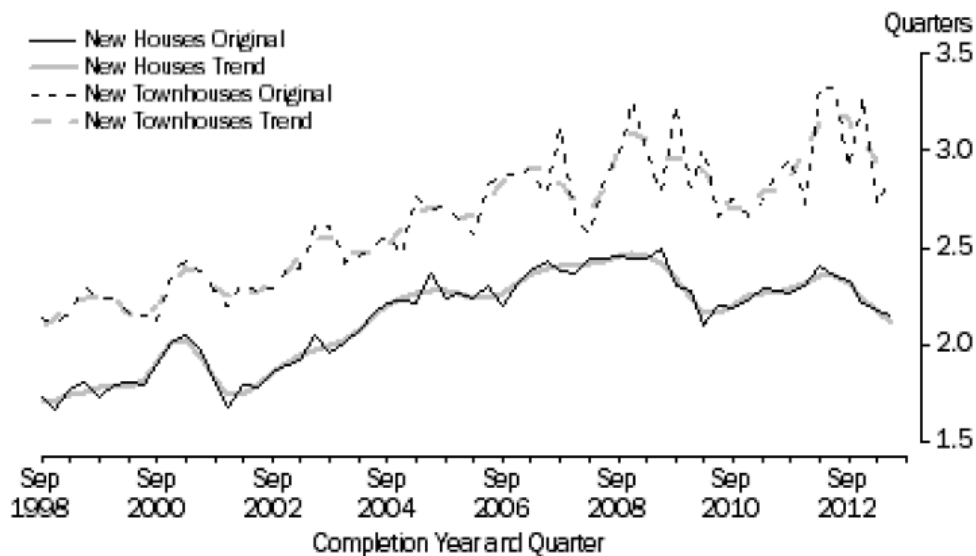
Table 6: International comparison of house building productivity (houses)

Nation	Productivity (work hours per square metre)
Australia	5.5–6.0 volume built housing; 9.5 average for custom built housing
United Kingdom	20.2 conventional; 13.8 system built
United States	9.2 conventional; 6.5 system built
Netherlands	23.7 conventional; 5.9 system built
Sweden	11.3–12.7

Source: Housing Industry Association 2014, p.9

However, recent data shows that construction times in Australian house building have slowed over time (Dalton et al. 2010). In a study of elapsed construction time, Gharaie et al. (2010) sought to understand why completion times for houses were increasing while output remained constant. They investigated two potential reasons for the delayed construction time—increased project scope (associated with larger dwellings); and increased project commitments (more dwellings to be constructed by firms). In all states, the first hypothesis was disproven—while there were modest increases in dwelling sizes, these increases were constant, but completion delays appeared to grow with commencements.

These trends appear to be persisting, nationwide (see Figure 14 below). While the study was unable to explain why the increased project commitments were associated with delays, one potential explanation is the difficulties associated with securing skilled labour.

Figure 14: Average completion time of new houses and townhouses, Australia

Source: Seelig et al. 2006, p.2

Therefore, while delays in securing planning approval have been thought to affect the timing of new housing production, the cause of and impacts arising from extended delays between planning approval, commencement and completion, may require further investigation.

2.5 Summary and questions arising

There is increasing policy awareness of the interactions between housing markets and the macroeconomy. These interactions have implications for urban policies and regulations governing housing supply, notably:

- The wealth effects associated with housing assets create additional demand for housing consumption and investment, beyond fundamental drivers of population growth and change. These demand drivers may be 'accelerated' by innovative financial products, resulting in increased house prices, and barriers for those seeking to enter home ownership.
- Overall housing production in Australia appeared to stall relative to population growth in the new millennium, which is a key point of policy concern. In part reduced housing production reflects changing patterns of provision with diminishing social housing development in Australia since the mid-1980s.
- The extent to which financial drivers result in new housing production or in price inflation may depend on supply constraints (e.g. planning regulations and geographic factors), and housing industry characteristics and decisions.

Key questions include:

- Whether price inflation can and should be moderated by increased housing production, irrespective of underlying demographic drivers of demand.
- Whether increased housing production can effectively moderate price inflation, or promote filtering in the housing market to address affordability barriers faced by low and moderate income groups.
- Whether surplus new housing exacerbates or ameliorates housing market risks associated with excessive price inflation or depreciation.

The following sections of the paper examine these questions with reference to the international literature.

3 RESPONSIVE HOUSING MARKETS AND ECONOMIC RISKS: INSIGHTS FROM THE INTERNATIONAL LITERATURE

Australia's housing market and industry escaped the impacts of the GFC relatively unscathed (Burke & Hulse 2010; Yates & Berry 2011). However, a number of potential policy learnings arise from the experiences in other nations. These include new risks associated with demand driven house price inflation, and the risks associated with different supply responses. The following sections examine experiences across the US, the UK, and Ireland, which offer particular insights for Australia owing to similarities in regulatory planning frameworks, and systems of housing provision. All three nations experienced significant housing market impacts arising from a credit-fuelled housing boom and subsequent financial contraction, but are distinguished by different demographic factors, policy settings, the financial institutional environment, and supply responses. In the US, the housing boom preceding the crisis resulted in massive overbuilding in some locations, although certain regional markets experienced supply constraints. In the UK, housing affordability pressures reflected entrenched supply constraints but the market had begun to cool before the credit crunch. In Ireland, economic and population growth stimulated a housing market boom but speculative overbuilding deepened the impacts of the crash.

3.1 The United States

The US housing market began to boom in the late 1990s, driven by new financial innovation, dramatic growth in the sub-prime mortgage sector, and also an overt policy push to expand home ownership to marginal purchasers. This meant riskier mortgages with high loan to value ratios and low repayment capacities, so that when the crisis came, these households were particularly vulnerable.

The availability of low-cost credit sparked a speculative boom both in home purchase and construction, which began to turn in early 2007 (Agnello & Schuknecht 2011). Initially, a downturn in house prices led to increasing sub-prime mortgage defaults but this triggered a wider bust affecting major financial institutions and ultimately the Lehmann default in September 2008.

The housing market collapse and financial recession prompted significant rethinking of US mortgage housing policy, the role of government intervention in the market, and the sustainability of home ownership for lower income groups (Richardson 2012). Although the crisis itself was triggered by insufficient risk management in the mortgage market, there has been ongoing debate about which policy factors exacerbated or softened the effects of the crisis in particular regions, including the potential implications of overly constrained or responsive levels of housing supply (Huang & Tang 2011; Ihlanfeldt & Mayock 2014).

3.1.1 Were more responsive housing markets less vulnerable?

Several analysts suggest that price inflation was more extreme in markets constrained by geography and or planning regulation (Glasgow et al. 2012; Chakraborty et al. 2013). Ihlanfeldt and Mayock (2014) examine house price movements and construction across multiple US regions before and after the crisis to examine relationships between supply elasticity and level of price correction. They explore two possibilities: whether 'higher supply elasticity results in greater overbuilding during the boom, which causes greater excess inventory and larger price declines in the post-boom period' or whether 'a higher supply elasticity results in less of a price rise during the boom, so there is a smaller post-boom price correction' (Ihlanfeldt & Mayock 2014, p.81).

The study found that higher elasticity resulted in increased house building during the boom period, but that the degree of elasticity did not affect the size of the price change in the bust. Rather, the local market impacts of the bust related to the quantity of surplus, overhang housing. In turn, this overhang was a legacy of speculative over-building whereby new construction drove, rather than supported, population and economic growth, leading to more acute vulnerability in the downturn:

More overbuilding translates into greater excess inventory as the cycle turns, which causes greater price deflation in the downturn. The relatively cheap housing units may affect household location decisions, resulting in significant welfare losses. (ibid, p.98)

In other words, the US regions most affected by recession and excess housing stock are those where housing development responded to speculative demand rather than population and employment fundamentals (Ellis 2011).

Some analysts suggest that certain local planning frameworks may have been more effective than others in withstanding the risks arising from speculative growth during the height of the boom (Glasgow et al. 2012). For instance, a study of how Californian municipalities responded to growth pressures at the start of the housing boom in the late 1990s, and coped with recession between 2008–09, found that housing markets within areas governed by more cautious authorities proved more resilient to the crash, even controlling for pre-existing socio-economic differences (Glasgow et al. 2012).

Whatever the demand side and supply side causes of the US crisis, both explanations signal housing market inefficiency which led to significant productivity losses as a result of the bust. Indeed, the financial crisis exposed the significant interactions between the macroeconomy and national housing markets. However, the differential spatial effects of the crisis warrant further examination to understand how urban planning frameworks governing new supply might influence regional and local risks or resilience to wider housing market events.

3.1.2 Neighbourhood effects

Several commentators point to a particular spatial geography of housing market distress (Crump et al. 2008; Immergluck 2011):

A surge in foreclosed properties may create a supply-side shock to the local housing submarket and result in lower prices for nearby properties. In stronger housing submarkets, an increase in supply may be easily absorbed, but in markets where demand is not so strong, a surge in supply may cause significant drops in values. Sudden declines in housing values may then have negative impacts on local households, including making it difficult for those who want to sell their homes to do so and making obtaining refinance loans or avoiding foreclosure more difficult. (p.135)

In the year 2008 alone, there were 2.5 million foreclosures (Crump et al. 2008), which had ongoing spillover effects:

In many cases, these spillover effects transform the otherwise cyclical nature of the housing downturn into an expanding set of problems for localities, including: declining home values; a growing credit crunch as lenders retreat from risk, further reducing effective demand for housing; increased crime or other social costs associated with a growing stock of vacant, foreclosed properties; pressures on both the supply of and the demand for rental housing; and a diminished tax base that threatens local fiscal stability. Also of note are localised job losses that have reverberated through sectors of the economy tied directly or indirectly to the housing market, notably including finance and construction. (Crump et al. 2008, p.761)

The impact of these foreclosures exacerbate risks of neighbourhood disinvestment, since real estate values are based on sales, and foreclosed homes are sold at mortgage buyout rates,

there are strong negative spillover effects on local property markets. There are also profoundly negative effects of housing vacancy for neighbourhood amenity. The Neighbourhood Stabilisation Program, which provides funds for acquisition, redevelopment, demolition or financing home purchase by new owners of foreclosed properties, was introduced to address some of these risks.

While initial foreclosures concentrated in inner city locations already characterised by higher poverty, the crisis spread to areas affected by heavy speculative house building during the boom period:

Subprime and high-risk lending also helped fuel fast growth in newer suburban and exurban communities, especially in parts of the southwest and in California. Media reports suggested that problems may have been disproportionately severe in newly developed communities distant from metropolitan centers. (Immergluck 2011, p.138)

3.1.3 Impacts and lessons arising from the US housing market crash

In locations most affected by foreclosure there were significant economic flow on effects—with constrained household incomes and employment losses, not least in construction and related industries (Crump et al. 2008). The availability of credit for new housing development and for housing finance was severely constrained. Existing home owners with equity remained in ownership, but labour market mobility suffered as recent purchasers experiencing negative equity were reluctant to move.

Thus, those hardest hit by the housing market crisis were low-income home owners and renters. Falling house prices and the credit crunch did not improve affordability for these groups. Indeed, the shortage of rental accommodation available to low and moderate-income groups has grown significantly over the past five years, according to Harvard's Joint Centre for Housing Studies' (2013) annual rental affordability report:

While the steady erosion of household incomes has helped lift the ranks of cost-burdened renters, the affordability problem fundamentally reflects the simple fact that the cost of providing decent housing exceeds what low-income renters can afford to pay Given this mismatch, it is no surprise that the gap between the number of lower income renters and the supply of affordable units continues to grow. In 2011, 11.8 million renters with extremely low incomes (less than 30 percent of area median income, or about \$19 000 nationally) competed for just 6.9 million rentals affordable at that income cutoff—a shortfall of 4.9 million units. The supply gap worsened substantially in 2001–11 as the number of extremely low-income renters climbed by 3.0 million while the number of affordable rentals was unchanged. (JCHS 2013, p.6)

While home owners with high housing equity in middle ring suburbs—predominantly ageing baby boomers—weathered the market collapse, there are new concerns about the potential oversupply of suburban family homes as this cohort ages (Sun & Manson 2012). This would create a potential glut of larger homes in car dependent suburbs which appear to be less appealing to younger generations as accessibility becomes more valuable than space.

Thus, there are new questions around ways to renovate and adapt the existing housing stock in the US. There are also calls for new forms of government intervention in the housing market, focusing on proven programs for assistance, particularly the provision of affordable housing through inclusionary zoning, and policies to promote better residential filtering (Landis & McClure 2010).

In summary, potential lessons arising from the US experience include:

- Risks associated with housing market collapse may be most severe in regions characterised by flexible supply, and where housing construction itself drives, rather than supports, economic and population growth.

- The housing market collapse did not improve affordability for low and moderate-income groups and, indeed, recent home purchasers and low and moderate-income renters were most vulnerable to the impacts of the crisis.
- Home ownership is not necessarily a viable or desirable form of tenure for very low-income groups.

New policy questions emerging from the crisis include how to improve future local and regional economic resilience by adapting housing markets (particularly existing stock in suburban neighbourhoods) to patterns of changing demand, and the most effective forms of government intervention to support affordable housing for low and moderate-income groups.

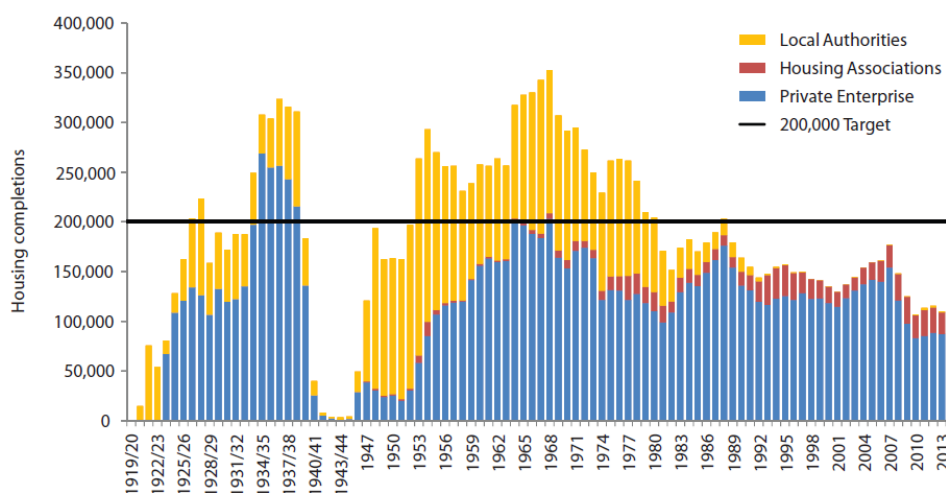
3.2 The United Kingdom

An introductory snapshot

There has been ongoing concern about inadequate levels of new housing production and associated affordability problems for low and moderate-income groups in the UK for at least four decades. Since the 1970s each downturn in the economy has resulted in declines in output levels, but each upturn in the economy has generated a lower upward response. Even though, until the late 1990s, the numbers of dwellings built kept pace with the numbers of households and housing need indicators in the main improved, house prices have risen in real terms by around 2 per cent pa over the longer term.

Figure 15 below (taken from Figure 5 of the Lyons Report 2014) shows how housing output fell from the late 1960s (when the number of dwellings rose above the number of households for the first time after the war and public housing proportions started to fall). Importantly the decline in public (and then social) housing has not apparently been offset by private sector output—although econometric evidence suggests some limited substitution.

Figure 15: Housing output by tenure



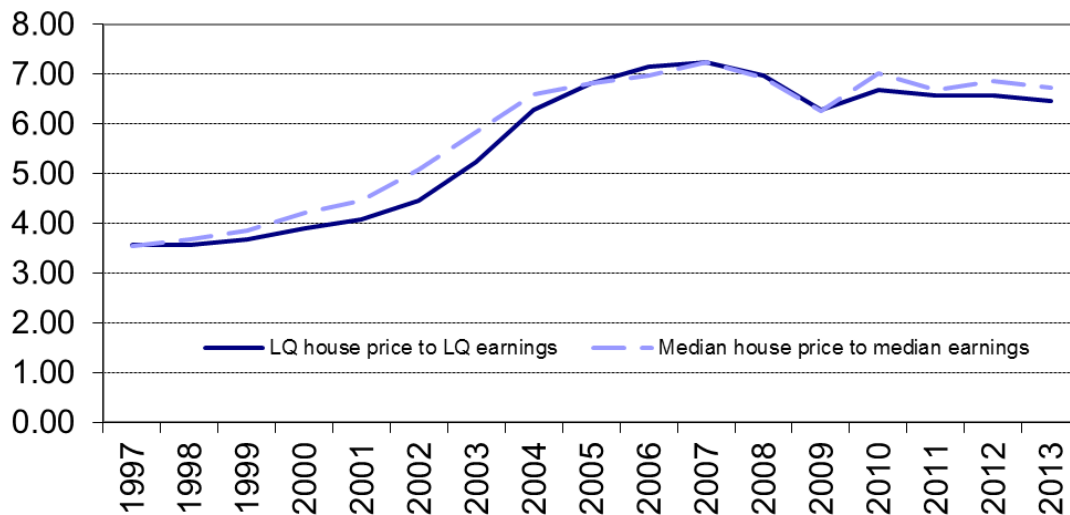
Source: DCLG

Source: Lyons 2014

Household formation rates and other housing needs have suggested that net additions to the housing stock of well over 200 000 pa, now rising to 250 000, would be necessary to meet requirements and maintain standards (Holmans 2001; Holmans & Whitehead 2008). Output levels from the late 1980s were only just about keeping pace with demographic needs. In the late 1990s and early 2000s output levels clearly fell behind. And while net additions (which include net change of use as well as completions) rose above 200 000 for a couple of years before the GFC, thereafter investment fell to historically low levels and has yet to increase significantly from the depths achieved in 2009–10.

The outcome of these failures together with growing incomes as well as demographic pressures and changes in the financial system led to the rapid growth in price income ratios depicted in Figure 16 below. National house prices rose sharply from the late 1990s, fuelled by long-term population and household increases, income growth, lower interest rates and easier access to finance. The rise was particularly acute during the early part of the 2000s. Prices fell for a time after the GFC, but then rose again as incomes declined, stabilising at around 6.5 times income—a major affordability problem not just for low but also middle-income households.

Figure 16: Ratio of house prices to earnings: median and lower quartile



Source: Department of Community and Local Government Live Tables (577 and 578)

These pictures implicitly say that households are not able or prepared to pay for the standards built into our policy statements—providing a home for every household at a price they can afford. This in turn implies that there may be major market inefficiencies that are keeping house prices up. Alternatively, or in addition, the mal-distribution of income may inherently require large-scale housing subsidies to support poorer households to acceptable standards. This in turn requires efficiency in subsidy delivery.

There are many areas of housing provision and allocation where inefficiencies have been identified—most notably with respect to land supply; the planning process; the development industry; the lack of incentives to local authorities to support housing provision; the tax system which incentivises over-consumption of housing by established households and limits the incentives to mobility; and a mortgage system which puts many of the risks on householders who are not in the best position to bear these risks.

In this section, the emphasis is mainly on supply and therefore on the first four inefficiencies listed above—although of course all the other inefficiencies, including others not listed, also impact on behaviour and outcomes. Finally, before turning to the history of the last decades it should be noted that all systems are inefficient—and that efficiency in one element may sometimes have negative overall effects (as has been the case with the mortgage industry identified as the most efficient by Fannie Mae in the late 1990s).

3.2.1 Longer term fundamentals

The fundamentals of the housing system in the UK have been described as:

... a fiscal system that favours owner-occupation, particularly with respect to the gains accruing from house price increases; since the 1980s, a highly deregulated finance market but with a relatively small number of large players in the mortgage market; a

continuing problem of an inadequate supply response; and thus very considerable volatility in house prices and market activity associated with changes in demand arising from variations in economic growth and expectations (Whitehead & Williams 2011, p.1598).

New supply

In 2003, UK Treasury, concerned about international competitiveness, commissioned economist Kate Barker to undertake a review of factors affecting housing supply. This inquiry (Barker 2003, 2004) identified an increasing mismatch between household formation and new housing production, explained not only by the planning commitment to urban containment through emphasis on the renewal of brownfield lands, but also planning development processes, the structure of the development and finance industries, government failures and other systemic inefficiencies. Specific concerns about the responsiveness of land use planning and its wider effects on economic growth meant that in 2006 Kate Barker was commissioned to undertake a review of the planning system (Barker 2006). Subsequent inquiries relevant to housing supply and the planning system included the Killian and Pretty review which focused particularly on speeding up development assessment (Killian & Pretty 2008).

One of the key legacies of the Barker Reviews in England was the emphasis on economic measures of housing affordability, notably price to income ratios, as indicators of the need for additional land release, rather than reliance on demographic household projections. However, political reality and the legal framework in which local authorities operated meant that the result tended to be greater emphasis on targets based ultimately on the demographics, particularly at the regional level. When the government changed and the National Planning Policy Framework was put in place in 2012, these indicators were replaced by greater emphasis on the local development plan, which has to make land available for projected housing requirements.

The development industry

New housing supply in the UK has generally been produced speculatively; particularly since the 1990s on brownfield/urban sites; and generally at medium density. The model is fundamentally one that meets the requirements of an owner-occupied sector, which has depended on mortgage finance for its continued growth.

There has also been a number of government-sponsored studies of the operation of the housing development industry which have pointed to major failures to increase delivery. The Callcutt Review (Callcutt & Britain 2007) concentrated on the trading nature of the industry as an outcome of land price increases as compared to industries that profit only from production. However, he also argued—as did the Barker Review and another by the Office of Fair Trading (OFT 2008)—that major house builders did not sit on permissions once they were achieved, although they may take many years to build out large sites. Rather, concerns have been concentrated on the complexities of planning, development and financing processes which make it difficult for new entrants and especially smaller and medium-sized developers to enter the market, and the incentives to build out sites slowly to maintain prices (Burgess et al. 2010).

Social and affordable homes

An important element of new production remains that of social and affordable housing. After the shift from local authority to housing association provision, which started from the 1970s but particularly after the 1988 Housing Act, the supply of social housing has been heavily dependent on central government upfront grants and on the capacity of associations to use their rising capital values to borrow in the private finance market at low interest rates. In addition a generous housing allowance system has meant that rents are paid in full for tenants on the lowest incomes and support continues well up the income scale in higher priced areas.

Since an affordable housing requirement became a 'material consideration' for all larger housing development sites under s106 of the 1990 Town and Country Planning Act, more and

more social and affordable housing (including in particular shared ownership and shared equity) has been provided with the help of an implicit subsidy by reducing the price of land that developers are prepared to pay. This worked very effectively in a market where housing and land prices were increasing fairly rapidly—which was the case from the mid-1990s—and it is still an important factor in enabling social and affordable provision (Crook & Monk 2011). Thus many housing developments in the UK have been completed through partnerships between the private sector and non-profit housing associations. Although this has meant a complicated development context, affordable housing is typically produced as part of new supply in the UK.

3.2.2 *Developments since 2008*

The immediate impacts of the GFC

The immediate impacts of the credit crunch associated with the GFC included the near closure of finance markets including inter-bank loans and securitisation; the reversal of house price expectations and consumer concerns about employment; and the inability to access finance for house purchase or development (Whitehead & Williams 2011). This dramatically affected supply as the volume of housing transactions and new housing completions contracted sharply. Housing starts halved between 2007 and 2009 and completions followed suit over the following years (Whitehead & Williams 2011). By 2013–14 new completions in England were running at 112 000 pa compared to 170 000 just before the crisis.

Government policies to support the housing market during the crisis included an injection of funds for social housing development, lower interest rates to help existing home purchasers with mortgage payments, and the introduction of a shared equity loan scheme. In contrast to the US, numbers of foreclosures remained relatively contained and had peaked by 2009.

However, as already noted above, the crisis did little to improve affordability for low-income earners, despite falling house prices and lower income rates, and also reduced the longer term capacity of the housebuilding industry:

Lower prices and interest rates have done little to improve access and affordability because the higher deposits faced by first-time buyers more than offset any reduction in prices and mortgage payments. But equally demand remains low because of uncertainties about the future ... the crisis has also significantly reinforced emerging trends in tenure structure, shifting both demand and supply into private renting. Finally, the impact on new supply has been catastrophic, reducing the capacity of the housebuilding industry to respond even when the market improves. (Whitehead & Williams 2011, p.1162)

Political change

In 2010, the election brought in a coalition government of the Conservatives and the Liberal Democrats with the core objective of bringing the economy under control by a policy of austerity. It also had clear objectives to try to replace targets and top-down approaches with a greater emphasis on incentives and localism.

In England, the 2011 report, *Laying the foundations: A housing strategy for England*, set out the government's new direction for a 'thriving, active but stable housing market that offers choice, flexibility and affordable housing' (Department for Communities and Local Government 2011, p.vii). The strategy identifies housing supply constraints within local planning systems and incentives to support residential construction and to encourage councils to accept increased housing and bring empty homes back into use.

Major changes to funding for social housing provision were introduced which aimed to replace capital grants with financing mechanisms that could better use the capital assets of the housing associations and help bring local authorities back into the system as providers. Traditional social housing has been replaced by 'Affordable Rent' housing—with new build and re-lets of

some vacant units to be offered at up to 80 per cent of market rent. These rents are still supported by housing benefits available for eligible tenants so the households expected to be accommodated are the same as before. The first round of the new model (including much more limited capital grant) was oversubscribed and, after a slow start, is intended to provide 170 000 affordable homes between 2012–15. The second round, again with lower levels of grant, are still being taken up—but a number of associations are looking to develop without subsidy to avoid the bureaucratic complexities and regulatory constraints. At the same time the government has introduced a social housing guarantee which enables non-profit providers to access funds at lower interest rates because at the limit risks are transferred to the government.

Another major change has been the removal of the regional level of government, with its top-down approach to targets being replaced by a duty to cooperate. Authorities must consult each other to provide the land necessary to meet identified requirements based on both demographic evidence and projections of economic growth and the related need for housing. This approach was supported by the introduction of the National Planning Policy guidance introduced in 2012 which ‘tore up’ 1000 pages of regulation and related guidance and replaced it with a short rather general statement of objectives and requirements. The initial effect of this was to reduce the amount of land being brought forward for development. However, there is now some evidence that this is being reversed—and all parties have agreed that the framework will remain in place.

A final important planning initiative has been the introduction of the New Homes Bonus, which gives a financial incentive to local authorities to support housing development. The scale of the incentive is not high and there is little evidence as yet that it has led to significant additional investment (NAO 2013).

3.2.3 The current position

The most important outcomes of the longer term imbalances between demand and supply and the resultant price increases, together with the apparently shorter term impacts of the financial crisis and the resultant austerity, have been:

- Massive shifts in tenure arising mainly from the transfer of owner-occupied and some social sector dwellings into the private rented sector leading to an unsustainable welfare bill supporting lower and middle-income households in the rental sectors.
- Shifts in the development model towards high rise apartment buildings in urban areas, notably in London, funded in part by off-plan sales but also a massive reduction in house building capacity.

More general economic outcomes of the crisis have included currency issues and the incentives for international buyers to purchase in safe havens. Furthermore, the concentration of economic activity and the increasing disparities in the housing market between London and some of the South East on the one hand, and the rest of the country on the other, have resulted in increasingly unaffordable housing in the capital.

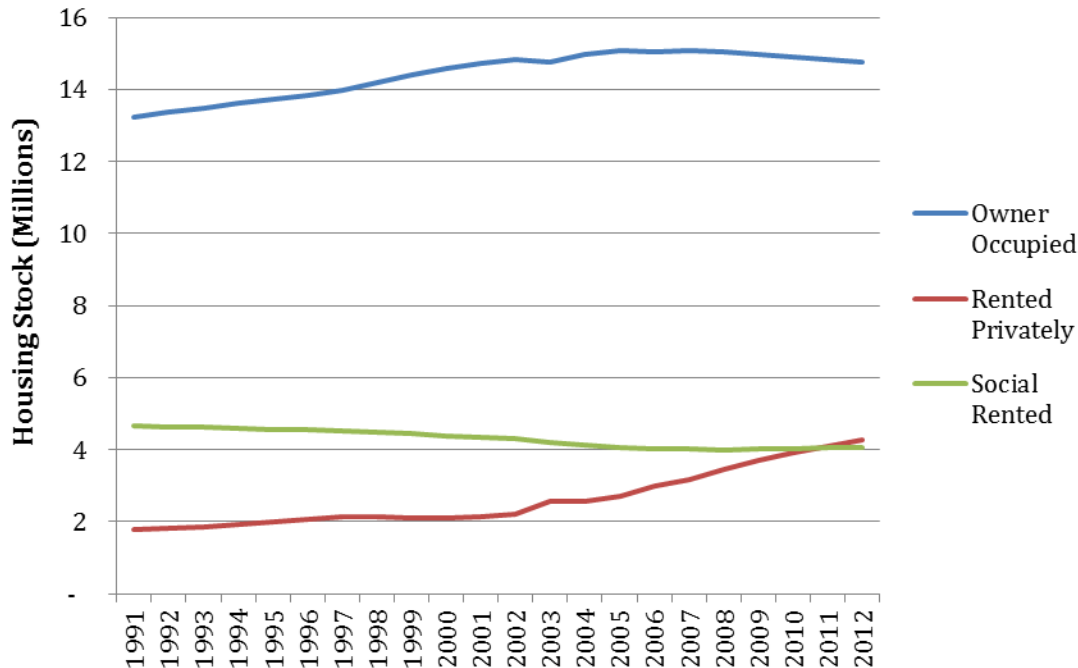
Equally the financial crisis, the subsequent recession, increasing imbalances and simply the lack of development activity has led to over-activity within government. The result has been over 100 government initiatives to try to get the system operating again.

The growth in private renting

As Figure 17 below shows, private renting grew fairly steadily after the housing crisis of 1989–90 as young people found it harder—and more risky—to enter owner-occupation. But it was not until the introduction of Buy to Let mortgages in the late 1990s that significant additional housing was brought into the market either purchased new or transferred from owner-occupation and to a lesser extent social housing. The affordability and financial crises have seen private renting double in a decade to the point where it is now a larger tenure than social

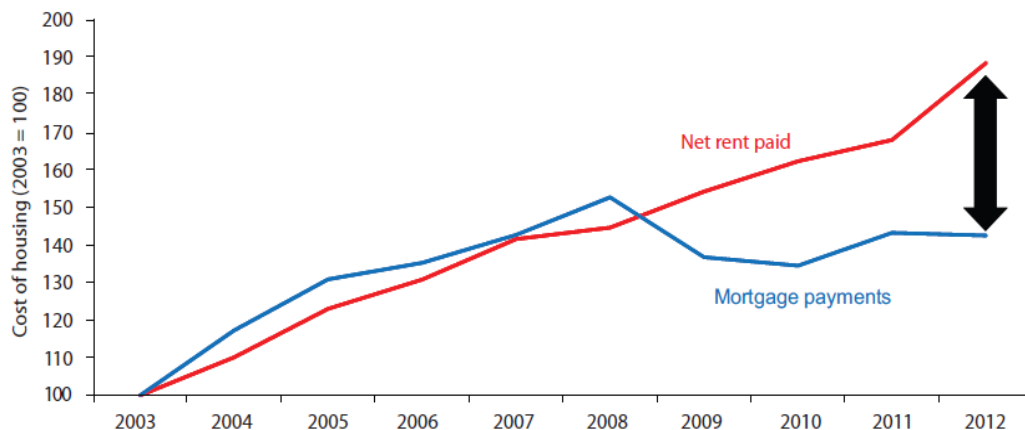
housing and set to grow further as mortgage regulation tightens. Owner-occupation has fallen in numbers terms since 2005 and is now, at 65 per cent, below the EU average.

Figure 17: Dwelling stock, by tenure, 1991–2013, England



Source: Department of Communities and Local Government Live table 104

Figure 18: Household expenditure on housing in the private sector



Source: ONS Family Spending Survey

This has enormous implications for household affordability and for government expenditure as welfare costs go through the roof—with housing benefit reaching £25bn in 2014 and expected to rise to £28 or £29 billion before the end of the decade. Because of the high rents in central London, this can mean that households on well above average incomes are eligible for support. It also suggests potential market failures as rents remain significantly above mortgage costs (see Figure 18 above).

A new development model

As early as 2009, the market in central London started to pick up because of the interest from international buyers in purchasing new apartments in well-managed, large-scale developments in secure environments (Whitehead & Travers 2013). This demand supported growth in output of both market and affordable homes. As a result of this success, very large numbers of high

rise apartment blocks have received planning permission and are being built quite rapidly. This in turn has fed into the Mayor's strategy, which depends on high rise to enable the growing population of London to be accommodated within the capital's boundaries. Metropolitan areas across the country are now following suit—although the extent to which the model is long-term sustainable depends upon acceptance by institutional investors and consumer demand.

The model clearly requires far more professional management and maintenance systems and in the main (except for affordable housing provided under s106) of the Town and Country Planning Act 1990 generates housing that is only accessible to the relatively well off. The exception is where housing associations are involved in providing market housing—sometimes with the support of sovereign funds with very long-term horizons. This is seen as a positive way forward to providing both longer term security and predictable rents (Whitehead et al. 2014). It also links with the covenanted private rented option now being piloted within the land use planning system, which involves an agreement to maintain the properties in the sector for a period of years.

However, it is not clear whether the new development model can generate levels of output into the medium and long-term both because of the limited house-building capacity and because of the niche nature of the product. In the context of the development industry, the number of large developers has been reduced by the financial crisis, but more importantly small and medium-sized builders have almost disappeared—because of lack of funds, but also the costs and time involved in achieving planning permission.

Instead, or rather in addition, it is necessary to get the owner-occupied market working again—to meet household preferences and to reduce longer-term government financial commitments.

Continuing fundamentals

In terms of inefficiencies in supply, the three main issues remain the supply of land with planning permission, the effectiveness of the development industry, and the increasing costs of housing in relation to income.

The latest report by Sir Michael Lyons for the Labour Party (Lyons 2014) addresses the first two issues and sets out a program for before and after the next election, which concentrates on delivery through 39 recommendations. It emphasises the need for national leadership, the core role of local plans and the 'Right to Grow', the importance of de-risking planning, the increasing roles for local government and housing associations, and makes the case for far higher levels of capital grants. Not surprising, it also pulls its punches on the use of greenfield and especially greenbelt (which includes a lot of greenbelt) land. It further emphasises concerns about land and permission holding and calls for a 'use it or lose it' approach to permissions (something which the national Homebuilders Federation had already rejected as an issue [HBF 2014]).

The Lyons report sets the target of achieving 200 000 homes per year by 2020, seeing this as ambitious—even though it is well below that set by the last Labour Government. This may well reflect reality, but it implies continued worsening affordability for many households and fewer opportunities for younger households—hardly a rallying call.

3.2.4 Potential lessons

In commenting on the legacy of the housing market crisis in the UK, Whitehead and Williams (2011) observe that while housing supply was extremely responsive to contracting demand, it was unlikely to prove as responsive when the situation reversed. Lasting constraints associated with the crisis include the reduced funds to finance housing development and the increased barriers experienced by lower income renters seeking to access home ownership:

Supply has proved responsive to the negative impacts of the crisis. However, there is little reason to expect that to apply as the economy improves, especially as the crisis has left many developers particularly fragile. The most immediate and largest impacts

of the financial crisis in the UK have been on the supply of funds and on the supply of housing. As the crisis unfolded consumers have responded to increasing uncertainty and limited opportunities by reducing their demand. This has exacerbated the downward trends in owner-occupation, slowed the upward trend in debt finance secured against housing, and also reversed the slow rise in housing output that had been observed in the previous few years. The major problem when the upturn comes is that demand will adjust upwards far more quickly than supply, resulting in continued volatility. The crisis has thus generally exacerbated, rather than helped resolve, the UK's fundamental and long-standing housing problems. (Whitehead & Williams 2011, p.1167)

A fundamental issue that remains unclear is the extent to which these outcomes are a result of the shorter-term pressures around the GFC and resultant recession (which anyway begins to look like a rather long-term issue) or whether they reflect trends, which will not be reversed. In this context, it should be noted that many European countries are dealing with very similar issues, notably the growth of private renting, public finance tensions, and a desire to bring private equity into the housing system through institutional investors. It should also be noted that the UK no longer stands out as having a relatively low price elasticity of supply—other countries have caught up, notably the Netherlands and Germany, while the high output levels in France depend heavily on non-sustainable subsidies.

Implications for Australia

There is considerable formal and informal policy sharing between Australia and the UK (Gurran et al. 2014). Nevertheless, care is needed in translating some of the lessons from the UK to the Australian context. For instance, there has been much emphasis on the role of the land use planning system in the UK as a constraint to new housing supply, and this discourse has clearly influenced debates and reform movements in Australia (Gurran et al. 2014). However, fundamental differences in planning systems, development contexts, and systems of housing provision, mean that the impacts of Australian planning systems and processes on housing supply may differ in significant ways. Similarly, there is a strong non-profit sector in the UK, which has remained able to sustain affordable housing output despite market volatility.

Further, despite considerable planning system reform, ongoing commitment to ensuring that affordable homes are included as part of major housing development means that almost all new housing provision directly contributes to supply for low and moderate-income groups. Thus, although there is some emphasis on the potential for increased housing supply to moderate price inflation, affordable housing opportunities for low and moderate-income groups are not seen as dependent on expectations of oversupply and/or filtering down through the market.

Potential lessons arising from the UK experience include:

- Housing supply in the UK appeared more responsive to the downturn than to positive market conditions. This has been replicated in much of Europe, including countries almost directly unaffected by the GFC. The fundamental lesson is that macro instability reduces housing investment over the cycle unless expensive offsetting policies are put in place.
- The market downturn did not improve affordability for aspiring homeowners who needed larger deposits to secure mortgage finance in the credit-constrained environment. Moreover, by the time that the immediate crisis was over, and higher loan to value products were again available in part through government support, house prices were rising quite rapidly in areas of economic growth, notably London. Things are better in low tension areas, but if anything where the problems were bad they have grown worse.
- Longstanding planning system requirements for mixed tenure housing developments provided some support for the market and housing industry during the downturn as non-profit housing developers remained able to operate counter-cyclically. Their involvement in

housing development for private renting is helping to develop a new market in more stable market rental products.

- The shift from capital grants to revenue-based support has proved extremely expensive in part because of declining real incomes among the lower paid,

But perhaps the biggest arising issue is that private renting with income support within unbalanced markets is an extremely expensive policy, which in a fundamentally dysfunctional system may be necessary to maintain macroeconomic growth. The longer-term costs of a large-scale 'generation rent' are even more concerning.

3.3 Ireland

Ireland was one of the nations hit hardest by the Global Financial Crisis. A long housing market boom from the early 1990s to the crash was associated initially with increasing demand arising from the economic growth of the 'Celtic Tiger', high rates of international immigration including foreign workers and their families, and increasing availability of credit for housing finance (Kitchin et al. 2012). New housing construction initially struggled to meet demand in the key centres of population growth, and in response a number of policy interventions were introduced to remove potential regulatory, fiscal and planning system barriers to increasing housing supply as well as numerous supports to enable low-income households to enter home ownership (Stevenson & Young 2014). Crucially all policy interventions addressed the supply side of the market and, reflecting Ireland's strongly centralised governance system, all were national measures, which were not varied regionally.

3.3.1 *The Irish housing boom*

In Ireland, the housing supply interventions were effective and rates of new housing production increased significantly (Norris & Coats 2014). Housing output moved from around 28 422 dwellings per year in the 1990s to a peak of 89 000 in 2006, with the total stock increasing by almost 80 per cent in the 20 years since 1991. Yet house prices continued to rise, with second-hand and new house prices increasing by 455 per cent and 323 per cent respectively between 1994–2006, and even higher in the capital city of Dublin (Stevenson & Young 2014). Affordability declined sharply:

In ... 1995 the average resale house price was 4.1 times the average industrial wage of €18 152; by ... 2007 resale house prices had risen to 11.9 times the average industrial wage of €32 616. (Kitchin et al. 2014, p.1069)

Despite increasing affordability pressures, over the period, social housing supply did not rise sufficiently to reflect demand. At the start of the boom in 1994, 3742 social rented dwellings were built, by 2006 output had grown to 6126 units (Department of the Environment, Community and Local Government, various years). However, concurrently there was the use of housing benefits to support private renters (this allowance is called rent supplement in Ireland and is only available to benefit dependent households) increased substantially—in 1994 only 28 000 households received this support, compared to 59 861 in 2006 (Department of Social Protection, various years). In an effort to control spiraling spending on rent supplement the government experimented with long-term leasing of dwellings from private landlords for re-letting as social housing (Norris & Coates 2010)

Employment in construction and related services increased rapidly during the boom, roughly doubling as a share of the total workforce. The high rates of new housing development was largely driven by speculative house building, particularly medium density housing developments in and surrounding Dublin, but owner-commissioned detached homes in semi-rural commuting belts and surrounding regional towns, which are traditionally common in Ireland, continued to provide one-third of supply during the boom.

Thus, Ireland found itself in a situation where very high housing supply, indeed oversupply in parts of the country, failed to temper galloping house price inflation. This occurred for several reasons:

- The one-sided focus on supply side responses was insufficient to counterbalance the inflationary pressures generated by a rising population and incomes, but particularly from growing credit availability. Credit growth in Ireland was particularly strong because this country's adoption of the Euro removed the currency risk associated with inter-country inter-bank lending and also because of the entry of a number of foreign (mainly UK) mortgage lenders into the Irish mortgage market in the early 2000s.
- The location of supply did not match population growth: the latter was strongest in Dublin and the surrounding region, but the supply response was weakest here. Whereas the supply response was strongest in the west of Ireland, where population and economic growth was weakest.
- Increasing supply was accompanied by rising vacancy rates, which increased from 10.4 per cent of habitable dwellings in 1991 to 16.7 per cent in 2006, which indicated that a significant proportion of new supply was not available to meet demand. Notably, vacancy rates were particularly high in the rural areas where output was highest, compared to population. In many rural districts of the western seaboard, 25 per cent of dwellings were vacant in 2006 (Central Statistics Office 2012).

The extent of overbuilding in parts of Ireland and undersupply in other parts is thought to have arisen in a context of weak planning constraints, heated developer speculation, and tax incentives that funnelled too much investment into development compared to other economic sectors and focused too much development investment into the wrong parts of the country:

The state thus loosened the regulation of finance and construction, introduced widespread tax incentive schemes, changed the parameters of stamp duty, lowered capital gains tax, allowed developers to forego their affordable and social housing obligations, promoted a laissez-faire planning system and ... allowed the property sector to be driven by developers, speculators and banks, rewarding them with tax incentives, lighter tax obligations and market-led regulation; it enabled buyers to over-extend their indebtedness; and it provided too few barriers to development (Kitchin et al. 2014, p.1070).

As well as the perceived housing shortage and the need to meet demand through increased housing supply, local planning authorities had economic incentives to attract new housing and other development to their areas as development contributions and local business taxes were an important source of local finance in the absence of property taxes (Gkartzios & Norris 2011).

Tracing the anatomy of the Irish property bubble and its aftermath, analysts have documented the ways in which speculative housing developers acted like home buyers, operating on expectations that prices would continue to rise (Stevenson & Young 2014). In the initial response to the boom, these expectations motivated developers to release new supply slowly, exacerbating the perceived shortage of supply relative to demand and increasing pressures on price. Planning reform was undertaken to speed up decision-making and reduce regulatory restrictions preventing supply, concerns remained about developers delaying commencement once approval had been secured (Stevenson & Young 2014). In latter stages ongoing media and policy reportage of the property rises and perceived shortage of supply continued to fuel expectations that the boom would continue, supporting a self-reinforcing cycle:

Between 1999 and 2003, the issue of housing supply and prices was the focus of intense scrutiny in the Irish media, due in part to the numerous reports being produced for the Government and professional bodies. In addition, increasing concern was also being voiced in terms of the negative impact on affordability. Delays in the planning

process and infrastructure constraint issues were at the forefront of these reports and could have led to the widespread perception that housing supply could not keep up with demand, driving prices upward in the face of increasing supply. (Stevenson & Young 2014, p.375)

The failure of media and government reports to register the increasing supply of homes coming onto the market may explain why house prices continued to rise during the Irish property boom, despite this output.

3.3.2 *Impacts of the GFC*

The momentum associated with new supply was in such force that construction continued through the first indications of market decline. This was despite considerable evidence that demand and supply had detached from fundamentals:

... even without the effects of the GFC it was inevitable that a property crash would follow, given that supply and demand had become disconnected from each other in the mid-2000s. The 2006 census ... revealed that 216 331 housing units were vacant (excluding holiday homes), but between April 2006 and December 2009 around 215 000 additional properties were built The result of this overbuilding has been the phenomenon of unfinished estates, a high overall housing vacancy rate and plunging house prices (in July 2012 down 56 per cent for houses and 63 per cent for apartments in Dublin, and 50 per cent nationally) for all property types, since the peak of 2007 (Kitchin et al. 2014, p.1071).

As widely reported, the collapse of the Irish housing market devastated the entire economy. Recent purchasers faced significant levels of negative equity along with rising interest rates and reduced employment opportunities. Employment in construction sectors all but ceased, and total unemployment levels skyrocketed. Over exposure to lending for mortgages and property development undermined the credit worthiness of the Irish banking sector and from 2009 all Irish headquartered banks were unable to borrow on wholesale money markets and the entire banking sector teetered on the verge of collapse. The very high costs of government efforts to stabilise the banking system also undermined the creditworthiness of the state and was a key reason why Ireland was forced to seek an emergency loan from the IMF and the EU in 2010 (Norris & Coates 2014).

Spatial effects on rural landscapes in particular have been significant. Writing in relation to the phenomenon of 'ghost' (unfinished) housing estates in Ireland, Kitchin and others observe:

Given the location of some estates, especially in rural areas, there are issues concerning access to services such as schools, crèches, medical centres and public transport. ... Residents on these estates are living with the stress of an uncertain future with regard to works being completed, massive negative equity (in excess of 60% from the peak) and a lack of a sense of place and community. (Kitchin et al. 2014, p.1075)

In responding to the problems that arose in Ireland as a consequence of overly liberal land use planning schemes and rapid over supply of dwellings, planning agencies have begun the process of 'dezoning' lands from residential back to rural uses. In addition, regulation of mortgage lending and of the banking sector has been significantly strengthened.

Key features of the Irish experience include:

- Reforms to increase housing supply were initially effective, but they had the ultimate effect of enabling housing production to overshoot
- Policy reports and the media continued to heat the market rather than disseminating warning signs of market cooling.
- Abundant housing supply did not make prices affordable under conditions of the credit-fueled speculative boom, however, the oversupply exacerbated price falls following the

credit crunch and increased the negative impacts of the bust because of the over-reliance of government, the economy and the banking sector on construction and house sales.

3.4 Summary

In summary, a number of lessons arise from the international experiences outlined above:

- House price inflation and speculative housing demand can continue in markets that are characterised by inelastic supply (e.g. the UK), and in very flexible supply contexts (e.g. the US, Ireland, and Spain).
- While house prices seem to respond quickly to changes in demand (increases and decreases), prices appear to respond to increases in supply more slowly, such that speculative price inflation can continue even when initial supply constraints are overcome (as in the case of Ireland), resulting in a risk of overbuilding.
- Affordability for lower income groups and aspiring home owners is not necessarily improved by financial innovation or even lower cost credit, which is offset by price gains and deposit gaps associated with increased market demand. However, when credit is no longer available, price falls do not improve affordability for low-income groups either as they are also unable to obtain credit.
- Demand for rental accommodation is likely to increase under conditions of housing market collapse, and rents in high demand locations will rise as competition for affordable rental dwellings increases.
- The impacts of a speculative housing boom and overbuilding are felt most intensely by lower and moderate-income groups at risk of negative housing equity, unemployment (along with the multiplier impacts of job losses in construction) and housing foreclosure; and in new suburban and exurban locations with limited access to employment markets.

These lessons may have important implications for Australian housing and urban policy settings.

4 POTENTIAL POLICY AND RESEARCH IMPLICATIONS FOR AUSTRALIA

This paper has reviewed international literature on housing markets and economic risks, focusing particularly on implications for policy settings surrounding new supply. Overall, the impacts of financial crisis have prompted a re-evaluation of the ways in which housing markets respond to shifts in supply and demand:

Most housing economists asked before 2005 would have argued that economies where the supply responsiveness of housing is relatively high, as in Ireland, Spain and the US, should experience lower house price volatility than economies where housing supply is unresponsive as in the UK. The evidence since strongly contradicts this hypothesis. Part of the explanation lies in the lags in the response of the stock of housing which is still rising when house prices may already be falling, and part in the common drivers of over-shooting noted above—clearly if supply overshoots, then the subsequent fall in home prices to restore equilibrium will be greater The common drivers would include ... the greater relaxation of credit conditions and poorer lending standards, and hence greater reversal after 2007, in at least Ireland, Spain and the US. Another reason for greater volatility in countries with high supply elasticities lies in the macro-economic feedback on unemployment and incomes which occurs when residential construction volumes collapse. (Immergluck 2011, p.28)

Although Australia's housing market remained stable during the GFC, there are a number of potential lessons arising from the experiences of other nations. While flexible supply did not cause housing market collapse in the nations reviewed, in Ireland and in certain housing markets of the US, relatively high supply elasticity certainly increased the risks and impacts of the downturn.

In seeking to make Australia's housing system more responsive to underlying demographic trends, it is therefore important to identify the limits and risks of supply-based strategies. These are particularly apparent at regional and sub-regional levels, discussed further in Discussion Paper 3.

Questions for discussion arising from this paper include:

- What are the international lessons for Australian policy and planning frameworks governing the production of new housing supply?
- What is the responsiveness of Australia's housing market (particularly new supply) to different demand drivers (demographic change; employment/income change; interest rate movements/financial innovation; domestic/international investment patterns; price movements)?
- How do/should housing market signals inform policy and regulatory frameworks governing new housing supply?
- What level of increased housing production would moderate house price inflation in Australia and or stimulate efficient filtering in the market, to address affordability pressures faced by low and moderate-income groups? Is this level of output feasible or sustainable, having regard to industry capacity, infrastructure requirements, and environmental constraints?
- Would targeted low cost housing provision (e.g. funding, incentives and/or requirements) provide a more efficient response to the shortage of homes affordable to low and moderate-income earners?

DISCUSSION PAPER 3—HOUSING SUBMARKETS: AN ANALYTICAL TYPOLOGY FOR AUSTRALIA

This is third discussion paper in the four part series. It proposes an analytical typology of housing market contexts, drivers and supply responses, applicable to the Australian context, with the aim to identify and monitor the impacts of urban planning and wider policy interventions for housing affordability and economic productivity.

1 INTRODUCTION

Fundamental economic and social changes over the past few decades—particularly the international mobility of people and capital—raise new challenges for predicting and responding to shifts in housing demand. Most recently, the Global Financial Crisis (GFC) exposed the economic risks arising from excessive housing market volatility, particularly for housing markets affected by speculative investment and oversupply. However, there has been surprisingly little research or policy guidance on implications of new housing market dynamics for local and regional planning (et al. 2011). These dynamics include increased global funding for housing investment, and new patterns of international and domestic migration and economic growth (Kim & Renaud 2009). Spatially, economic opportunities have begun to concentrate in the major global cities, while other regions have become a focus for new forms of leisure-oriented residential and tourism development.

In this context, this paper asks:

How should local and regional housing markets and planning frameworks adjust to changing drivers of housing demand?

This paper is the third in a series of discussion papers prepared for a research project on housing system efficiency and risk, funded by AHURI.

The first section of the paper provides an overview of housing submarket analysis and implications for urban policy and planning, before outlining existing research on Australian housing submarkets and interactions with different demand drivers and policy levers. The second part of the paper proposes an analytical typology of housing market contexts in Australia as a first step to better identifying, interpreting, and responding to indicators of change at regional and local scales.

2 UNDERSTANDING AND RESPONDING TO HOUSING SUBMARKETS IN AUSTRALIA

The following sections introduce the notion of housing submarkets analysis and its significance for urban policy and planning, before turning to recent research on the characteristics of Australian regional housing submarkets.

2.1 Housing submarkets

The housing market impacts of the Global Financial Crisis (GFC) differed within nations as well as between them. For instance, house price volatility in some parts of the United States (such as California and parts of the mid-west) was far sharper than in other regions, and the depth of the crash more severe (Spiller 1990). Similarly, in Ireland and Spain, the impacts of national housing market collapse were felt more acutely in particular rural (Irish) and coastal (Spanish) regions (Yates & Wood 2005; Talen & Koschinsky 2014). These differences reflect the highly segmented nature of housing markets and the regional and local economies within which they are embedded.

2.1.1 *Defining submarkets*

Housing submarkets are often defined intuitively in relation to householder/investor preferences and demand having regard to specific criteria, including location (vis-à-vis employment, transport, education, social networks and desired amenities), space and dwelling characteristics (size, design, type, e.g. apartment versus detached, and tenure (ownership/rental)) (MacLennan 2012).

Residential submarkets are typically defined, a priori, on the basis of property type, the socioeconomic characteristics of geographical areas, local government boundaries, or market areas as perceived by real estate agents. The information used to define the submarkets is predetermined by some prior view of what is important. An alternative approach is to let the data determine the structure of the submarkets. Thus, starting with a large data set it is possible to determine which features most distinguish among dwellings and then to group the dwellings according to those features. (Bourassa et al. 1999, p.182)

Whatever definition is applied, housing sub-markets rarely conform to local administration or planning boundaries (Jones & Watkins 2009). Thus, submarket identification presents a challenge for housing policy, planning and analysis:

Housing market segmentation may be attributable to spatial differences in structural characteristics, neighborhood amenities, or some combination of both. For example, houses of different vintages may have unique features that are not easily changed or replicated. Houses in one development may have a single story; houses in another may have two or three stories. For many demanders these houses may not be substitutes, and the costs of transforming one into another may be substantial. Furthermore, neighborhood amenities are not easily duplicated. Houses exist within neighborhoods, within school districts, within municipalities, within urban areas. Once again, demanders may not view different areas as substitutes. Even if the process of producing neighborhood amenities were well understood, the costs of replicating neighborhood features could be prohibitive. (Goodman & Thibodeau 1998, p.122)

These factors all combine to contribute to sources of market failure and inefficiencies in housing markets.

2.2 Spatial and temporal dimensions of housing submarkets

There are debates about the best way to identify regional housing submarkets. Many approaches emphasise spatially delineated price differences (McMillen & O'Sullivan 2013). Other definitions focus on patterns of intra-urban migration—which locations households are willing to move to (Ferreira et al. 2010). Recent research in the Australian context suggests that housing sub-markets are not necessarily spatially contiguous (Dawkins & Koebel 2010).

Demand elasticity across sub-markets—for instance, the extent to which households are willing to trade location for tenure (i.e. to purchase a home that requires a long commute to work, rather than rent nearer to employment)—differs between different household groups depending on budget constraints (income and access to finance), life stage and preferences.

This means that housing submarkets are dynamic—it can be difficult to predict the trade-offs that will be made between location, space and tenure and, therefore, the extent to which movements in supply or demand within one submarket will influence supply and demand in another.

Regional submarket adjustment (changes in the composition and relative price of dwellings) is usually slow. However, sometimes major policy interventions or other market shocks promote significant changes at the neighbourhood level:

There may be rapid and chaotic changes, which take a neighbourhood from a stable middle-income standing to one of rapidly deteriorating quality and low-income occupation. (MacLennan 2012, p.21)

Therefore, wider housing market and economic cycles often affect housing submarkets in different ways and at different times. Recognising the opportunities and constraints associated with these cycles can be an important aspect of submarket housing analysis.

2.2.1 Submarket interaction

Housing submarkets have dynamic interactions, with increases or decreases in demand or supply within one submarket potentially affecting neighbouring or substitute regions. However, it is often difficult to track the extent to which substitution between housing services and between different locations takes place—or the implications arising from these decisions. In other words, as highlighted by the former NHSC, very little is known about whether changes in housing choices reflect shifting consumer preferences and demographic trends versus constraints and affordability pressures in the market (NHSC 2014).

Internet search data might provide new information on demand trends, including unmet demand (MacLennan 2012). Along with building approvals, sale price trends, auction clearance rates, rental vacancy rates, and social housing waiting lists, searching behaviour might provide holistic insights across these indicators of housing supply and the relationships between trends within sub-markets across the whole housing system. With such knowledge, it may be possible to use policy intervention to support buyers or renters in identifying substitute markets where supply is less constrained.

Better understanding of which factors drive demand for particular sub-markets (e.g. school quality, transport infrastructure, amenity, employment opportunities) may inform strategies for spreading this demand to new substitute locations. Such strategies may be as simple as improving searchers' knowledge of alternative housing sub-markets that might meet their criteria at a lower cost. Additionally, new housing supply strategies should ideally aim to stimulate demand in alternative locations through investment in underutilised areas of the city (often through transport infrastructure to make these areas more accessible) and through careful planning for targeted greenfield development.

To some extent, householders in search of more affordable homes will move to locations of abundant housing supply. This can generate flow on regional economic impacts associated

with jobs in construction and real estate. However, the sequence and balance between population and employment growth can be an important indicator of short-term housing demand which is unable to be sustained, leading to a risk of oversupply.

2.3 Australian housing submarkets

There is a growing body of research on Australian housing sub-markets. This work has examined the ways in which Australian housing sub-markets should be geographically defined (Dalton 2009); the ways in which different sub-markets perform over time (converging or diverging in price) (SCRGSP 2012); and increasing socio-spatial segmentation (Randolph & Holloway 2005). Work by the Grattan Institute has examined housing preferences (JCHS 2013) and analysed relationships between the location of employment and housing in major Australian cities (King County Council 2012). The findings of recent research are discussed below.

2.3.1 Metropolitan housing submarkets in Australia

In general, urban locational preferences are affected by:

- Access to employment opportunities.
- Natural amenity (particularly beaches, waterfronts) and urban amenities/cultural heritage.
- The quality of public and private schools, and school catchment areas.
- Characteristics and qualities of the housing stock.

To some extent, all of these attributes are amenable to policy intervention, which may affect and expand patterns of demand for housing in particular locations over time.

As noted, although Australia is one of the least sparsely settled nations in the world, it is also one of the most highly urbanised, with two-thirds of the nation living in an urban area (ABS 2013). Around 70 per cent of Australians live in the primate capital cities, with the balance predominantly settled in coastal conurbations stretching beyond these metropolitan areas (ABS 2013). The capital cities, particularly Sydney and Melbourne, accommodate more than 40 per cent of the nation's population and attract the majority of international migrants (just under half of Australia's overseas born population) (ABS 2014), although migrants are highly mobile, particularly within the first five years of their arrival.

Within Australia's metropolitan regions, inner city areas are in higher demand than outer suburban locations, reflected in differential prices and rents (King County Council 2012). However, development opportunities within inner areas and more expensive middle ring areas are often more difficult to secure due to the high costs associated with site acquisition and land assembly (Department of Housing and Community Development 2013). Regulatory planning approval processes affecting new housing development may also be slower.

In established middle and outer suburban metropolitan areas, there are a wide variety of housing submarkets, ranging from very high value locations typically characterised by high natural and cultural amenity, good accessibility (including fixed public transport services), and often sub-regional employment centres. Australian metropolitan plans emphasise increased housing provision within these established locations through higher density housing near public transport, and medium and infill development in other areas. However, these sites also present inherent constraints associated with site acquisition, development viability, and securing planning approval (Department of Housing and Community Development 2013), particularly in locations affected by neighbourhood opposition to change (Berry & Dalton 2004).

In outer suburban locations there are a mix of established and new housing areas, with limited opportunities for intensification; and undeveloped 'greenfield land' available for housing development. All of the capital cities have identified and continue to plan for major greenfield release areas (NHSC 2011). However, many greenfield areas are affected by long distances

from central employment areas, and limited or no public transport options (King County Council 2012) (although some cities, e.g. Perth, have ensured that new suburban release areas are well connected by rail and bus).

The former NHSC highlighted different patterns of new housing supply across Australia's states and territories, capital cities, and regional areas, and patterns of housing occupation and vacancy (NHSC 2011, 2014).

2.3.2 Non-metropolitan submarkets in Australia

Factors affecting non-metropolitan regional housing markets include:

- Patterns of international and domestic migration—there is often a flow on effect as capital city populations rise, prompting some outwards migration to regional areas.
- Patterns of regional economic growth and change, particularly in natural resource based industries and in manufacturing.
- Tourism, leisure, and demand for second homes.
- Retiree mobility.

Relatively affordable housing in regional centres may operate as an attractor for new residents to relocate from expensive city markets, provided they are able to establish new employment opportunities, or maintain connections through partial commuting or telecommuting. However, when regional housing markets depend on ongoing housing development and relative affordability for population growth, rather than other underlying economic drivers, market risks may arise, as noted in Discussion Paper 2. Studies suggest that housing (construction) driven growth in some peri and exurban locations in the US exacerbated the local economic impacts of the financial crisis (Durant et al. 1993). Key indicators of this risk may include the relative balance between employment creation, housing development, and population growth.

Although regional housing markets tend to have lower affordability pressures relative to the capital cities, when considered in relation to regional income levels and employment opportunities, the availability of affordable housing can be equally limited. As has been well documented, regions affected by rapid population growth, seasonal tourism and employment pressures are also often characterised by a shortage of affordable and appropriate housing (Gurran & Blakely 2007). Similarly, there are major challenges associated with providing new housing in remote communities (Haslam McKenzie & Rowley 2013).

As in cities, the design and siting of new residential developments raise important challenges in regional areas, where amenity values are closely associated with particular settlement character and typologies. Economic dependence on tourism in many non-metropolitan coastal and some rural areas implies that housing developments must be mindful of sustaining local character where it contributes to visitor appeal.

One of the key challenges associated with assessing patterns of housing demand and supply in non-metropolitan amenity areas is the high prevalence of second home ownership and fluidity between temporary and permanent rental accommodation (Paris & Thredgold 2014). This may become an increasing problem in some inner metropolitan housing markets as well, with the growing use of informal rental arrangements through internet sites such as 'Air B'n'B'.

2.3.3 Australian dwelling preferences

Preferences for particular types of dwellings are affected by tradeoffs between location—proximity to employment and amenities, and price. There is extensive research on the ways in which households at different points in the life cycle seek different housing services—dwelling, tenure, and price/rent attributes (MacLennan 2012). Profound demographic and economic changes have altered Australian housing careers (e.g. delayed household formation, increased incidence of divorce, growing proportions of lone person households, population ageing)

meaning preferences are less predictable (Beer & Faulkner 2009). These are summarised in Table 7 below.

These changes present challenges for projecting future housing requirements. While most metropolitan planning strategies assume relatively predictable patterns of housing mobility, particularly as ageing baby boomers reach retirement, the extent to which these transpire will reflect lifestyle aspirations, financial constraints, and the availability of housing options within chosen communities (NHSC 2014). Recently-arrived migrants are another population group with distinct and diverse patterns of housing demand (NHSC 2014). Currently these different and changing housing needs and preferences are not well understood or reflected in overarching regional and local planning strategies.

Table 7: Changing housing careers and dwelling preferences

Stage/group	Tenure	Change	Dwelling type/location	Change
Nuclear family/parents with dependent children	Owner occupation	Increasing proportions of families in private rental	Larger 3–4 BR dwelling—typically house on own land, suburban location	Families increasingly prepared to trade space for location (inner city); increasingly living in multi-unit housing
Home leavers (tertiary student/early career)	Private rental	Increasingly staying in the family home, due to affordability constraints	Apartment/share house, often inner city locations	Larger dwellings (family house)
Independent household formation	Owner occupation (first home purchase)	Private rental/family home—First home purchase delayed due to student loans, lifestyle changes, delayed partnership, affordability	'Starter' homes—smaller houses/apartment s, often in central city or new greenfield suburbs	Trade offs between tenure, dwelling size/type, and location more common
Retirees/empty nesters	Outright ownership	Increasing proportions of retirees still have mortgages/in private rental	Suburban 3–4 BR homes	Age in place? Interest in downsizing—apartments/retiree accommodation depending on availability Extended family model Relocate to retirement coastal/regional location?
New migrant groups	Rental	Housing preferences and financial capacity varies greatly across migrant groups	Inner city rental housing/particular suburban areas offering services and community ties	Diversity of household types; often large family groupings Students—share accommodation Range of metropolitan locations

Source: The authors, Beer and Faulkner 2009

The former NHSC highlighted the complex interrelationships between the availability of appropriate housing options and life course decisions made by groups with affordability constraints:

The Council has long noted the impact of supply and affordability constraints on the formation of households and on housing consumption choices. It has also questioned what choices and trade-offs households make to deal with higher housing costs (NHSC 2014, p.31)

Research by the Grattan Institute also points to a mismatch between available and affordable housing options, and the types of housing that Australians say they prefer (JCHS 2013):

Contrary to myth and assumption, Australians want a mixture of housing choices—not just detached houses. Many want to live in a semi-detached home or an apartment in locations that are close to family or friends, or to shops. However, the market does not provide nearly enough of these types of housing where we want them. (NSW Department of Planning and Environment 2014, p.1)

The Grattan Institute reports that risks and uncertainty, higher costs associated with providing multi-unit developments (over four stories), and restrictive planning regimes, mean that greenfield housing development remains more attractive for developers. Thus, despite higher (public and private) costs in infrastructure provision and the misalignment with stated community preferences, greenfield locations continue to be a focus for new housing development, which the Grattan Institute questions:

While the exact ratios depend on assumptions (and can be contentious) it is clear that significant public funds are invested in greenfield development. Given that we are already paying for growth, we should consider spending this money where people say they would like to live. (NSW Department of Planning and Environment 2014, p.5)

However, this binary analysis between greenfield and inner city markets tends to overlook the considerable diversity among housing consumers, investors, and producers in Australia. This diversity likely interacts with the different financial, planning, and geographic constraints and opportunities to drive demand and supply in these different submarket contexts. For instance, McLaughlin (2012) examines differences in housing supply elasticity across the six Australian state capital cities and across different dwelling types (multi-unit and detached dwellings). In an analysis spanning the period 1983–2010, new supply elasticity (measured as responsiveness to changes in house prices) was initially greater for detached single family homes. McLaughlin's analysis attributed this short run responsiveness to the availability of land on the urban periphery where the majority of new release programs occur, and the often simultaneous process of rezoning, subdivision, and development application/approval.

However, in the long run, supply responsiveness was greater for multi-unit dwellings. This difference was attributed to the increasing emphasis of state metropolitan planning schemes on infill and higher density residential development, and perceived shifts in future demand. The analysis also found that multi-unit dwellings are associated with a sudden supply increase rather than the incremental growth associated with single family homes:

... developers of multifamily units may view smaller, denser units as being in much greater demand over the coming decades, and in turn may be developing in a more speculative manner by striving to build more units than immediately demanded with the hopes of economising on a single development approval application. (McLaughlin 2012, p.615)

The potential for developers to 'warehouse' sites to enable faster responses to market shifts was also noted:

Such warehousing techniques can give developers comparative advantages over competitors when demand increases, as they will be able to more quickly deliver supply to the market. (McLaughlin 2012, p.616)

This implies that a more nuanced analysis of the ways in which different sectors of the housing industry, and different housing development types, is needed to understand how Australia's housing market adjusts to shifts in demand.

2.3.4 Investors/landlords

Housing investors both drive and respond to housing demand. In Australia's housing market, housing investors include:

- individual investors ('landlords'), including international investors
- institutional investors
- second home owners.

Individual investors who purchase residential dwellings to lease out to tenants are primarily driven by potential capital gain, although investment on return through rental income is also important (Seelig et al. 2006).

Increasingly, international investors are looking to nations such as Australia as a 'safe haven'. Smaller, individual investors compete with local buyers in an already constrained market, while larger institutional investors are able to compete with local developers in acquiring sites and hiring labour. While international investment may contribute to the overall dwelling stock, little is known about the extent to which this housing contributes to the overall supply of dwellings for sale or rent, and at which segments of the market (NHSC 2009).

Institutional investors are able to finance major housing developments and therefore there has been much interest in the housing investment activities of these institutions such as super funds. There is considerable potential too for institutional investors to contribute to the supply of affordable housing (Paris et al. 2009).

However, to date, there has been limited research or policy development on the extent to which particular forms of housing investment in Australia might gravitate towards particular housing submarkets and even dwelling types. This contrasts with nations such as the US, where a high proportion of medium and high density housing has been financed by investors and provided as rental housing, often aided by subsidies to support affordable rental housing (e.g. the *Low Income Housing Tax Credit* scheme), and an understanding of investor intentions and motivations directly contributes to policy formation (Gilmour & Milligan 2008).

Better understanding the factors influencing investor attraction towards particular housing submarkets in Australia (particularly new build), and intentions regarding subsequent use of this stock (i.e. long-term rent or shorter term letting/holding pending capital gain), would provide important policy information. For instance, such data would help planners estimate the potential impacts of new supply for addressing local or regional housing demand. This is a particular issue in inner city locations where investment in high and medium-density housing developments can provide a significant increase in the dwelling stock within a relatively short period of time.

2.4 Levers that support or constrain housing supply at regional and local scales

As outlined in Discussion Paper 1, there has been much policy interest over the past decade in the range of potential government levers that can be used to support increased supply responsiveness in Australia and internationally. Overall, and as outlined above, these levers include:

- Demand side grants/subsidies (to give market signal to produce increased supply and to assist income-constrained households to effectively demand housing).
- Infrastructure investment/support (to overcome infrastructure barriers).
- Use of government land, and development organisations, to assemble land and coordinate delivery.
- Capital funding or financial incentives for affordable housing provision.
- Planning reform to overcome constraints to housing production.

These levers have been used in different ways in Australia (see Table 8 below). However, aside from direct provision of affordable housing, there is limited data on relative impacts of these different tools on the generation of new housing supply or the availability of affordable homes in the established market. Further, while the policy levers are general (i.e. non-spatially targeted), impacts on housing supply and demand will differ at regional and local scales.

Table 8: Policy levers and supply impacts

Lever	Example	Impact on new housing production/supply/affordability
Demand side grants/subsidies	First Home Buyers Grant Stamp duty discounts Rental assistance Favourable tax treatment of family home, investment property	Sustains demand for housing investment, but limited direct impact on new production—overall favourable tax treatment on family home/property investment generally tends to reinforce market preference for investment in established areas, where prospects of capital gain are highest Targeted grants may increase new production—greenfield developments & new apartments
Infrastructure investment/support	Housing Affordability Fund Rate capping/discounted infrastructure contribution regimes Major investment in public infrastructure/public realm	Not evaluated May assist smaller developers, particularly in infill locations where existing infrastructure exists Potential constraint in new release areas due to infrastructure funding shortfall Stimulates housing demand/land value uplift and improves development viability
Use of government land/development organisations to assemble/coordinate/develop land	Government land organisations/public private partnership models	Direct impact on supply in both infill/greenfield locations Can moderate market depending on quantity of output and design of scheme Affordability depends on design of scheme/mechanisms to secure/retain affordable products
Capital funding or financial incentives for affordable housing provision	Social Housing Initiative (Nation Building and Economic Stimulus funding) National Affordable Housing Agreement funding (former) National Rental Affordability Scheme	Direct impact on affordable and overall new housing supply, but care/other supporting policy interventions needed to ensure new supply located in accessible locations across metropolitan/regional area
Planning incentives/requirements for affordable housing as a proportion of new development	SA, ACT Affordable Housing Targets NSW Affordable housing incentive NSW limited inclusionary zoning schemes	Delivers affordable housing for sale in infill/greenfield developments Some opportunities for affordable housing developers in infill sites Small revenue pipeline for affordable housing in high value housing markets, but does not offset lost housing opportunities arising through gentrification
Planning reform to overcome constraints to housing production	System reform—changes to timeframes, regulatory instruments, decision processes Codification—providing development entitlement for certain types of housing development Changes to infrastructure-charging regimes	Limited evidence of impact to date Effective in generating certain dwelling types (e.g. accessory dwellings) and in promoting adjustment of housing stock (e.g. alterations/additions), most likely to have an impact in suburban and outer suburban locations Differential impacts. Some benefits of flexible application in infill areas, some constraints in greenfield sites where insufficient funding for infrastructure.

Source: The authors

Further, as shown in Table 8 above, many of these levers are insensitive to the opportunities and risks that may arise from the regional housing market differences outlined above. For instance, subsidies to encourage low cost affordable housing development will have greatest impact in regions where development profits are marginal—due either to high land costs (in expensive inner city areas) or low demand. In the first scenario, there is a clear need to overcome cost barriers to affordable housing development, so financial subsidies to support new supply are ideally matched to spatial policies that seek to increase housing near jobs and transport. But without clear spatial targeting there is equal likelihood that the subsidy will support new development in locations where there is lower market demand—both diluting the value of the government subsidy and potentially creating a risk of oversupply. Where there is concern that urban planning regulations are constraining housing production, reform may appear to offer a low cost lever for increasing supply.

2.4.1 Planning systems and the responsiveness of housing supply

Planning regulation is thought to affect housing supply in several ways:

- By reducing the amount of land able to be developed, thereby, creating an artificial shortage (Dawkins & Nelson 2002).
- By constraining the quantity and density of housing able to be developed, and restricting housing types (Glaeser & Ward 2009).
- Through administrative processes that increase the time needed for development and introduce uncertainty as to whether a project can go ahead (Ball 2010).
- By increasing the direct costs associated with development through fees and charges associated with development approval (including the need for specialist studies) and particularly, development contributions for local infrastructure provision (Evans-Cowley & Lawhon 2003).

The extent to which these factors affect supply and affordability in particular markets remains a contested area of research (Bramley 2013). For instance, it is difficult to separate the demand inducing benefits of high amenities that are created and preserved through planning regulations, from the price effects of supply constraint.

Similarly, while development contributions represent a cost to developers, studies in the US suggest that such charges facilitate housing supply by ensuring necessary infrastructure is able to be provided (Burge et al. 2007). The level of development contributions required and perceptions about these requirements and whether or not they are likely to change, are important factors in understanding developer behavior and the timing of new supply. When these costs are seen to outweigh potential profits (which will depend in part on when the land was acquired)—development will not proceed.

2.4.2 Market cycles, policy levers, and the timing of new development

It is difficult to predict the ways in which developers adjust their investment decisions and behaviours under different regulatory and market settings. For instance, international studies from the United Kingdom and the United States have pointed to the tendency for private housing developers to pace the speed at which homes are completed and offered to market, despite buoyant conditions (Adams et al. 2009; Guthrie 2010). The value of waiting to develop housing at some point in the future, rather than immediately capitalising on market opportunity, is increased under conditions of market uncertainty.

If there is a lot of uncertainty about future real estate prices, then the option to select the type of building in the future is very valuable. This makes the vacant land relatively more valuable and makes the decision to develop the land at the current time relatively less attractive. (Titman 1985, p.506)

Although in theory, planning regulations designed to control and restrict growth might have the effect of stimulating development, by reducing uncertainty regarding optimal development intensity and the value of waiting, thereby bringing development forward, where planning controls *over-allocate* development opportunity relative to market viability, the option of waiting to develop is likely to be more valuable than moving forward with a smaller scheme. Overall it appears that when planning controls are certain and stable, and support development which is currently feasible, their effect on stimulating—or constraining—new supply is likely to be neutral or benign.

This discussion highlights the need to better understand the ways in which policy levers and land use planning regulations may interact with the timing and quantity of new housing supply under different market contexts in Australia.

2.5 Typology of housing market contexts, opportunities, risks, and policy levers

Discussion Papers 1 and 2 focused particularly on interactions between the housing market and the wider macroeconomy, while noting that many of the policy levers governing the production of new housing supply operate at regional and local scales. The following sections turn to these spatial dimensions of the housing market and submarkets. As discussed above, policy interventions can have different impacts in different housing submarket locations and for different types of housing developers, but these differential impacts are not yet well understood. Yet this information could provide important insights into the ways in which policy interventions can better support local and regional housing market responses to changing demand. The following typology (Table 9 below) distinguishes between different housing market opportunities and risks associated with different urban and regional locations. Drawing on the table of policy levers outlined above (Table 8), it also highlights existing and potential policy levers that might be applied to enhance market responsiveness in relation to specific pressures.

Table 9: Typology of housing market contexts, opportunities and policy levers

Housing market context	Opportunities	Constraints/risks	Data/Indicators	Potential policy levers
Inner city (Capital cities)	<p>Significant supply injection through high/medium density housing</p> <p>Redevelopment and renewal of under-utilised sites—public/private;</p> <p>Zoning/site by site changes to enable increased density;</p> <p>Sites can support affordable housing provision through value uplift;</p> <p>Opportunities for smaller dwelling units for niche segments, e.g. Student housing; single room occupancy housing</p>	<p>Development feasibility—high land values mean high profits needed for viability;</p> <p>Site constraints associated with access amenity impacts;</p> <p>Community views—slow planning processes on major sites;</p> <p>Market-driven new supply will not be affordable for low/moderate income earners, may exacerbate displacement through gentrification;</p> <p>Informal subletting/over-occupancy;</p> <p>Excessive speculation by international investors—new stock doesn't necessarily add to rental supply</p>	<p>Residential approvals by dwelling type</p> <p>Annual completions by dwelling type/configuration; as a proportion of approvals; completion times</p> <p>Net additions to dwelling stock as proportion of population change/employment change/interest rate movements/price/rent change</p> <p>Price/rent/income ratios and change</p> <p>Residential/mixed use rezonings</p> <p>Sales transaction volumes</p> <p>International investment in real estate</p> <p>Unoccupied dwellings (i.e. vacant, not-for-sale or rent)</p>	<p>Require affordable housing as part of planning approval, more when government resources/subsidies involved</p> <p>Ensure modest housing designs across the market spectrum</p> <p>Codify preferred designs—maintain certainty</p> <p>Time limited planning bonuses/approvals</p>
Middle ring suburban areas—high value	<p>Adaptation of existing housing stock—densification through accessory dwellings, dual occupancy development, etc.</p> <p>Potential for significant supply injection through medium density housing/accommodation for the aged / supported accommodation</p> <p>Redevelopment and renewal of under-utilised sites—public/private;</p> <p>Zoning/site-by-site changes to enable increased density</p> <p>Sites can support affordable housing provision through value uplift</p>	<p>Housing mismatch—lack of lower priced alternative housing opportunities mean many older households remain in family home;</p> <p>Community views about neighbourhood change—may undermine changes to planning rules/slow planning process;</p> <p>Site acquisition and assembly complex in existing suburban areas;</p> <p>Development feasibility—high land values mean high profits needed for viability—encourages developers to wait;</p> <p>Market driven new supply will not be affordable for low/moderate income earners, may exacerbate displacement through gentrification</p>	<p>Residential approvals by dwelling type</p> <p>Annual completions by dwelling type/configuration; as a proportion of approvals</p> <p>Residential subdivisions including dual occupancy developments</p> <p>Residential/mixed use rezonings</p> <p>Residential alterations & additions; overall stock configuration change</p> <p>Sales transaction volumes</p> <p>Rental vacancy rates</p> <p>Price/rent/income ratios and change</p> <p>Vacant sites</p> <p>Unoccupied dwellings (i.e. vacant, not-for-sale or rent)</p> <p>Population change and resident mobility patterns (i.e. in/out migration)</p>	<p>Planning changes to codify model accessory dwellings, dual occupancy dwelling adaptations, infill housing development</p> <p>Require affordable housing as part of planning approval, more when government resources/subsidies involved</p>

Housing market context	Opportunities	Constraints/risks	Data/Indicators	Potential policy levers
Middle ring suburban areas—lower value	<p>Adaptation of existing housing stock—densification through accessory dwellings, dual occupancy development, etc.—opportunity to increase supply of lower cost rental accommodation;</p> <p>Redevelopment and renewal of under-utilised sites—public/private</p> <p>Increased investment in new housing supply may attract new residents with multiplier effects for local retail centres;</p> <p>Sites may support affordable housing provision through value uplift</p>	<p>Development risk associated with lower market demand;</p> <p>Increased supply in lower value areas, particularly in areas not well serviced by public transport could create oversupply of certain dwelling types and lead to disinvestment;</p> <p>Land banking by landholders/developers, who anticipate increased market value in the future</p>	<p>Proportion of population within radius of public transport catchment/proportion of new subdivisions/development approvals within public transport catchment</p> <p>Population change and resident mobility patterns (i.e. in/out migration)</p> <p>Residential</p> <p>Rezoning; residential subdivisions</p> <p>Residential approvals by dwelling type</p> <p>Net additions to dwelling stock as proportion of population change/employment change/interest rate movements/price/rent change</p> <p>Sales transaction volumes</p> <p>Rental vacancy rates</p> <p>Price/rent/income ratios and change; indicators of mortgage stress</p> <p>Vacant sites</p> <p>Unoccupied dwellings (i.e. vacant, not-for-sale or rent)</p>	<p>Investment in transport or community infrastructure (schools, civic facilities) likely to generate increased demand and enable new housing developments to meet regional housing need</p> <p>Support catalyst housing developments likely to stimulate wider demand</p> <p>Increase awareness of potential housing and development opportunities associated with key areas</p>
Greenfield suburban release areas	<p>Long-term supply pipeline of new homes—less volatile market and able to respond quickly to shifting demand;</p> <p>Provision of a range of housing types, including options affordable to low and moderate-income groups—market demonstration;</p> <p>Create and sustain demand through quality planning and design of public realm/internal connectivity, and accessibility to surrounding areas</p>	<p>High costs of infrastructure provision</p> <p>Lower demand for areas with poor public transport;</p> <p>High costs of site acquisition due to landholder expectations (pre-emptive rezoning increases values without development imperative);</p> <p>Developers able to wait to develop/release until optimum time in market cycle—exacerbating supply constraints</p> <p>Industry structure for house building generally predicated on detached homes rather than medium/integrated housing development—medium density low rise</p>	<p>Proportion of new subdivisions/development approvals within public transport catchment/distance to employment centres</p> <p>Proportion of new supply affordable to low/moderate income groups</p> <p>Composition of residential approvals/completions</p> <p>Number of lots released to market per annum</p> <p>Englobo land prices and change</p> <p>Availability of zoned residential land</p> <p>Infrastructure charges per ha/dwelling</p>	<p>Government land development organisations (acquire englobo land, undertake land development, secure public transport corridors and infrastructure etc.)</p> <p>Time limited rezoning options</p> <p>Codified housing development models</p> <p>Clear and stable local infrastructure charging system</p> <p>Differential land rating for sites with planning permission</p> <p>Assistance with industry</p>

Housing market context	Opportunities	Constraints/risks	Data/Indicators	Potential policy levers
		<p>housing models require different financing/organisational arrangements;</p> <p>Market-driven new supply will not be affordable for low/moderate income earners, incentive for developers to pursue premium over volume;</p> <p>Risk of over- supply/scattered supply which is inefficient</p>		<p>recalibration/financing—new integrated housing development models</p> <p>Affordable housing for sale integrated with planning approval</p>
Regional centres	<p>Increased housing supply through well designed medium and some high density projects—attract population and employment opportunities;</p> <p>Intensification and infill development/housing adaptation and conversion</p>	<p>Development feasibility—higher costs associated with medium density development mean high profits needed for viability</p> <p>Planning controls may have over allocated potential development rights that may become more valuable in the future— encourages developers to wait;</p> <p>Market-driven new supply not affordable for low/moderate income earners, displacement through gentrification ;</p> <p>Volatility—if employment in construction not sustained and new population growth fails to trigger wider economic diversification</p>	<p>Residential approvals by dwelling type</p> <p>Annual completions by dwelling type/configuration; as a proportion of approvals; completion times</p> <p>Net additions to dwelling stock as proportion of population change/employment change/interest rate movements/price/rent change</p> <p>Price rent/income ratios and change</p> <p>Sales transaction volumes</p> <p>Unoccupied dwellings (i.e. vacant, not-for-sale or rent)</p>	<p>Selected infrastructure/public realm investment to catalyse market</p> <p>Time limited development bonuses/infrastructure discounts</p> <p>Assistance with site assembly/remediation/planning</p> <p>Codification for model accessory dwellings, dual occupation, infill designs</p>
Resort/lifestyle communities	Economic growth stimulated by tourism and new population	<p>Volatility—boom bust cycles;</p> <p>Housing development competes with lifestyle development/tourism values;</p> <p>Existing community priced out of housing market;</p> <p>Shortage of long-term rental and seasonal employment accommodation</p>	<p>Net additions to dwelling stock as proportion of population change/employment change/interest rate movements/price/rent change</p> <p>Price/rent/income ratios and change</p> <p>Proportion of housing available for permanent occupation (versus holiday/temporary letting)</p> <p>Unoccupied dwellings (i.e. vacant, not-for-sale or rent)</p>	<p>Stringent regional/local planning controls to preserve amenities, locate retirement developments</p> <p>Affordable housing provisions (rent/sale)</p>
Mining / remote communities	Market for innovative housing products	<p>Costs of housing provision;</p> <p>Lack of long term population base</p>		

Source: The authors

As shown, in order to promote a responsive housing market across the different spatial contexts characterising Australian cities and regions, and in relation to the needs and preferences of particular submarket groups, a number of policy interventions may be required. These may differ in relation to market context—in general, higher value markets can leverage increased public outcomes while lower value markets might require increased public investment. Similarly, the range of opportunities and risks associated with particular housing development trajectories also shifts according to locational context and market segment. Finally, the period of the housing market cycle also affects these settings, opportunities and risks—again in different ways.

Also, as shown in Table 9 above, a range of data and indicators are required to assist actors—particularly state and regional planners, but also housing providers across private and non-profit sectors—to understand these dynamic opportunities and risks in relation to particular local and regional settings. Much of this data is potentially available from various sources as outlined in Discussion Paper 4 but is not always compiled in a systematic way.

2.6 Potential policy issues, questions and data gaps

In summary, Australia's housing market is segmented and affected by different drivers of housing demand and supply. Overall, there appears to be a growing chasm between householder preferences—which for many submarket groups, including families with dependent children and downsizers, is increasingly for inner city or highly accessible locations—and the capacity to find or afford homes within these high demand locations. Clearly a planning policy objective—and one that is certainly emphasised in metropolitan and regional planning documents—is to provide a variety of housing opportunities across all housing market areas, in response to demand. Strategies to support these objectives tend to focus on ensuring sufficient development opportunities for a variety of housing types (through zoning and development controls) with an implication that new supply will follow.

In reality, as outlined above, the timing of new housing supply following regulatory change, or even development approval is very uncertain (Gurran & Phibbs 2013a, 2013b). Further, the extent to which new supply will enhance affordability at lower ends of the market is unclear. This raises the question of how jurisdictions currently monitor the composition of new housing stock relative to the variety of household characteristics and submarkets within the locality. It also raises questions regarding how affordability outcomes are monitored at regional and local scales. This includes both the quantity of new housing units that are affordable for low and moderate-income households, and the extent to which new supply appears to improve overall affordability. However, as outlined in the following discussion paper, current approaches to regional and local housing market analyses in Australia rarely provide this information.

3 CONCLUSION AND QUESTIONS FOR DISCUSSION

The typology of Australian housing submarkets presented in this paper summarises generalisable information about spatial contexts, consumer preferences, and housing development opportunities and risks. It highlights the need for spatial data and policy responses that target particular market segments and locations—and clearer understandings of the ways in which diffuse drivers of demand—such as falling interest rates, international and domestic patterns of migration, financial subsidies or incentives for housing investment—interact with localised dynamics of demand and supply.

The following questions arise for further discussion:

- How do state and local governments currently monitor and respond to housing submarket trends and interactions?
- Have particular policy levers or system changes enhanced supply responsiveness at submarket levels?
- How do constraints and opportunities for supplying of diverse and affordable housing choices differ across submarket regions and at different points in the market cycle?
- Which policy or planning levers best support different sectors of housing production across the market and at submarket levels (e.g. owner builders, non-profit, and for-profit developers)?

DISCUSSION PAPER 4—INFORMING URBAN POLICY TO SUPPORT AN EFFICIENT AND RESPONSIVE HOUSING MARKET: INTERNATIONAL AND AUSTRALIAN APPROACHES TO ANALYSIS

This is the final discussion paper in the four-part series. It canvasses information sources and approaches to analysing housing markets and supporting responsive supply at regional and local levels in Australia, and in international jurisdictions, notably the United States and the United Kingdom.

1 INTRODUCTION

With growing concerns about the efficiency of Australia's housing market, it is important to examine sources of information used to inform key decisions affecting new housing production. These include urban planning decisions governing the location, quantity and design of new homes, as well as the investment choices made by developers, house builders and purchasers. This paper, which is the final in a series of discussion papers for AHURI, compares approaches and data sources for housing market analyses in the United States (US), United Kingdom (UK), and Australia. It asks:

What sources of information are currently used to inform key decisions affecting new housing production in Australia, particularly land use planning frameworks and decisions affecting the location, quality, design and cost of new supply?

While the density, location, and physical design of housing have always been important considerations for Australian metropolitan and regional planning, issues such as affordability for low and moderate-income groups emerged quite recently on the planning policy radar (Gurran 2008). This reflects the separation of housing and urban planning roles across Commonwealth, state, and local governments in Australia in comparison to other nations such as the United Kingdom (UK) and the United States (US), where local governments have traditionally held significant social housing responsibilities alongside their urban planning functions. Even a decade ago, few local government planners regarded housing policy or housing market outcomes relevant to their roles in preparing spatial plans or assessing development proposals (Gurran 2003).

Consequences of this traditional separation of housing policy and urban planning in Australia have included a tendency to view the social and private housing sectors in isolation rather than as a holistic and dynamic housing market. This tendency has meant that policy interventions to address the housing need for an increasing proportion of households unable to either access social housing and for whom private housing is not affordable, remain undeveloped. Although largely confined to funding initiatives within the social housing sector, the National Affordable Housing Agreement (NAHA) includes a number of policy objectives relevant to addressing these wider needs across the market, including that 'people are able to rent housing that meets their needs; that people can purchase affordable housing' and that 'people have access to housing through an efficient and responsive housing market' (COAG 2009, p.4).

These objectives imply a closer relationship between wider housing policy objectives and the urban and regional planning frameworks governing new supply. Housing market analyses now form part of the suite of studies typically produced when major strategic spatial plans are prepared. Many local councils have developed their own housing strategies using interactive datasets such as that maintained by Housing NSW¹. Such housing strategies could form an important policy bridge between the social and private housing markets and provide a basis to inform policy interventions designed to support more responsive supply at regional and local scales.

In this context, this paper reviews approaches to housing market analysis, and the ways in which these approaches inform regional and local planning. It first canvasses approaches and data sources used in parts of the US and UK, where planning processes have long addressed explicit housing market considerations (Gurran et al. 2008). Second, the paper summarises the range of information produced nationally and at the state and local level to inform housing market and urban planning decisions in Australia. Finally, questions about the implications for implementing more systematised and meaningful dissemination of housing market information in Australia are raised for further discussion.

¹ See <http://www.housing.nsw.gov.au/Centre%20For%20Affordable%20Housing/NSW%20Local%20Government%20Housing%20Kit/>.

Previous discussion papers for this AHURI project have:

1. canvassed key indicators of housing market efficiency and responsiveness
2. reviewed research on the international policy lessons arising from the GFC
3. outlined potential implications for regional and local planning frameworks in Australia.

This paper considers the information base needed to monitor and respond to shifting housing market demand at regional and local levels. All four papers are intended to stimulate discussion among an investigative panel of national and international experts (October 2014), supplementing advice provided by key experts, policy-makers and practitioners at national, state and local levels.

2 INTERNATIONAL APPROACHES TO MEASURING HOUSING MARKET EFFICIENCY AND RESPONSIVENESS

A working policy-relevant definition of housing market efficiency and responsiveness was proposed in Discussion Paper 1:

An efficient housing market generates a sufficient supply of appropriate and affordable homes in response to changing demand and need, through adjustments to the existing housing stock and through timely and cost effective production of new dwellings in accessible locations.

The following sections of the paper canvas current efforts to measure these aspects of housing market efficiency and responsiveness in the UK and the US (Ireland is not used as an example in this discussion paper because approaches to housing market analysis remain variable in the Irish Republic and are less embedded within planning practice than in the cases reviewed here). Both nations offer potential learnings because methods and strategies for regional and local housing market analyses are more institutionalised than in Australia, and often link directly to planning processes and decisions. However, while regional and local approaches to housing market analysis clearly support more informed policy intervention in both nations, it is noted that overall levels of supply responsiveness remain problematic, particularly in the UK.

2.1 The United Kingdom

There is a long and relatively sophisticated approach to the collection of indicators for housing market analysis at national, regional, and local levels in the UK. While there are differences in approaches and nomenclature between each of the countries within the UK, there has been considerable cross-fertilisation of policy and practice. Nationally, the Department for Communities and Local Government (DCLG) collects and report data relevant to planning and the housing market through a range of statistical series (DCLG 2014), a selection of which is contained in Table A1 in the appendix. In addition to overall data on housing commencements and completions and the net supply of new homes, the data sets include:

- Annual, detailed data on affordable housing supply across the non-profit and private sector, at national and local authority level scale.
- Detailed affordability trend data including price/income ratios by local authority.
- Housing finance statistics on the number and average size of mortgages, the type of lender at national and local scales, and repossession data at regional and local levels.
- Annual data on vacant stock by tenure, at national and local levels.

The Department for Communities and Local Government collects annual data from local planning authorities on housing statistics and market trends through a standardised format (DCLG 2013) (see Table A2, Appendix 1). This local data informs the above described statistics, and is also used for a range of purposes including policy development, evaluation of the quality and value for money of public services and public bodies, and to calculate allocations under the New Homes Bonus Scheme (which rewards authorities for accepting additional housing development).

2.1.1 Local data collection and application

At the local level, these data are used to inform progress against targets and goals set by local authorities, with indicators of performance defined in strategic plans. In moving beyond primary measures of housing production (approvals/completions) and market trends (prices and rents), these data sets enable local planners to examine the existing and potential capacity and use of the housing stock, and connect this wider analysis to affordability trends. In turn, annual reporting provides a direct connection to policy-making and strategic planning processes (e.g.

the allocation of sites for development), which are able to respond to changing housing market dynamics and need.

For instance, net additional housing supply across Greater London is monitored through the London Plan (drawing on local level data supplied by the Burroughs). Reporting includes a number of affordability and tenure trends as well as the number of vacant dwellings brought back into use (Mayor of London 2014). Similarly, performance targets and goals contained in the City of Manchester's planning framework, include the 'amount of new residential development within 30 mins public transport time of health facilities, schools, employment and major retail areas'; the number of new housing units delivered within priority areas against overall supply targets, and the proportion of empty dwellings in the City (Manchester City Council 2012, 2013). This reporting links directly to strategies designed to support more efficient use of the existing housing stock through the rehabilitation of vacant dwellings and addressing areas of low market demand.

2.2 The United States

In the United States, a variety of data is collected and disseminated by the Department of Housing and Urban Development's (HUD) Office of Policy Development and Research, covering the housing market; housing finance; disability; neighbourhood/community conditions; demographics; homelessness; fair housing; economic conditions; quality of life and rural housing (Office of Policy Development and Research n.d.). Selected data series are listed in Appendix 1. In summary, nationally important data sources include:

- *The American Housing Survey*—a biannual national survey and four yearly metropolitan area surveys detailing housing mobility trends and drivers; housing stock characteristics and condition; housing occupation and vacancy; neighbourhood satisfaction; housing payments, finance and tenure; and affordability data.
- *US Postal Survey Vacancies data*—quarterly data on housing vacancies.
- *Neighbourhood Stabilisation Program Data*—which includes an estimate of foreclosure risk by census tract.

As in the UK, by collecting data on housing vacancy and condition, these data sources offer important policy insights for understanding utilisation trends (particularly in relation to empty homes) across the entire housing stock.

The *State of the Nation's Housing*, is produced annually by the Joint Centre for Housing Studies at Harvard University, and provides an important source of data and analysis on housing supply, demand, and affordability across the nation². The reports are funded by a consortium of housing firms and used to inform industry and policy-makers about key national and regional level trends. It is supplemented by additional periodic and more focused reporting on rental housing, housing additions/remodelling, and the housing needs of older Americans, again intended for an industry and policy audience rather than local level land use planners (Feiock et al. 2008).

2.2.1 State and local approaches in the US

State requirements for local and regional data collection and housing market analyses differ, but many jurisdictions maintain detailed information sets and impose rigorous reporting requirements.

For instance, the state of California requires local jurisdictions to plan to address the housing needs of all economic segments of their local community and to report annually, in a standard format, on progress towards implementing the housing element of their general plan. This typically includes construction of new residential dwellings by income group/affordability level,

² See http://www.jchs.harvard.edu/research/state_nations_housing.

location and context (e.g. infill development) and the application of planning requirements (e.g. inclusionary zoning) and or government subsidy to support delivery of affordable units (San Francisco Planning Department 2014). An example of this reporting is contained in Appendix 1. The approach provides detailed data on housing supply and demand trends, and potentially, the impact of housing programs and new production on affordability and wider market outcomes.

Similarly, since the introduction of an urban growth boundary to restrict urban sprawl surrounding the city of Seattle in the early 1990s, King County in Washington State has committed to maintaining adequate housing opportunities to meet the needs of all income groups. Local monitoring encompasses the following:

- Number and type of new housing units.
- Number of units lost to demolition, redevelopment, or conversion to non-residential use.
- Number of new units that are affordable to very low, low, and moderate-income households.
- Number of affordable units newly preserved and units acquired and rehabilitated with a regulatory agreement for long-term affordability for very low, low, and moderate-income households.
- Housing market trends, including affordability of overall housing stock.
- Changes in zoned capacity for housing, including housing densities and types.
- Housing development and market trends in Urban Centers (King County Council 2012, p.35).

These data are used both for performance measurement and evaluation of county and city housing strategies, and to inform appropriate changes to those strategies when and where needed. Therefore, the data is used to directly inform strategic planning decisions relating to the release of development opportunities, adjustments to land use zoning schemes, and expectations for private developers to contribute to affordable housing provision. In assessing efforts to meet their share of the countywide need for affordable housing, jurisdictions must consider public actions taken to encourage development and preservation of housing affordable to households with very low, low and moderate incomes, such as local funding, development code changes, and creation of new programs, as well as market and other factors that are beyond local government control (King County Council 2012).

In the State of Massachusetts, Chapter 40B of the Massachusetts General Law allows developers of schemes that include 20 to 25 per cent affordable housing to vary local zoning requirements in communities that have less than 10 per cent subsidised housing. Data on each municipality's progress towards achieving the 10 per cent threshold is calculated by the Department of Housing and Community Development, drawing primarily on Census data, and updated periodically (Department of Housing and Community Development 2013). In the Greater Boston region, where the law is most frequently applied, the Metropolitan Area Planning Council hosts an online tool, 'MetroBoston DataCommons'. The annually updated, metropolitan database contains a series of maps showing jurisdictions that have greater than 10 per cent subsidised (low-income) housing stock, as well as those that have an approved housing production plan to increase the stock of low-income housing in their community, thus providing information to potential affordable housing developers as well as to policy-makers.

2.3 Summary and implications

Current sources of data to inform local and regional housing market analysis in the UK and the US are extensive and include trends relating to the production of new housing stock as well as the use and quality of existing homes. In the UK in particular, there is a close nexus between housing data collected and capacity to inform local policy and planning decisions. In some

parts of the US, there is an explicit connection between annual housing market reporting and analysis, and the local planning and infrastructure funding framework. Overall, the range of strategies available for local authorities to address emerging housing market problems through planning responses and/or other policy levers within their jurisdiction (e.g. social housing provision) are more extensive than those currently available to Australian local governments. However, with both state and local governments in Australia involved in planning for and responding to housing need, there are important potential lessons arising from these international comparisons.

3 MEASURING HOUSING MARKET EFFICIENCY IN AUSTRALIA

In contrast to the high level of national level data collection and local application in the United Kingdom, and the detailed metropolitan level approaches in parts of the United States, the collection and analysis of housing market data in Australia is limited and diffuse. This may present challenges for monitoring and supporting more responsive housing production at regional and local scales in Australia, particularly in relation to specific demographic and housing needs.

3.1 National level

At the national level in Australia there are many sources of aggregate level data on the housing market, including demand and supply trends. However, data tends to be reported at large geographic scales, such as by state or capital city, and much of this information requires additional manipulation before it can be used in the planning process to inform decisions. Key sources include:

- Housing indicator data compiled from the Census and the Survey of Income and Housing, relating to tenure, affordability, homelessness, and overcrowding.
- ABS Housing finance data on commitments for new and established dwellings, refinancing and alterations and additions.
- ABS quarterly time series data on dwelling units commenced, completed, and under construction.
- Census data on household characteristics, dwelling stock, and journeys to work.
- Council of Australian Government (COAG) annual performance monitoring data in relation to the National Affordable Housing Agreement (predominantly relating to the social housing sector).

Further details on some of these data sources are provided in Table A3 in Appendix 1.

The Australian Institute of Health and Welfare (AIHW) is a statistical agency which manages housing assistance data collection and releases an annual report on the implementation of housing assistance programs (AIHW 2013). Much of these data are also incorporated within reporting by COAG against the National Affordable Housing Agreement (COAG Reform Council 2012a).

Other ad hoc data sources may be available from the Commonwealth Major Cities Unit, which provides annual data compilations for major cities relating to population and settlement, urban productivity, liveability, and governance (Major Cities Unit 2013); and private sector companies offering fee for service data on real estate and property trends. Further details about these national data sources are also contained in Appendix 1.

Prior to its abolition in early 2014, the former NHSC provided annual reports against Australian trends in housing demand and supply, as well as an affordability analysis (2008–13). The Council also commissioned a number of additional studies to further examine aspects of housing demand and supply in Australia (NHSC 2014). The NHSC reports canvassed much of the material contained in the American *State of the Nation's Housing* reports described above (JCHS 2013a, 2013b).

3.1.1 Investment patterns

Sources of data on specific aspects of Australia's housing market are difficult to obtain. The rate of second home ownership by Australians and international investors (homes that are additional to the owner's primary residence) is not captured by census data or ABS housing

surveys, but rather must be inferred through local government data on non-resident rate payers. It is also difficult to distinguish between homes primarily used by their owners or those that form part of the supply of tourism accommodation, such as short-term holiday lettings (Moran 2006; NHSC 2009). Tracking changing patterns of housing occupation is particularly important for non-metropolitan communities, particularly in coastal areas, where there is high demand for second home ownership (Paris & Thredgold 2014). Better understanding of the extent to which new construction addresses fundamental demographic demand for new housing (projected population growth) is critical for estimating land supply and infrastructure provision requirements as part of the local planning process.

Another important consideration in Australia's housing market is the changing role of international investment, as a potential source of increased demand for new housing, particularly in certain cities and regions. Data is again difficult to acquire and interpret, but recent Foreign Investment Board information shows a distinct trend towards increasing international investment in residential land and dwellings in Australia (Foreign Investment Review Board 2014, p.29). Although still a relatively small component of total housing supply in Australia, total dwellings and allotments purchased by overseas buyers grew from 3723, and a value of \$8.77B, in 2009–10 to 11 668, and a value of \$17.16B, in 2012–13 (see Appendix 1). These changes suggest a need to better understand and monitor international sources of demand for Australian residential real estate.

The states and territories collect and disseminate different forms of data relating to the housing market and urban planning. All jurisdictions publish regular statistics on projected population growth and change, and most maintain data on house prices and rents.

3.2 New South Wales

In NSW, the NSW Department of Planning and Environment develops and publishes regular population projections for the state of NSW and the NSW regions and local government areas (20-year projection) (NSW Department of Planning and Environment 2014). For each region and local government area, the Department of Planning and Environment also publishes household and dwelling projections. At five-year intervals, these include:

- projected number of household
- projected average household size
- projected households by type, that is lone person, couple only, couple with children, multi-family
- projected dwellings, that is implied dwelling projections (by household type) (NSW Department of Planning and Environment 2014).

The projections are not dwelling targets, but they are used to inform strategic planning—that is, anticipated requirements for residential land and supporting infrastructure, as well as appropriate regulations regarding the density and design of new housing development.

At the metropolitan level, minimum housing supply targets are issued for each local government area, although with a wide planning horizon. For instance, the draft Sydney metropolitan strategy establishes minimum housing supply targets for each metropolitan subregion 2011–31, with mid-term targets also set for 2021. These are based on anticipated household growth, to be updated as population projections are revised, and as more detailed subregional plans are established. The targets are not differentiated by tenure or location (although strategic sites where capacity should be made for a specified number of dwellings are identified).

The monitoring and evaluation section of the draft Sydney metropolitan strategy includes a range of measures relating to housing supply outcomes (selection outlined in the table below) (NSW Government 2013). Reporting as part of Sydney's Metropolitan Development Program

has provided some data on residential development activity in the Sydney metropolitan region since 2006–07. However, the timing and structure of reporting has varied considerably since it commenced (i.e. at times it has been annual, quarterly and bi-annually), and the performance monitoring framework anticipated by the draft strategy is yet to be implemented.

Monthly reports now issued by the NSW Government include monthly and year-to-date dwelling approvals and net dwelling completions, overall, by subregion and by Local Government Area (LGA), and monthly dwelling approvals and net dwelling completions by type (detached, multi-unit, other), overall, by subregion and by LGA. These data are available on the 'e-planning portal' together with projected housing growth, the median number of days for developments to be approved, and the annual value of development, by local government area.

Table 10: Select performance monitoring measures from the draft metropolitan strategy for Sydney

Planning outcome	Measure	Sources and method (where available)
Balanced growth	Number of new lots available for greenfield and capacity for infill housing.	Data will be derived from the Metropolitan Development Program, and benchmarked annually against the metropolitan strategy target.
Balanced growth/accessibility and connectivity	Proportion of the population living within 30 minutes by public transport of a city or major centre.	Data will be derived from the Census and the BTS Household Travel Survey, and will be benchmarked against 2011 data.
Accessibility and connectivity	Number of projects in areas prioritised for urban renewal that improve transport capacity.	Information will be derived from TfNSW, Infrastructure NSW, Department of Planning and Infrastructure.
Liveability	Mix of housing types in Sydney;	Data will be derived from the Census and will be benchmarked against 2011 data.
	Proportion of new housing delivered as affordable housing for a mix of very low, low and moderate-income earners.	Data will be derived from Housing NSW (Department of Family and Community Services) and will be benchmarked against previous years.

Source: Information derived from NSW Government 2013

The NSW Department of Families and Community Services publishes quarterly data on rent levels for new bonds and sales values across NSW. Data on median rents is reported by number of bedrooms, and median sales values are reported for all dwellings, as well as for strata and non-strata titled properties separately. The data is reported at the LGA level for the Greater Sydney Region, and by rural statistical area beyond the greater capital city region. For the Greater Sydney Region, summary data is also provided by suburb type (i.e. inner, middle or outer ring) (Department of Family and Community Services 2014).

Metropolitan and local level monitoring and reporting frameworks in NSW have typically not included separate measures of designated affordable housing. However, this may be changing. The City of Sydney has set a target for a proportion of new dwelling stock to be social rented and affordable housing. The target is partly supported by inclusionary zoning requirements in a selection of renewal precincts within the local government area. As part of its performance monitoring framework, the council reports quarterly on the number of affordable rental housing units delivered in each applicable renewal precinct (against the overall target),

as well as affordable housing delivered by other means throughout the local government area (City of Sydney 2014).

However, the City of Sydney's reporting framework is not representative of wider practice across local government in NSW. In the late 1990s, metropolitan local government areas were required to undertake residential development strategies incorporating a housing market analysis and identifying opportunities to intensify provision of new housing supply, particularly by rezoning sites for higher density housing development. Since this time, local councils have undertaken housing market analyses to inform major local planning and rezoning exercises, particularly in the context of subregional housing supply targets issued periodically by state government.

As noted above, some authorities have prepared their own local housing strategies incorporating housing market and needs analysis and providing a framework for a number of planning-related and wider actions to address housing affordability at the local level. For example, Clarence Valley, a regional coastal council in northern NSW, undertook a housing needs analysis in 2007, drawing primarily on Census data, and data contained in the NSW Local Government Housing Toolkit (Clarence Valley Council 2007a). The analysis provided a general case for developing policies to increase the supply of affordable housing, informing council's Affordable Housing Strategy, and development of subsequent planning policies to support affordable housing provision (Clarence Valley Council 2007b). In some cases, local strategies have been prepared in conjunction with, or supported by, a regional housing analysis funded by the regional organisations of councils (see, e.g. Northern Rivers Regional Organisation of Councils 2012). These strategies have been important tools for supporting the introduction of specific mechanisms for affordable housing provision, including policies for negotiating planning agreements when major sites are rezoned or developments assessed. However, constraints in state legislation have limited the range of levers able to be adopted within these local housing strategies.

3.3 Victoria

The Victorian Government's Urban Development Program monitors the supply of industrial and residential sites in metropolitan Melbourne, as well as in a selection of regional areas. The purpose of the monitoring program is to:

- ensure land supply is responding to anticipated population growth
- ensure a competitive land market
- reduce pressure on housing affordability.

Data is reported annually through the Urban Development Program Report and through UDP MapsOnline.

Urban Development Program reporting

The annual Urban Development Program report (Urban Development Program 2013), which focuses on metropolitan Melbourne, draws on data from state and local government, the development industry, infrastructure and service providers, industry associations and consultants. It focuses on major residential redevelopment schemes (i.e. schemes anticipated to yield 10 or more dwellings on previously developed urban land); broadacre residential development (greenfield development); and industrial land.

The supply of lots in greenfield development areas, and the anticipated timing of development, is estimated through consultation with local governments and the Growth Areas Authority. For each region, LGA and local area where greenfield development is occurring, the report includes:

- Historic, per annum lot production.

- Number of lots that are covered by an approved precinct structure plan (i.e. are 'development ready').
- number of lots within Urban Growth Zones that are not covered by a precinct structure plan.

The report also includes region level data on lot size profiles, by year.

Reporting on major residential redevelopment projects is based on consultation with local governments and reference to other (unspecified) data sources, to identify residential redevelopment projects likely to deliver 10 or more dwellings and to estimate the timing for construction. For each LGA and region, reporting includes the number of identified dwellings and projects:

- completed in the reporting year
- under construction
- anticipated to be constructed in 0–2 years (i.e. almost ready to start construction)
- anticipated to be constructed in 3–5 years (i.e. planning permission still required)
- possible construction in 6–10 years (this indicator is somewhat speculative).

At the regional and subregional levels, the report also looks at the location of infill residential development, including whether it is occurring inside or outside of activity centres.

The data is accompanied by some commentary on longer term trends. However, while the report claims to provide information on supply and demand for residential and industrial land across Melbourne, the focus is more on monitoring supply, with no clear indicators for demand, although levels of demand might be inferred based on relative rates of new lot or dwelling construction.

MapsOnline

The MapsOnline tool that accompanies the Urban Development Program Report provides spatial information on current and potential development sites. The tool allows the user to search for development projects, and to build custom maps and data reports by turning themes and layers on and off. Layers include zones, overlays, and broadhectare residential sites, and sublayers include land supply categories that denote land use and anticipated timing of development (Department of Sustainability and Environment 2005).

3.4 South Australia

The Government of South Australia has a number of programs for monitoring the supply of land for residential development and for monitoring development activity, as follows:

Residential Land Development Activity Report

Published every six months (June and December), this report provides information on the volume of residential lots in the development pipeline (by development stage), at the state and local levels (Department of Planning Transport and Infrastructure 2013). The report covers Adelaide and regional SA, and data is reported at the LGA, subregional (Adelaide) and regional level. Data includes:

- proposed lots in subdivision plans lodged, by quarter
- lots with a certificate of approval
- completed lots
- dwelling approvals.

The report also tracks median lot sizes, by subregion (Adelaide) and region.

Residential Land Supply Report

This report, published intermittently since 2008 (2008, 2010, 2011 and 2012), provides information on the amount, ownership and distribution of broadhectare land zoned for residential (Department for Planning Transport and Infrastructure 2012). It focuses on Greater Adelaide, as well as select regional areas. The report provides LGA, subregional (Adelaide) and regional data on:

- residential broadhectare land (in ha)
- residential broadhectare land, by ownership (e.g. private, housing SA)
- residential broadhectare land, by subdivision status, including number of lots and lots per hectare
- residential broadhectare land by classification (i.e. fringe or infill)
- land in Growth Areas by zoning and ownership.

The report also provides data on historic rates of broadhectare land consumption. The data is used in monitoring the targets set out in the 30-Year Plan for Greater Adelaide, and in developing population and dwelling projections for small areas.

Residential Demolition and Resubdivision Report

This report was published once, in 2013 (Department of Planning Transport and Infrastructure 2013). It provides information on the nature, scale and distribution of residential demolition activity and resubdivisions (subdivisions of existing properties where original dwelling is maintained). The report focuses on metropolitan Adelaide (Adelaide Statistical Division), and data is reported by suburb, LGA or for the metro region, depending on the indicator. While the department seems to have an extensive database of information, at small geographic scales, data is reported predominantly in the form of charts and maps, so can be used for external research.

The report examines:

- Potential for 'minor infill' development (i.e. infill development producing one or two net additional dwellings) in the study area. Maximum potential dwelling yield from 'minor infill' is estimated through a GIS-based analysis of existing residential land parcels and minimum development requirements for particular types of residential development under local zoning and other policies. The likely time horizon for redevelopment of the identified sites is estimated based on each site's capital value to site value ratio. Assumptions are based on data on capital to site value ratio of sites redeveloped between 2008 and 2011.
- Demolition and resubdivision activity in the Adelaide statistical district from 2004 to 2010. Data includes, but is not limited to, the capital to site value of redeveloped sites, site sizes, type of original dwelling, age of original dwelling, state of the site (i.e. vacant, partially developed), and net increase in dwellings.

Data for the analysis is drawn from three main sources: a Property Cadastre maintained by the department, which is a spatial representation of all properties in the state, assessed by the Valuer-General for rating and taxation purposes; valuation information (which can be linked to properties in the Cadastre using unique property identifiers), and aerial photos.

Housing and Employment Land Supply Program

This reporting scheme was introduced in 2010 (reports published in 2010 and 2012) (Department of Planning Transport and Infrastructure 2013). It draws together information from the monitoring and reporting programs described above. It provides data and commentary on land supply and dwelling production in greater Adelaide in relation to the targets set out in the 30-Year Plan for Greater Adelaide, including a target to maintain a 15-year supply of land, and

subregional dwelling targets. In relation to the latter, the report highlights where there are gaps between demand and anticipated supply, at a subregional level.

3.5 Western Australia

In Western Australia, the Western Australian Planning Commission (WAPC) develops and updates population projections for strategic planning purposes (current projections are for 2006–26). The WAPC uses a cohort component model to forecast population growth across a range of scenarios. Population projections for low, median and high growth scenarios are provided at the regional and local government area level. As in NSW, the projections include population growth by age cohort, anticipated household growth, and anticipated average household size and type (i.e. family, lone person, group household), with assumed implications for demand for different dwelling types (Mulholland & Piscicelli 2012a, 2012b).

These projections inform strategic planning for the Perth and Peel metropolitan region. *Directions 2031*, the spatial development strategy for the region, includes dwelling supply targets for each local government area, based on household forecasts. As part of the monitoring framework for *Directions 2031*, actual population and household trends are reviewed annually, to track consistency with the forecasts, and residential planning approvals are monitored in relation to dwelling targets. The monitoring framework also considers the stock of zoned land, and the rate of land consumption, with the aim to ensure that development occurs in a timely manner in the most suitable locations. Table 11 below outlines key performance indicators related to residential demand and new supply.

Table 11: Key performance indicators for monitoring the implementation of *Directions 2031*

Key Performance Indicator	Measure
Change in population by local government area and subregion (i.e.: Is it tracking consistently with forecasts?)	Historic population growth rates for LGAs and future projections
Change in average household occupancy by local government authority and subregion.	Not reported in 2012–13 report
Active residential approvals—proportion of conditionally approved lots with actual development or infrastructure agreements.	The proportion of residential lots with a conditional subdivision approval that also have actual development or infrastructure agreements
Gross urban zoned land consumption per final subdivision approval.	The total land consumed by subdivision (hectares) compared to final residential subdivision approvals (lots) provides an indication of the changing rate of land consumption and whether residential development is keeping pace with population growth.
Change in total stock of undeveloped land zoned for urban development in Perth and Peel.	The total land consumed by subdivision (hectares) compared to final residential subdivision approvals (lots) provides an indication of the changing rate of land consumption against a general push for higher densities gives an indication of whether residential development is keeping pace with population growth.

Source: Information derived from Western Australian Planning Commission 2013

Housing affordability is a growing problem in Western Australia, with rapid house price inflation in recent years driven largely by the resource boom. The State Planning Strategy to 2050 identified affordable housing as a key element of social infrastructure (Western Australian Planning Commission 2012). It recognises that ‘affordable living’ is multifaceted, and can be

influenced by urban form and transport options, diversity of dwelling types, and the resource efficiency of dwellings. The state's approach to addressing affordability is summarised in the Figure 19 below.

Figure 19: Extract from WA State Planning Strategy

Approach

Table - 13. A strategic approach to planning for affordable living

ELEMENT	2050	MEASUREMENT	ASPIRATIONS
Housing diversity	Communities provide diverse housing opportunities for different income levels, lifestyle choices and household types	Diversity of housing in new and existing communities	<ul style="list-style-type: none"> All development provides a variety of housing styles, types and sizes to accommodate changes in demographics and market demand Incentives and requirements for affordable housing are enabled through the planning system Innovative housing tenures such as housing cooperatives and community titling are introduced into the market
Compact settlement structures	Compact and diverse settlement structures	Density and diversity of communities	<ul style="list-style-type: none"> Land for multi-purpose infrastructure corridors secured Increased density and diversity of housing through mixed use and transit orientated developments Communities are well connected by cycling infrastructure and public transport Reduced travel time and costs to access social services, employment and amenities Availability of affordable housing in areas well serviced by infrastructure
Resource efficient design	Development conserves consumption of natural resources	Housing and community design that minimises consumption of natural resources	<ul style="list-style-type: none"> Conservation and adaptive re-use of existing homes in a way that minimises housing running costs Demonstration projects showcasing resource efficient design that minimise housing construction and running costs Sustainable building techniques that minimise natural resource consumption to relieve pressures on housing construction and running costs

Source: Western Australian Planning Commission 2012

In 2010, the WA Department of Housing, launched its *Affordable housing strategy 2010–2020: Opening doors to affordable housing*, which establishes a range of goals to deliver diverse and affordable housing, as well as a target to deliver an additional 20 000 homes affordable to low and moderate-income households to 2020. A series of performance measures have been developed to monitor the implementation of the strategy. These include:

- Increase in the number of government-assisted affordable housing opportunities.
- Percentage of annual lot production sold at or below price points affordable to low to moderate-income households, by agency (against a target to deliver 15% of lots below the price threshold on government land).
- Percentage of social rental properties occupied by new tenants each year (from 2009 baseline of 8.9%).
- Public housing stock that is under-occupied by two bedrooms or more (Housing WA 2010).

These measures are an important step towards more comprehensive monitoring of affordable housing outcomes.

3.6 Summary

What is readily apparent from this overview of existing and potential indicators of housing market efficiency and responsiveness in select states is the lack of comprehensive and systematic data collection and dissemination on housing market trends, particularly whole-of-system trends, in Australia. It is also clear that information is not easily fitted to housing market areas, with the exception of the NSW Rent and Sales reports. Also unclear is the extent to which the diverse and potentially useful data sources that exist are able to be used by local planning authorities—and regional planning efforts of state governments—to inform strategic planning and residential development assessment—facilitating a pipeline of residential sites, establishing appropriate development standards and criteria, ensuring a mix of homes across

price points, and avoiding decisions that would create shortages or excess supply within particular submarkets.

While state government departments have begun to develop some innovative indicators to monitor their housing markets and development outcomes in relation to affordability and accessibility goals, there is often insufficient data available to fully report on such indicators, and to develop time series data sets. Such gaps in data and reporting make it very difficult to know how best to target approaches to improve housing market efficiency and responsiveness across Australia's housing market overall, and in relation to key submarkets in particular.

4 POTENTIAL POLICY IMPLICATIONS FOR MEASURING HOUSING MARKET EFFICIENCY AND RESPONSIVENESS IN AUSTRALIA

This paper has reviewed current and potential measures of housing market efficiency and responsiveness to changes in demand. It highlights differences between approaches to housing market analysis undertaken to inform land use planning decision frameworks in the UK and parts of the US, in comparison to Australian practice. Although comparable sources of housing market data do exist in Australia, processes for systematic collection, quality assurance, analysis and dissemination, remain highly variable across the states and territories and at metropolitan, regional and local planning levels.

The problems arising from the proliferation of disparate, inconsistent sources of information about the state of the housing market have been exacerbated by the abolition of the NHSC. Indeed the value of such information for actors across the market—developers, investors, and policy-makers—is underscored by the wide range of groups reacting to the Council’s dissolution (Trotman 2013). However, even this type of annual information about changing demand, supply, and affordability indicators is unable to inform regional and local planning responses to market trends.

Second, a disconnect is apparent in Australia between the dynamic nature of the housing market and the relatively static approaches to housing market analysis undertaken to inform or report on land use planning decision processes.

4.1 Potential implication for Australia, and issues for discussion

With increasing concerns about the efficiency of Australia’s housing market, and in particular the extent to which planning systems and regulations impede responsive supply, it is important to better understand how market signals are currently incorporated in planning processes and decisions.

As canvassed in this paper, current approaches to measuring housing market efficiency offer aggregate level data. Given the spatially segmented characteristics of the housing market, more nuanced information is needed to monitor and respond to local and regional shifts in housing demand and supply. Further, there is a need for more precise indicators to help determine which government programs and levers (within the context of the NAHA and beyond) might perform best in relation to different local and regional economic conditions.

As canvassed in the previous discussion papers, recent initiatives designed explicitly to support affordable housing supply, or to improve overall market responsiveness, such as state planning reforms and mechanisms to promote affordable rental and home ownership, deserve particular attention. Following the GFC, new studies have sought to identify indicators of impending housing market volatility or risk factors, which might enrich the range of measures currently used to monitor demand shifts and provide policy-relevant information to assist in facilitating appropriate supply responses at the local level.

Table 12 below draws on the measures of market efficiency proposed in Discussion Paper 1 to consider information sources and potential key users.

Table 12: Existing and potential measures of housing market efficiency and responsiveness

Measure	Indicator	Sources	Scale (regional / local)	Potential users
Demand (different implications for different submarkets)	Mortgage interest rates, financial products	Census (comprehensive, but infrequent)		
	Employment trends			
	Income growth			
	Household formation			
	Immigration			
	Temporary migration (e.g. international students)			
	Drivers of international investment (safe havens, incentives)			
Changes in housing demand	Changes in prices/rents	NSW Rent and Sales Report; Industry organisations		
	Population & household growth/projections & cohort change			
	Household incomes			
	Employment/industry change			
	Investment in new infrastructure (public/private)	Good Schools guide		
	Shifts in housing preferences (housing location, design, tenure)			
	Changes in relative value of housing investment to other investments			
	Education sector change (school quality indicators by location; tertiary student and international student trends)			
Change in government taxes/transfers affecting housing				
Housing supply (established market)	Number of sales listings	Industry organisations		
	Auction clearance rates			
	Number of weeks on market			
	Unsold inventory			
	Real estate searches			
	Rental vacancy rates			
	Social housing waiting lists			
	Unoccupied dwellings			
	Residential dwellings diverted to short term/tourist rentals			
	Estimated over-crowding			

Measure	Indicator	Sources	Scale (regional / local)	Potential users
New housing production	Building applications/approvals/completions New completions by dwelling type New completions by sector Sales price of new dwellings Production cost indices Industry organisation, labour availability	Some data available from ABS at regional, state and national level State development assessment reporting frameworks		
Housing stock profile	Dwelling composition change Alteration & additions			
Responsiveness	Estimated demand/supply gap Proportion of homes affordable to low/moderate-income groups Flow of homes to market following increase in demand Lag times between demand shifts, dwelling approvals, commencements, and completions Availability of development opportunities			
Exposure/risk	% of household wealth/GDP based on home values % of leveraging, changes % of employment in construction/real estate % of government revenue dependent on stamp duty/property taxes			

Source: The authors

4.2 Issues for discussion

A number of questions have been raised in this paper for further discussion.

- How should Australian housing market data be collected, analysed, and disseminated, at different decision-making scales?
- What are the key data gaps and/or quality assurance concerns?
- Who are the existing and potential users?
- What are the critical timeframes for data collection and analysis, in relation to key decision-making cycles?
- Do Australian planning levers and tools enable adequate and time sensitive responses to overcome potential supply blockages and to identify and address shortages in particular market segments?

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APPENDIX 1: ADDITIONAL DETAIL ON HOUSING MARKET ANALYSIS AND MEASUREMENT APPROACHES

The United Kingdom

Table A1: Select indicators from national housing statistic series

Indicator	Description	Scale	Statistical series/source
Affordable housing supply	Gross annual supply of affordable homes (social rented, affordable rented and intermediate housing), starts and completions, including new build and acquisitions from the private sector (not adjusted for losses through demolitions or sales)	National and Local Authority	Affordable housing supply
Vacant dwellings	Includes measure of dwellings that have been vacant for more than two years (for which local authorities can charge a council tax premium)	National and Local Authority	Council tax base
Dwelling stock quantity, tenure and use/vacancy	Dwelling stock by tenure (i.e. owner occupied, private rental (reported together at local authority level), local authority dwelling, housing association dwelling); Local authority vacant dwellings (Chart 612); Vacant dwellings by local authority (Table 615) (includes long-term vacant dwellings, and vacant dwellings owned by local authorities and private registered providers)	National and Local Authority	Dwelling stock (including vacant)
New housing production	National statistics on house building (new build) starts and completions, seasonally adjusted, are released every three months	National and local authority	Housebuilding statistics
Housing demand, supply (volume of sales), and affordability	Includes, number and average size of mortgages, type of lender (Table 544); mean and median house price (Tables 581 and 582); ratio of lower quarterly house prices to lower quarterly earnings, England (Chart 547), by local authority (Chart 575); median house price to median earnings, by local authority (Table 577); property sales (land registry data) (Table 584)	National and Local authority	Housing market
Land supply	Statistics on the amounts and location of land changing use in England, including change to residential use (hectares) by previous use, and changes to developed use	National	Land use change statistics
Net increases in housing stock	Net additional dwellings (including breakdown of new build conversions, demolitions), by local authority and for England; net additional dwellings by year	National and local authority	Net supply of housing
Landlord characteristics	Data from 2010 survey includes (but not limited to): Number of properties in landlord's portfolio. Number of years letting. Proportion of rent as landlord's source of income. Condition of property. Method of acquisition of property and source of finance.	National	Survey of private landlords
Social housing demand and	Data on social housing lettings, including: Number of households on local authority housing	National, district, local	Rents, lettings and tenancies

Indicator	Description	Scale	Statistical series/source
supply	waiting lists. Lettings made to local authority-owned dwellings. Average weekly rent (local authority and private registered provider dwellings)	authority	
Housing stress—home ownership	Data on repossessions, by year from UK, England and Wales For 2009–11, by quarter, data on number of households approaching their local authority with mortgage difficulties and number of households applying for the mortgage rescue scheme through their local authority	National and by Region	Repossession activity

Source: Information derived from DCLG

Table A2: Selected data collected from local authorities by the Department for Communities and Local Government

Data	Description
Dwelling stock	Local authority-owned dwelling stock (by tenure, number of bedrooms and dwelling type, e.g. private residence, group dwelling) Changes to local authority dwelling stock (including demolitions, conversions, new build and acquisitions) Number of demolitions of private sector dwellings
Local Authority Housing Disposals	Number of right-to-buy applications received during the period Sales/transfers completed (by program, i.e. right-to-buy, Social Homebuy, transfer to private registered provider) Buy-back of ex-council dwellings
Allocations	Households on housing waiting list (as of 1 April), and bedrooms required; Total households on the waiting list in a reasonable preference group (i.e. can reasonably be defined as in housing need, i.e. homeless, in unsanitary or overcrowded housing etc.) Number of households on waiting list who are in urgent housing need (where allocation processes gives preferences to such households)
Vacant dwellings	Number of vacant dwellings in local authority area (local authority-owned and other public sector) Length of time vacant and whether or not available for let during that time
Condition of dwelling stock	Energy efficiency of local authority-owned stock Total number of local authority dwellings with category 1 hazards (under the Housing Health and Safety Rating System); Total dwellings in local area with category 1 hazards (under the Housing Health and Safety Rating System) Total number of private sector dwellings in local authority area with Category 1 hazards that were made free from those hazards as a direct result of actions by the local authority
Occupation	Estimate of total number of houses in multiple occupation in local area Estimate of total number of mandatory licensable houses of multiple

Data	Description
	occupation within local area
	Actual number of properties with mandatory houses of multiple occupation license
Management	Average re-let time for local authority housing stock
	Average rents for local authority dwellings by number of bedrooms
	Cumulative rent arrears, current and former tenant
Affordable housing supply	Number of new build additional affordable dwellings owned by local authorities, private registered providers and other non-registered providers (by tenure, i.e. social rent, intermediate rent, affordable home ownership)
	Provision of new affordable housing in areas with population less than 3000 people (i.e. rural areas)

Source: Information derived from DCLG (2013) Local authority housing statistics 2013 to 2014: form and guidance notes for completions data

The United States

American Housing Survey

The American Housing Survey is a recurring sample survey conducted by the US Census Bureau. A national representative sample is interviewed every two years. Households from 60 metropolitan areas respond to the metropolitan level survey every four years. Data includes:

- Seasonal and vacant dwellings (including duration of vacancy).
- Housing characteristics, including age profile of dwellings; structural characteristics; size and amenities (including number bathrooms, car parking, lot size).
- Housing problems (i.e. dwelling with severe plumbing, heating, electrical or upkeep issues).
- Housing migration (for respondents who moved in the previous year, structure and tenure of previous residence, household size, change in housing costs, reasons for moving).
- Housing and neighbourhood satisfaction (i.e. respondent's opinion based on scale; for residents who moved in the last year, means by which current residence was found, reasons for choice of present dwelling and neighbourhood).
- Demographic and income characteristics of households.
- Housing costs.
- Property value, purchase price and source of down payment.
- Mortgage characteristics.
- Home improvement characteristics and costs.
- Property management and maintenance.

Data is reported for all dwellings, as well as by tenure (owner occupied and rented).

Components of Inventory Change (CINCH) Reports

These reports are based on the findings of the American Housing Surveys. The reports focus on changes in dwelling stock between American Housing Surveys, including loss of dwelling due to disasters or demolition and new construction. The series also includes reports on 'rental market dynamics', which looks at changes in the stock of rental properties by income category (non-market, and extremely low (i.e. income less than 30% of AMI) to extremely high (i.e. income greater than 120% of AMI). The reports include discussion of the trends reported.

Housing Affordability Data System (HADS)

The HADS is a set of housing-unit level datasets that measure the affordability of housing units (based on 30% of income, and adjusted for household size) and the housing cost burden to households (including utilities, insurance and strata fees), relative to benchmarks including median area incomes, poverty level incomes and Fair Market Rents. Data for the measures is drawn from the American Housing Survey, and new data is available every two years.

Neighbourhood Stabilisation Program Data

HUD's Neighborhood Stabilisation Program <www.hud.gov/nsp> provides emergency assistance to states and some local governments and other organisations to acquire and redevelop foreclosed and abandoned properties in order to stabilise neighborhoods and stem the decline of house values of neighbouring homes. The program is authorised under Title III of the *Housing and Economic Recovery Act 2008*, and three funding rounds have occurred since 2008 (with allocations made via competition (round II); and via a formula (round III)).

As part of determining allocations for funding round three, HUD calculated a foreclosure risk score for each census tract area across the US. Scores illustrate the relative impact of the financial crisis on local areas and regions.

United States Postal Service (USPS) vacancies data

Through an agreement with the US Postal Service, HUD receives quarterly counts of vacant residential addresses in the US, at small geographic scales. The data is used for a variety of purposes including researching neighbourhood change, tracking disaster recovery, gauging the scale of the foreclosure crisis, and on measuring the impact of HUD funding for community development ownership support programs.

Figure A1: Example of annual building activity report summary from San Francisco City, California, 2012–13

Annual Building Activity Report Summary - New Construction Very Low-, Low-, and Mixed-Income Multifamily Projects											
Housing Development Information						Housing with Financial Assistance and/or Deed Restrictions		Housing without Financial Assistance or Deed Restrictions			
1	2	3	4				5	5a	6	7	8
Project Identifier (may be APN No., project name or address)	Unit Category	Tenure R=Renter O=Owner	Affordability by Household Incomes				Total Units per Project	Est. # Infill Units*	Assistance Programs for Each Development	Deed Restricted Units	Note below the number of units determined to be affordable without financial or deed restrictions and attach an explanation how the jurisdiction determined the units were affordable. Refer to instructions.
			Very Low- Income	Low- Income	Moderate- Income	Above Moderate- Income			See Instructions	See Instructions	
1190 Mission / Trinity Plaza	5+	R		63		355	418	418			inclusionary units
333 Harrison / Rincon Green	5+	R		49		277	326	326			inclusionary units
1407 Market / NEMA	5+	R		38		279	317	317			inclusionary units
1880 Mission / Vara	5+	R		40		162	202	202			inclusionary units
25 Essex / Rene Cazenave	5+	R	120				120	120			
1844 Market / Venn	5+	R		14		99	113	113			inclusionary units
1285 Sutter St / Etta	5+	R				107	107	107			
701 Golden Gate	5+	R	100				100	100			
38 Dolores St	5+	R				81	81	81			
1075 Le Conte / Bayview Gardens	5+	R	73				73	73			
474 Natoma	5+	R	60				60	60			
401 Grove / 300 Ivy	5+	O			9	54	63	63			inclusionary units

Source: San Francisco Planning Department 2014

Australia

Table A3: Select data series maintained by the ABS

Data series	Description
Cat. 1370 <i>Measures of Australia's Progress</i>	High-level summary indicators of Australia's progress, against a series of key indicators, including rates of homelessness; household overcrowding; rental costs as a proportion of household income; proportion of owner-occupiers; and proportion of capital city residents who report satisfaction with their cities' transport network.
Cat. 5609 <i>Housing Finance Australia</i>	National and state level time series data on the number and value of financial commitments for purchase of new and established dwellings, refinancing of an established dwelling and for alterations or additions to a dwelling.
Cat. 5232 <i>Australian National Accounts</i>	National level time series data, including a measure of the financial assets and liabilities of households.
Cat. 8752 <i>Building Activity, Australia</i>	National and state level time series data on the value of residential building work undertaken; dwelling unit commencements; dwelling completions; dwelling units under construction; and dwelling units that have been approved, but not yet commenced. Data is reported by sector (public and private).
Cat. 4102.0 <i>Australian Social Trends, Data Cube—Housing</i> (discontinued in 2013)	National and state level time series data, including households with two or more bedrooms above requirements; households with insufficient bedrooms; data on owner-occupiers and renters (public and private); housing costs; rental assistance payments; and public housing waiting lists and new tenancies.
ABS Census (multiple series)	Census data is available at geographic scales, ranging from national to statistical local areas, and is available as time series data. Census data includes household size and characteristics, number of bedrooms, dwelling structure, motor vehicles per household and method of travel to work.
Cat. 1379 <i>National Regional Profile Dataset</i>	Local government area level data, including dwelling approvals, method of travel to work and household types (including grouped households).

Source: Information derived from ABS

Table A4: Select indicators used by the Major Cities Unit (reported in the State of Australian Cities Series)

Note that not all indicators are reported on for all cities.

Area of assessment	Indicator
Population and settlement	Employment self-sufficiency, i.e. ratio of number of people who work in an area to the number of employed people who live in that area (data derived from BITRE).
Productivity	Mode of travel to work by suburb type (i.e. inner, middle and outer ring) Per cent of jobs accessible within a 30-minute drive Proportion of jobs accessible via a 45-minute mass transit trip (data derived from study by SGS Economics and Planning)
Liveability	Low-income households in housing stress in capital cities (PHIDU and Census data) Estimated number of homeless people in major cities (ABS) Journey to work mode share of walking and cycling (BITRE and Census data)

Source: Information derived from Department of Infrastructure and Transport 2013

The State of Australian Cities Report is available at: <<http://www.infrastructure.gov.au/infrastructure/pab/soac/>>.

The My Cities Survey

Since 2010, the Property Council of Australia has commissioned Auspoll to conduct an annual survey of Australians' views of their respective cities. Responses are used to generate a liveability index score for 10 major Australian cities. The survey records public perceptions of the range and quality of affordable housing and the balance of different housing types (e.g. houses or units) in their city; and state government performance in making housing more affordable, releasing land for new homes, setting a fair level of taxation when people buy or sell properties, supplying infrastructure to keep up with demand, and renewing inner-urban areas with high quality apartments and townhouses (Auspoll 2013).

The My Cities Survey can be viewed at: <<https://www.propertyoz.com.au/Advocacy/Policy.aspx%3Fp=69%26id=68>>

Data on investment patterns

The 2007 Australian Survey of Social Attitudes (biennial survey, with changing topics) asked respondents about ownership of additional residences within Australia. The findings are reported and assessed by Paris, Jorgensen and Martin (2009); their data includes:

- Per cent of respondents who own one, two, three and four or more additional residences.
- Ownership status of additional residences (owned outright; mortgaged and negatively geared; mortgaged but not negatively geared; other financial arrangement), overall and by property use/purpose.
- Reason for acquiring additional residence (holiday home; retirement home; pier-a-terre; investment property (rental returns or negatively geared investment); other.
- Additional residences by weekly household income.
- Holiday homes and other additional properties by household type.

Some data on foreign investment in Australian housing is maintained by the ABS (2013). The catalogue provides annual data on foreign investment in Australia (in \$) per annum, 2001–13, by industry category, including 'Property and Business Services'. This is very high level data, but provides a broad indication of relative growth in foreign investment in property and business services relative to other industries.

The Foreign Investment Review Board reports annually on foreign investment proposals examined under the *Foreign Investment and Takeover Act 1975* and related legislation (Foreign Investment Review Board 2014). The report includes the numbers and value of investments approved by industry category, including 'real estate'. The report provides information on the number and value of approved residential real estate investments. Residential real estate investment is reported in two broad categories:

- 'Developed' residential real estate, which primarily captures temporary residents purchasing established properties.
- Residential real estate 'for development'.

In the 'for development' category, proposed real estate acquisitions are further categorised as follows:

- Vacant land.
- New dwellings and off-plan purchases (including applications by foreign investors to buy units directly from developers, and applications by developers to sell units to foreign purchasers)

→ Acquisition of property for redevelopment (i.e. demolition and construction of new residential dwellings).

Figure A2: Investment in residential real estate by type of approval and number of proposals approved, 2009–10 to 2012–13

	2009-10		2010-11		2011-12		2012-13	
	No.	\$b	No.	\$b	No.	\$b	No.	\$b
Residential								
Developed								
- existing residential property	647	0.81	3,881	3.57	3,952	2.87	5,091	5.42
- annual programs	7	0.56	4	0.20	5	1.30	10	0.94
<i>Sub-total 'Developed'</i>	<i>654</i>	<i>1.38</i>	<i>3,885</i>	<i>3.77</i>	<i>3,957</i>	<i>4.18</i>	<i>5,101</i>	<i>6.36</i>
For development								
- vacant land	1,010	1.44	1,514	2.33	1,518	0.68	1,821	1.39
- new dwellings								
- individual purchases	1,937	1.20	3,911	2.46	4,022	2.54	4,499	2.91
- developer 'off-the-plan'	22	2.30	65	10.08	70	10.92	50	5.73
<i>Sub-total 'new dwellings'</i>	<i>1,959</i>	<i>3.50</i>	<i>3,976</i>	<i>12.54</i>	<i>4,092</i>	<i>13.46</i>	<i>4,549</i>	<i>8.64</i>
- redevelopment	92	0.34	171	0.45	191	0.50	189	0.36
- annual programs	8	2.11	10	1.83	10	0.89	8	0.41
<i>Sub-total 'For development'</i>	<i>3,069</i>	<i>7.39</i>	<i>5,671</i>	<i>17.15</i>	<i>5,811</i>	<i>15.52</i>	<i>6,567</i>	<i>10.80</i>
Total residential	3,723	8.77	9,556	20.92	9,768	19.70	11,668	17.16

Note: Totals may not add due to rounding.

The 2009-10 figures were impacted by changes to the screening arrangements for residential real estate, as announced in April 2010.

Source: Foreign Investment Review Board 2014, p.29

The report outlines the number of approvals and value of proposed investment in developed and for development residential real estate by state for the reporting year.

Figure A3: State and territory distribution of proposed investment in real estate 2012–13

Location	Number of approvals	Residential		Commercial		Total
		Developed	For development	Developed	For development	
		\$b	\$b	\$b	\$b	
Various(a)	107	2.17	0.45	12.45	1.16	16.22
NSW	3,580	1.34	4.24	8.18	0.55	14.31
VIC	4,573	1.56	4.22	2.57	0.93	9.28
QLD	1,734	0.59	1.27	1.14	3.87	6.87
WA	1,267	0.46	0.43	1.99	1.06	3.94
ACT	123	0.04	0.09	-	-	0.13
SA	567	0.19	0.09	0.19	0.43	0.89
NT	30	0.01	0.00	0.02	0.00	0.04
TAS	44	0.01	0.02	-	0.21	0.23
Total	12,025	6.36	10.80	26.55	8.20	51.91

(a) Comprises approved proposals where the proposed investment is to be undertaken in more than one state or territory.

Note: Totals may not add due to rounding.

'-' indicates a figure of zero.

Source: Foreign Investment Review Board 2014, p.31

The report also provides data on the value of investment by category (i.e. real estate), by country of investor for the reporting year.

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