Housing affordability and supply in Australia

Submission to the House of Representatives Standing Committee on Tax and Revenue

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House of Representatives Standing Committee on Tax and Revenue
Parliament House
Canberra ACT 2600

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Submission to the Inquiry into Housing Affordability and Supply in Australia

The Centre for Independent Studies (CIS) welcomes the opportunity to provide a submission to the House of Representatives Standing Committee on Tax and Revenue's inquiry into housing affordability and supply in Australia.

The CIS is a leading independent public policy think tank in Australasia. Founded in 1976, its work is driven by a commitment to the principles of a free and open society. The CIS is independent and non-partisan in both its funding and research, does no commissioned research nor takes any government money to support its public policy work.

The CIS has been a strong advocate for free markets and limited government for more than 40 years. We view housing affordability as a large and growing problem. A major cause is that planning restrictions limit the supply of housing. While this is primarily an issue for state and local governments, the federal government has a clear role in promoting better planning decisions.

We would be happy to expand on the points in the attached submission, or to provide further information if this would assist the Committee.

Yours sincerely,

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Submission by Centre for Independent Studies September 2021

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Summary

Housing in Australia is too expensive. Families on lower incomes cannot afford reasonable accommodation. Aspirations to home ownership are fading. (Section 1).

A large body of international and Australian research finds that a major reason housing is so expensive is land use regulations. Claims that these restrictions preserve neighbourhood amenity are exaggerated and unrepresentative. (Section 2).

Negative gearing and the discount for capital gains tax have very small effects (1 - 4%) on housing prices (Section 3).

Immigration boosts housing prices and needs to be better co-ordinated with housing supply (Section 4).

The federal government spends a lot of money trying to improve housing affordability, but demandside subsidies merely reshuffle a fixed housing stock. We need to boost supply (Section 5).

The federal government needs to improve incentives for state and local governments to approve more housing. Making infrastructure payments conditional on better performance would help. (Section 6).

1. The nature of the housing problem

Australia has some of the most expensive housing in the world, especially in our largest cities. Sydney and Melbourne are the third and sixth least affordable housing markets of the 92 international cities surveyed by Demographia (Chart 1).

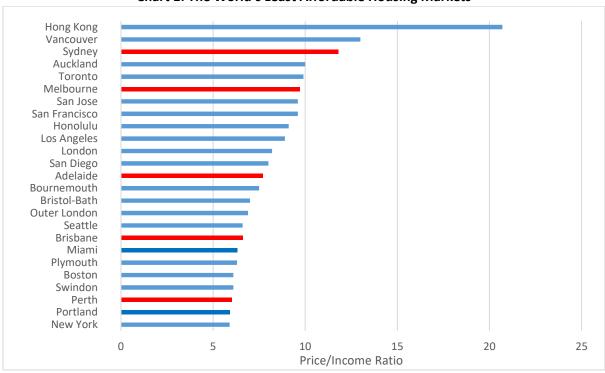
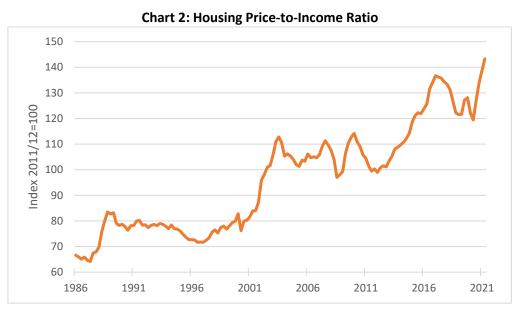


Chart 1: The World's Least Affordable Housing Markets

Source: Demographia International Housing Affordability Survey 2021. The 25 least affordable cities, out of a sample of 92 international cities with population over 1 million in eight nations, are shown.

Affordability is worsening over time.



Source: ABS; Ratio of Established House Price to Household Disposable Income per capita. Observations for 2021Q2 and 2021Q3 are CIS estimates.

This damages our economy and reduces our quality of life. For what people are paying, they could instead have several extra rooms and a much shorter commute. Workers are moving away from the best-paying, most productive jobs. Potential homebuyers are trapped in insecure rental accommodation or are forced to remain living with their parents. The aspiration to home ownership — a central part of our culture — is being denied. The home-ownership rate is falling quickly, particularly among young families.

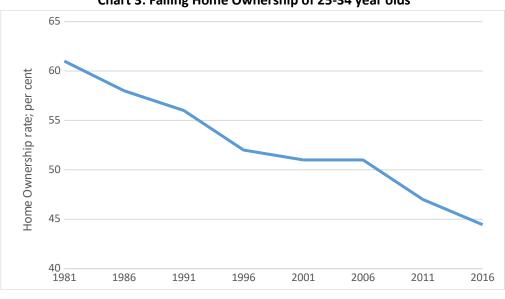


Chart 3: Falling Home Ownership of 25-34 year olds

Source: Daley, Coates and Wiltshire (2018, Fig 4.2), based on Census data

The high and rising cost of housing results in growing inequities. The main beneficiaries are wealthy homeowners, who receive large capital gains for no effort or sacrifice. The losers are renters and new home buyers, who tend to be young and poor.

As housing deposits take ever-longer to save for, young families increasingly rely on their parents for finance — so home ownership is becoming increasingly hereditary. Limits on new apartments in many affluent suburbs are increasing segregation and barriers to mobility.

Meanwhile, low-income families see a large share of their income eaten up by high housing costs. The share of poor households in rental stress has increased substantially (Chart 4). Homelessness, one of the most upsetting features of city living, increases in proportion with housing costs (Council of Economic Advisers, 2019, pp11-16).

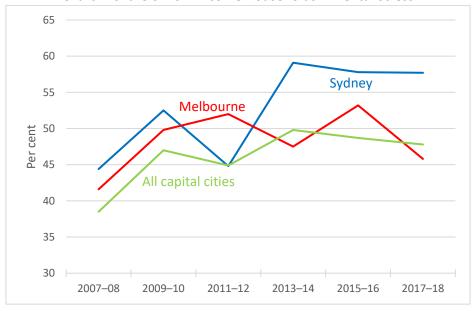


Chart 4: Share of Low-Income Households in Rental Stress

Source: ABS 41300 table21. Rental Stress is defined as housing costs exceeding 30% of income

2. Planning restrictions make housing expensive

A large body of international and Australian research points to land use restrictions — also called planning or zoning — as a major cause of these high housing costs. These restrictions limit the density of land use. They make it difficult to replace detached housing with townhouses or apartments. When higher density is allowed, height limits restrict the number of apartments that can be included in new buildings. Like any limitation on supply, these restrictions raise prices.

To be clear: planning restrictions have not tightened. Indeed, prices rise *because* the planning code doesn't change. The restrictions make supply unresponsive. So, when demand increases due to higher incomes, population and lower interest rates, the result is higher prices rather than increased quantity.

2.1. Simple Comparisons

Some of the evidence for large planning effects discussed below is technical and sophisticated. However these effects can also be seen in everyday observation. It is routine for land values to jump by hundreds of thousands of dollars when sites are rezoned for higher density. For example, when land at Riverstone in Sydney's North-west was rezoned from rural to residential in 2016, its value jumped from \$39/sqm to \$175/sqm (NSW Productivity Commission, 2020, Figure O2). For more examples, see Kendall and Tulip (2018, Appendix A) or the recurring corruption stories in the news. The change in property value means legal permission to build is valuable. That, in turn, indicates that permission is both scarce and a binding constraint. It also indicates a large gap between dwelling price and the cost of supply, a point discussed below.

Table 1 below compares house prices in various cities (more precisely, metropolitan areas), including Tokyo, Houston and Atlanta; cities known for their relatively liberal approach to planning. Tokyo, for example, has several times as many residents as Australian cities but its housing is less expensive. Within the United States, heavily restricted San Francisco and Los Angeles are two to four times as expensive as unrestricted Houston and Atlanta. Comparisons like this are not compelling to academics, but they highlight the potential for far cheaper housing and give a simple indication of the magnitudes at stake.

Table 1: Average House Prices for Select Cities

<u>City</u>	Median Ho	Median House Price		
	(local currency)	\$A (\$000s)	(millions)	
	Cities with restrictive	planning		
Sydney		1,050	5	
Canberra		825	0.4	
Melbourne		824	5	
Brisbane		600	3	
Hobart		600	0.2	
Perth		538	2	
Adelaide		525	1	
San Francisco, USA	US\$1,385,000	1,800	5	
Los Angeles, USA	US\$756,000	982	13	
	Cities with loose pl	anning		
Tokyo, Japan	¥46,150,000	563	14	
Houston, USA	US\$307,200	400	7	
Atlanta, USA	US\$315,000	409	6	

Notes:

For Tokyo, average sales price for a previously owned detached house in Tokyo prefecture reported by REINS Higashi Nihon, for July to September 2020. The median price would be lower.

https://resources.realestate.co.jp/news/how-much-does-it-cost-to-buy-a-house-in-tokyo-october-2020-update/
For US cities, prices are Median Sales Price of Existing Single-Family Homes for Metropolitan Statistical Areas for 2021Q2 from https://www.nar.realtor/research-and-statistics/housing-statistics/metropolitan-median-area-prices-and-affordability. Populations are for the 2020 Census, also by MSA.

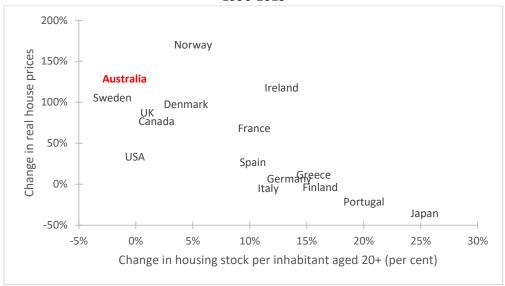
Australian Prices are the Median Price of Established House Transfers for March 2021 from ABS 6416.0 Table 4. Populations are Greater Capital City Statistical Areas for June 2020

Exchange Rates, as of 2021Q1 \$A1 =Y82 or US\$0.77)

A difficulty with the comparisons in Table 1 is that there are cultural, geographic, demographic, tax and other differences between the cities. We can abstract from these differences by comparing changes over time, as most of these factors are fairly constant. The demand for housing around the world has increased due to higher incomes and lower interest rates. As shown in Chart 5, those countries that responded to this by building housing quickly, such as Japan, have enjoyed lower housing costs. Countries that restrict housing, like Australia, have a growing affordability problem.

¹ For accessible descriptions of planning and its relation to housing costs in Tokyo see Harding (2016) or Davis (2019). For Atlanta, see Glaeser and Gyourko (2018). For Houston, see Gray (2020). For more detail and comparisons of international planning policies see Durning (2017, 2021).

Chart 5: In Countries that built more housing, prices grew more slowly 1990-2015



Source: OECD Affordable Housing Database

Stock: https://www.oecd.org/els/family/HM1-1-Housing-stock-and-construction.pdf

Prices: https://www.oecd.org/economy/outlook/focusonhouseprices.htm

The OECD (2021, Figure 1.4) shows a different version of this chart. Glaeser and Gyourko (2018) show the same pattern within the United States. Cities with restrictive planning, like San Francisco or New York, have seen rapid rises in prices and little building. Other cities have experienced similar increases in housing demand, but have chosen to respond by building more, rather than raising prices.

2.2. International Research

The idea that planning restrictions are an important cause of high housing prices is often challenged on social media. However, among researchers, there is strong agreement. Some quotations from research surveys illustrate:

"most studies have found substantial effects on the housing market. In particular, regulation appears to raise house prices, reduce construction, reduce the elasticity of housing supply, and alter urban form. ... The available research suggests [the zoning] tax is quite large for many markets." Gyourko and Molloy (2015 pp 1289, 1296)

"there is a strong consensus among economists that ... land use regulations are standing in the way of new housing construction and are causing high and rising prices." Hamilton, (2021 p195)

"Dozens of empirical studies have shown that more restrictive land use regulations are associated with higher housing prices." Been, (2018 p227)

Similar conclusions are found in other high-profile surveys by Furman (2015), Glaeser and Gyourko (2018), and, for a UK focus, Hilber and Vermeulen (2015, Section 2). The individual papers cited in these surveys typically contain shorter literature reviews with the same message. The Economist magazine (2021) has complained that "no one needs any more papers showing that stringent zoning regulations raise housing costs. It is time for solutions."

2.3. Australian Estimates

Australian studies have reached similar conclusions to the international research. Examples include Moran (2006); OECD (2010); Kulish, Richards and Gillitzer (2011); Commonwealth Productivity Commission (2011 and other publications); Housing Supply and Affordability Reform Working Party (2012); National Housing Supply Council (2013 and other publications); RBA (2014); Senate Economics References Committee (2015); CEDA (2017); Stevens (2017); Daley, Coates and Wiltshire (2018), and most recently, the NSW Productivity Commission (2021). These studies reflect a wide variety of approaches and information sources including personal observation, discussion with industry, international research, calibrated structural modelling, time series modelling, examination of planning processes and more. All these approaches suggest that planning restrictions have important effects on prices.

Recent studies have quantified some of the effects.

Kendall and Tulip (2018) estimate the effect of planning restrictions as the difference between sale prices and the cost of supply. In an unconstrained market, these should be equal. However, land use regulations prevent suppliers from providing more housing and hence sustain a wedge between price and marginal cost. The effect is analogous to taxi licences, import quotas and other quantitative restrictions. This approach, pioneered by Glaeser and Gyourko (2003), is perhaps the leading approach to estimating the effect of planning restrictions on prices and has been employed in many research papers published in top journals. Most of the research surveys discussed in the previous section cite it prominently and favourably; the surveys do not note any serious criticisms or reservations.

Estimates for detached houses are shown in Table 2. In Sydney, for example, the average house sold for \$1.16 million in 2016. A relatively small proportion of this (34%) can be accounted for by the value of the structure. Most of the price (66%) represents the value of the land.

Table 2: Average House Price Decomposition 2016, \$000s, (per cent of total)

	Sydney	Melbourne	Brisbane	Perth
Average House Price	1 160 (100%)	793 (100%)	542 (100%)	588 (100%)
Dwelling Structure	395 (34%)	268 (34%)	267 (49%)	242 (41%)
Land	765 (66%)	524 (66%)	275 (51%)	346 (59%)
Physical land	276 (24%)	201 (25%)	116 (21%)	140 (24%)
Zoning effect	489 (42%)	324 (41%)	<i>159 (29%)</i>	206 (35%)
Zoning effect as a percentage of physical input costs	73%	69%	42%	54%

Source: Kendall and Tulip (2018)

However, land as a physical thing is not especially scarce and so not especially valuable. Homebuyers pay very little for extra yardage. Holding other characteristics (location, number of bedrooms, bathrooms etc) constant, buyers are estimated to only pay an extra \$411 on average for each extra square metre of land. This is well below the average market price of land of \$1,137 per metre. The difference between the two land prices is that the average market price includes the legal right to put a dwelling on that property — this is scarce and what makes urban land so expensive. This legal right adds \$489,000 to the value of the average property, adding 73% to the other costs. Similarly,

the legal permission to build is estimated to add 69% to the cost of houses in Melbourne, 42% in Brisbane and 54% in Perth.

One implication of these results is that buyers pay a lot for location, but do not especially value yard area. As a result, there are huge incentives to subdivide or otherwise increase density. But this is typically illegal.

Jenner and Tulip (2020) conduct a similar exercise for apartments, shown in Table 3. As most planning debates concern medium and high density, these estimates are more relevant to policy than those for detached housing above. In 2018, the average Sydney apartment sold for \$873,000 but only cost \$519,000 to supply. So restrictions boosted prices by \$355,000 — or 68% of costs. Planning restrictions raised the cost of apartments by 20% in Melbourne and 2% in Brisbane.

Table 3: Average Apartment Prices and Costs, 2018, \$000s

	Sydney	Melbourne	Brisbane
Average sale price	873	588	470
Cost of supply	519	491	460
Effect of planning restrictions (\$000's)	355	97	10
Effect of planning restrictions (per cent of costs)	68%	20%	2%

Source: Jenner and Tulip (2020)

qualitative effects.

Supply costs can be measured in different ways. The estimates in Table 3 refer to the extra costs that would be incurred in supplying an apartment by raising the typical building height an extra storey. This 'building up' raises average construction costs but means extra land does not need to be used. Jenner and Tulip also present estimates of the cost of 'building out' — keeping average construction costs constant but using extra land — which are similar but slightly higher. Tulip (2020) provides further explanation and discussion of these results.

A second approach to quantifying the effect of planning restrictions is with a structural model, where numerical equations describe household preferences, building technology and other features of the housing market. Ge, Kulish and Maguire calibrate an Alonso-Muth-Mills model that describes Greater Sydney. The average ratio of residential floor space to land area in inner Sydney (allowing for mixed uses) is about two. They estimate that raising the Floor Area Ratio to three would reduce the cost of the average dwelling by 18% — even though average floorspace increases by 14%. There would be an overall increase in welfare equivalent to a 5% increase in income.² Allowing an even higher Floor Area Ratio would have larger benefits.

A third approach is to estimate an econometric equation where differences in housing prices are explained by differences in housing supply or in planning regulations. Limb and Murray (2021) estimate that changes in zoning restrictions or in building supply have little effect on house prices in Brisbane. This is an outlier result that is inconsistent with the research surveyed in the previous section. The authors do not discuss that discrepancy. It seems to arise because their observations are not independent — supply restrictions not only raise prices on directly restricted housing but will also raise prices on other properties that are substitutes. Their results also appear to reflect reverse causation; that is, high prices cause extra supply.

² The richness of this model comes at the cost of over-simplifying other features. For example, the model assumes Sydney is monocentric; a more complicated model would be polycentric, with varying FARs at each centre. Accordingly, simulation results should not be regarded as precise estimates but as rough guides to

A more careful and convincing example of this approach is Lejcak, Rambaldi and Tan (2020), who examine the effect of planning restrictions in Melbourne. In contrast to Limb and Murray, this paper seriously addresses the difficulties of reverse causation and interdependence, though it is unclear whether that effort is fully successful. Lejcak, Rambaldi and Tan find that supply restrictiveness almost doubles the price of detached residential land in local government areas such as Melbourne and Yarra, a substantially larger effect than estimated by Kendall and Tulip (2018).

As discussed in Section 2.1, there is a strong negative correlation between housing prices and changes in supply evident in cross-country comparisons (Chart 5) and between cities in the United States. Although not formal econometric studies, these correlations arguably provide another way of abstracting from problems of interdependence and reverse causation.

As the references cited above and in the previous section attest, these results are widely agreed among researchers and policy advisers. However, the agreement is not universal. Dissents include Pawson, Milligan and Yates (2019), Murray (2020) and Phibbs and Gurran (2021). Tulip (forthcoming) argues that these dissents reflect simple misunderstandings.

2.4. "Benefits" of planning

The leading argument in support of planning restrictions is that, while they might make housing expensive, this is worthwhile because they improve neighbourhood amenity. Nearby residents often object to new apartment buildings on the grounds that they are ugly, they bring traffic and crowds, they block out the sun and so on.

These arguments are legitimate and the residents are entitled to their preferences. However, their views are not the only ones to be taken into account. Policymakers also need to weigh the preferences of those who like high-density living. Many potential residents like proximity to shops, transport and entertainment. These other residents often cannot be identified prior to construction and their views are under-represented in public discussion.

We can weigh these conflicting preferences by looking at nearby house prices. If apartment towers did harm neighbourhood amenity, as the opponents of density argue, then nearby house prices should fall.

Tulip and Lanigan (2021) find that this does not happen. They look at five prominent examples of high-density construction in Sydney: Chatswood, Forest Lodge, Green Square, Liverpool and Turrella and three in Melbourne: Box Hill, South Yarra and Footscray. They find that nearby house prices are essentially unaffected by new development. It seems that for every recalcitrant neighbour that dislikes the new apartments, there are other home buyers who want a walkable, lively community.

There is a large international literature on broader effects of urban density. This distinguishes 'internal' benefits, where individuals are paid for their own effort, from 'external' benefits which arise from the actions of others and justify planning restrictions. Large dense cities tend to have high productivity and wages. These are primarily internal benefits that do not justify policy interventions — though they do explain why people want to live in big cities.

Ahlfeldt and Pietrostefani (2019) survey the literature on external benefits of urban density and conclude that, on balance, they are positive. Productivity spillovers, more patent applications, less energy use and other benefits of density are found to more than offset traffic congestion, shadows, noise and other costs. Australian studies, specifically Travers Morgan and Applied Economics (1991), Trubka, Newman and Bilsborough (2008) and CIE (2010), are less comprehensive, but do not point to

overall results being very different here. Glaeser, Gyourko and Saks (2005) specifically examine height restrictions and estimate their external costs to be small.

Restrictions on density, like height limits or reserving land for detached houses, would be appropriate if density generated bad spillovers ('negative externalities'). However, the results above suggest these spillovers, on net, are more likely to be positive than negative. That means many restrictions on density lack justification — they appear to increase housing costs unnecessarily.

3. Tax

Negative gearing and the capital gains discount have been thoroughly canvassed in past CIS research publications such as Kirchner (2014) and Carling (2015, 2019). Some of the key points of relevance to this submission are as follows:

3.1 General principles

- A fundamental principle of economics is that if you tax something more heavily, you will get less of it. This principle is well understood in relation to markets in goods and services, but is often forgotten in relation to housing. Many people suppose that housing affordability can be improved by making investment in housing less attractive via the tax system, thereby reducing investor demand and benefiting owner-occupiers, including first home buyers. But this assumes that the effects of these policies can be quarantined to the demand side of the market and have no implications for rents or dwelling supply. The concessional tax treatment of saving via owner-occupied and investment property adds to demand by making both a more attractive vehicle for saving relative to other asset classes. It is also positive for housing supply by making investment in housing more attractive. The net effects on dwelling prices and rents are empirical issues discussed below.
- It is sometimes noted that demand from property investors is largely met through existing rather than newly built dwellings. This reflects the fact that the flow of new houses is small relative to the existing dwelling stock. Annual dwelling completions average around 2% of the housing stock. But it is about as relevant as noting that investors in the stock market mostly buy existing equity rather than newly issued shares. It is only supply-side constraints that prevent demand for existing dwellings from inducing new construction.
- The concessional tax treatment of saving via housing does not mean there is no tax burden
 on housing as such. The tax burden on new housing includes direct taxes such as the goods
 and services tax, stamp duty, land tax, and council rates, as well as a variety of indirect taxes
 on inputs into housing, development and infrastructure levies.
- Strong trend growth of dwelling prices has been observed in many countries with different tax characteristics, and the trend can be explained by secular movements in income, population and interest rates in conjunction with policy-induced supply restrictions.

3.2 Negative gearing

- The deductibility of mortgage interest against other income for investments in housing is first and foremost an issue of tax policy. Housing is not the only asset class for which interest on borrowing to invest is deductable against other income, so negative gearing cannot be considered a special subsidy or tax concession for housing.
- The animus directed against negative gearing is as much an objection to the tax deduction as
 its supposed implications for housing affordability. Few people seem to object to an investor
 buying a property outright or having rental income in excess of deductions, making them a
 net taxpayer in relation to the investment. Those who negatively gear property ultimately

rely on taxable capital gains to make up for net losses on rental income incurred over the life of the investment. Unless capital gains exceed borrowing and other costs, negative gearing is a losing investment strategy. Like all leveraged investments, negative gearing is risky, not a one-way bet.

- It should be noted that Treasury does not classify negative gearing as tax expenditure. Deductibility is considered a structural feature of the income tax system and does not therefore lead to 'tax expenditure'. Allowing taxpayers to deduct net rental losses from other income may be considered in some sense 'concessional', but deductibility of interest on borrowings made to undertake an investment is nothing more than a specific case of the general principle that the expenses incurred in generating income are deductible expenses. In this sense investment in real estate is no different from investment in other assets such as equities, yet 'negative gearing' for sharemarket investments attracts no attention.
- As long as rent income is treated and taxed as part of comprehensive income, expenses
 incurred should be deductible from comprehensive income. Unless investors are irrational,
 their 'negatively geared' investments will ultimately lead to positive net income and/or
 realized capital gains that will contribute positively to tax revenue.
- A case for limiting deductibility of expenses could only be justified if the rental income was
 in some way taxed concessionally rather than as part of comprehensive income. If rent
 income were to be discounted or subject to a lower rate of tax than the standard rates —
 presumably as part of a broader reform of taxes on saving and investment then there
 would be a case for curtailing deductibility of relevant expenses including interest expense.

3.3 Capital gains tax

- The 50% capital gains discount for assets held longer than 12 months is a provision of the tax law with broad applicability to all assets. It is not a housing policy and should not be tampered with for housing policy reasons alone.
- Although often described as a 'tax subsidy', this is pejorative language that fails to recognise
 the broad case for concessional taxation of capital gains, as outlined in the 1999 Ralph
 Review of Business Taxation that recommended the current policy
- Although the 50% discount replaced the system of cost base indexation for inflation that had been in force from 1985 to 1999, the discount was intended as more than a simplification with an equivalent average effect to indexation. The motivation for the Ralph reform was that there exists a range of reasons to discount capital gains, including that "Australia taxes capital gains more harshly than most other comparable countries and certainly more harshly than other countries in our region competing for international investment."
- The contribution of capital gains tax policy to house price growth is moot. House price booms have many causes and have occurred under vastly different capital gains tax regimes, including when Australia had no capital gains tax up to 1985, the indexation system up to 1999, and the discount system since then.
- Because capital gains tax applies only to realised gains, it is essentially an asset turnover tax
 and imposes economic efficiency costs similar to other taxes on asset turnover. Any increase
 in the weight of capital gains tax would lead to a reduction in the turnover of a range of
 assets including housing. This also means that the revenue gain would be less than is often
 claimed.

3.4 Empirical Estimates

A wide range of research finds that these tax measures have very small effects on prices.

- Daley and Wood (2016, Box 6) compare the revenue cost of the concessional treatment of
 capital gains tax and negative gearing to the value of the housing stock and on that basis
 estimate that the tax concessions may boost the level of housing prices by 1 to 2.2%.
- Tunny (2018), using a similar methodology and assumptions to Daley and Wood, found larger impacts of up to 4% on house prices on average.
- BIS Shrapnel estimated restricting negative gearing would increase rents by up to 10%, decrease
 new home building by around 4% per annum; and reduce GDP by 1% (Duke 2016).
 These estimates have been strongly criticised by Gene Tunny and John Daley.
- The most detailed study is by Cho, Li, and Uren (2021). In a micro-founded model, they find that removing negative gearing would reduce house prices by 1.5%, raise rents 3.6%, raise home ownership by 4.3 percentage points and raise welfare by 1.7%. The welfare gain largely reflects redistributional effects.
- Deloitte Access Economics (2019) incorporate the tax concessions into the user cost of housing
 and estimate the effect that has on house prices using aggregate time series regression. They
 estimate the ALP's 2019 policy of restricting negative gearing to new housing and reducing the
 capital gains discount would reduce established dwelling prices by 4.6% and new dwelling prices
 by 3.6%. Effects of only eliminating negative gearing would be smaller.

In summary, negative gearing and the capital gains discount are estimated to boost house prices between 1 and 4%, while having a smaller negative effect on rents. Most of these estimates represent a long-run 'one-off' effect that would have been incorporated into housing prices decades ago. These estimates are small relative to the variation in the data or to other factors that affect housing prices, such as interest rates or zoning. So for most practical purposes, the effect of tax concessions on housing affordability can probably be ignored.

4. Immigration

Arguably the largest way in which the federal government affects the housing market is through its immigration policy.

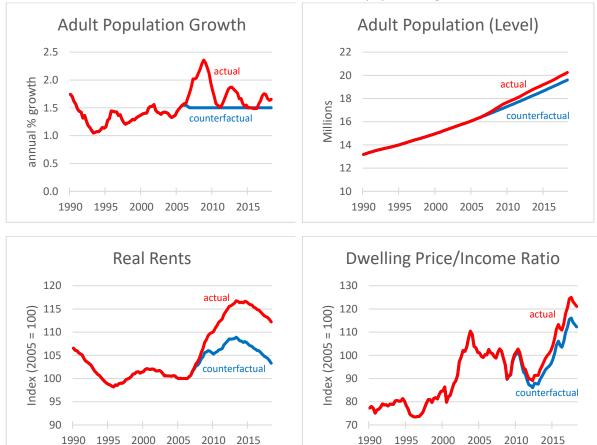
In the mid 2000's, Australia's immigration intake accelerated quickly. This resulted in large increases in the demand for housing and hence large increases in housing prices and rents.

Chart 6 reproduces estimates of these effects from Saunders and Tulip (2019, Figure 14). These are based on a detailed model of the Australian housing market that captures the time-series relationships of key variables and allows for feedback between prices and quantities.

Actual population growth, shown in the red line in the top left panel, rose from 1.5% in 2005 to 2.4% in 2008. The blue line shows a counterfactual in which this surge did not occur, with population growth remaining at its 2005 rate. As shown in the top right panel, the surge in immigration boosts the adult population by 650,000 or 3.3% by 2018.

Chart 6: Responses to Higher Population

Actual versus counterfactual with stable population growth



Source: Saunders and Tulip (2019, Figure 14).

Reflecting historical relationships, Saunders and Tulip estimate that the construction of new housing responds quickly to higher immigration but the stock of housing adjusts slowly. The result was that demand outstripped short-run supply, with the rental vacancy rate falling to a near-record low of 1½% in 2008. This boosted real rents (the bottom left panel) to be 9% higher than they would have been otherwise. The increase in rents gradually flows on to a similar increase in dwelling prices (bottom right).

One point to note about these results is that higher immigration only accounts for a modest fraction of the recent run-up in housing prices, as can be seen in the lower right panel of Chart 6. Saunders and Tulip estimate that lower mortgage rates are a major cause. Another caveat is that these estimates reflect one hypothetical counterfactual. Different assumptions would generate different estimates. For example, compared to a more extreme counterfactual of zero immigration, the effect on housing costs would be much larger.

Subject to those qualifications, the estimates are substantial. They raise two important issues for housing policy.

1) Immigration policy does not seem to be co-ordinated with other arms of policy. In particular, the recent increase in immigration was not matched by a commensurate increase in housing supply.

2) There is an imbalance in government incentives. The federal government decides immigration rates. However it is the states and local governments that largely have to pay for the extra infrastructure this requires.

5. Federal government spending

Table 4 shows major federal government programs aimed at improving housing affordability. Not included are state programs; the National Rental Affordability Scheme (NRAS), which provides tax offsets, now closed; the New Home Guarantee, which is a contingent liability; tax expenditures; means-test exemptions; and various regional development schemes and city deals.

Table 4: Commonwealth Spending on Affordable Housing, 2021-22

Programme	Description	\$ millions
National Housing and Homelessness Agreement (NHHA)	Public housing	1,616
HomeBuilder	Grants to First Home buyers	1,515
Other National Partnership Payments	Mainly Public Housing for indigenous and other vulnerable groups	191
Commonwealth Rent Assistance (CRA)	Provided to renters in receipt of social security or Family Tax Benefits	5,500

Sources: For CRA, Department of Social Services (2021). Otherwise, 2021 Budget Paper 3, Table 2.7;

Most of these measures boost the demand for housing. That can have distributional and other benefits, however it does little, if anything, for overall housing affordability. Demand-side subsidies make housing easier to obtain for favoured groups, such as first home buyers or social security recipients. However, if the supply of housing does not increase, then prices are bid up. The housing for favoured groups comes at the expense of non-favoured groups, including working class families.

But doesn't public housing boost supply? Partly. Some public housing places tenants in old housing provided by the market, while other public housing involves new construction. New construction often involves the over-riding or 'fast-tracking' of zoning approval. Otherwise, private developers would have built. To construct new housing it is not necessary to provide large subsidies from the taxpayer. All that is needed is for planners to get out of the way.

Where the subsidies are necessary is to ensure that housing (whether old or new) goes to those on lower incomes. Reports by Henry (2009, Chapter F5), the Reference Group on Welfare Reform (the McClure Review, 2015, p59) and the Productivity Commission (2017 pp15-17) argue that Commonwealth Rent Assistance achieves that objective more efficiently and fairly than public housing subsidies.

6. Policy Recommendations

For a substantial and widespread improvement in housing affordability, we need to increase supply. This essentially means relaxing planning regulations, which are primarily the responsibility of state and local governments. A detailed discussion of those regulations is beyond the scope of this submission, which is to a federal Inquiry. However, in so far as they relate to NSW, these issues have been carefully examined by the NSW Productivity Commission (2021). Its White Paper provides detailed recommendations. In particular, Section 7.2 argues that the NSW government needs to set and enforce higher construction targets for local governments.

Direct federal intervention in planning decisions is not attractive. That would require a third level of planning bureaucracy. Nevertheless, there are several useful steps the federal government can take to facilitate better state and local government policy, as Sections 6.1 and 6.2 discuss.

6.1. Information

The problems of state and local government policy reflect underlying social values that need discussion. We need to care more about renters and young home buyers and defer less to wealthy homeowners' fear of change. That may require a national conversation led by the federal government. The current Parliamentary Inquiry, to which this submission is directed, provides a good opportunity to advance this conversation.

The federal government can provide further information and advice. In the United Kingdom and United States, national governments of differing political parties have issued reports summarising the research and calling for less restrictive zoning. (Barker, 2004; The Whitehouse, 2016; Council of Economic Advisers, 2019). As noted above, the recent White Paper from the NSW Productivity Commission (2021) represents a useful contribution to the public discussion. The Government funds housing research by several other bodies that could follow this lead.

The federal government should consider constructing performance benchmarks for states and local councils. Population projections provide a simple guide to where housing is most needed. However they do not capture changes in household size or locational preferences. A more comprehensive measure of the demand for housing is willingness to pay; that is, market prices. Where prices exceed the cost of supply, there is an excess demand. Jenner and Tulip (2020, Figure 4) argue that excess demand is most severe in the inner suburbs of Sydney. Measures of excess demand by local governments could serve as a guide to the allocation of grants, discussed below. They would also be useful as a benchmark for assessing performance and as a guide to planning decisions.

The federal government has greater responsibility for housing in the territories; both in law and as a major employer. Canberra is the second most expensive capital city in Australia (Table 1) despite an abundance of vacant land. Hence pilot programs there could have useful demonstration effects.

6.2. Conditional Grants for Better Performance

The federal government could also improve incentives and remove obstacles to reform. Specifically, it could allocate more funding to those states and local councils that build more housing.

The UK Ministry of Housing, Communities and Local Government pays a New Homes Bonus to local authorities in England that deliver housing above specified benchmarks. Since its introduction in

2011, £9.5 billion has been awarded (UK Ministry of Housing Communities and Local Government, 2021).

In the United States, the Biden Administration has proposed a new Unlocking Possibilities Program, which would provide US\$5 billion in grants to local governments that relax planning regulations. Further grants are under consideration. The Clyburn-Booker HOME Act of 2019 proposed tying grants to States (specifically, Federal Community Development Block Grants and Surface Transportation Block Grants) to zoning reform. This policy was included in the Biden-Harris platform in the 2020 Presidential election (Biden 2020).

Something similar to the UK and US programs seems appropriate for Australia.

The principle of federal financial support for state-level reform is well-established. From 1997-98 to 2005-06, the National Competition Policy involved payments averaging about \$600 million a year to the states and territories for regulatory and competition reform. The Productivity Commission's (2005) review of the National Competition Policy found that it had delivered substantial benefits to the Australian community which, overall, greatly outweighed the costs.

National Competition Policy payments were justified on the grounds that the federal government benefited directly from these reforms through higher tax receipts, while the states bore the burden of the reform. That rationale is less applicable to zoning reform given that benefits accrue as capital gains on housing and as consumer surplus, which are lightly taxed, if at all. Other rationales for federal involvement in housing are more compelling, including:

- Immigration. As noted in Section 4, many of the problems in the housing market arise because the federal government has decided on a high level of immigration, and housing policies have not sufficiently responded. Insufficient response of infrastructure funding is part of that.
- **Spillovers**. If a state builds more housing, its ability to lower housing costs is limited by internal migration from other states.
- **Inequality**. Land use policies are distributing income and wealth away from renters and first home buyers towards wealthy homeowners.
- Affordable Housing. Given that the federal government provides substantial funding for affordable housing (Table 4) it has a responsibility for ensuring that spending is not undermined by restrictive state and local government polices.
- **Environment.** High density housing near public transport reduces greenhouse emissions and sprawl

Payments for housing reform could be additional. For example, the Housing Affordability Fund (HAF) provided grants to state, territory and local governments to reduce housing-related infrastructure and planning costs. The HAF Program funded 26 projects from 2008-09 to 2012-13, with total funding of \$396 million.

However, if the objective is to improve state and local government incentives, extra spending is not necessary. It could instead be achieved by tying existing programs to a performance indicator, such as measures of excess demand discussed in Section 6.1, or housing commencements. There are many programs where such conditions could be imposed, including city and regional deals, though most of these are small.

The main expenditure category is general revenue assistance payments to states, comprising \$75 billion in 2021-22. The formulas determining these grants could be adjusted so as to improve

incentives. For example, housing construction could be treated as a disability, in recognition of the extra demands it places on infrastructure budgets. This would distribute more grants to states with strong housing growth.

The transfers involved in these kinds of adjustments can be significant. In recognition of its greater transport spending requirements, NSW receives \$1.24 billion more than an equal per capita distribution, while Queensland receives \$762 million less. (Commonwealth Grants Commission 2020, Table 21-17). The example of transport spending is relevant given that similar logic applies to housing.

However, it is debatable whether treating housing as a disability would be consistent with the rationale for current revenue sharing arrangements. Moreover, fiscal equalisation is complicated and payments would be indirect. This weakens their ability to provide clear incentives.

Tying infrastructure spending to housing outcomes may be simpler and more directly targeted at an important obstacle. Lack of infrastructure is a common reason for withholding planning approval.

For example, the rezoning of new suburbs Marsden Park North and West Schofields in North-West Sydney, permitting 8,000 new homes, has been paused because an upgrade to Richmond Road had not yet been funded. According to the mayor of Blacktown, Tony Bleasdale, "We're told there's no money" (Thompson, 2021). The Urban Development Institute of Australia (UDIA, 2021) estimates that this and other delayed infrastructure (mainly water, sewerage and roads) have prevented the supply of 70,000 homes in the western suburbs of Sydney. The required infrastructure costs an estimated \$423m or \$6,000 per lot. By unblocking bottlenecks like this, small expenditures can have huge multipliers.

The federal government's 10-year infrastructure program involves expenditure of \$110 billion, including an additional \$15 billion in new project funding in the 2021–22 Budget. Much of this is on regional road and rail. The federal government could require states to build more housing in return. For example, intra-urban rail, such as the Metro in Sydney or the Suburban Rail Loop in Melbourne could require that new train stations be accompanied by high-density housing. To provide an effective incentive, the associated grants would need to be quarantined from fiscal equalisation. (Half the past payments to the National Land Transport Network have been quarantined).

Making funding conditional on housing construction is not just a matter of boosting incentives. It is arguably a fairer and more deserving allocation. The standard benchmark for considering grants is on a per-capita basis. However, it is the *growth* in population, rather than the level, that drives the demand for new infrastructure. Were infrastructure allocated on the basis of population growth or housing construction, as per Table 5, Victoria would receive a larger share than other states.

Table 5: Change in Population and Housing, 2011-2020

State	Change in Population	Dwellings Completed
Victoria	1,158,853	584,050
New South Wales	949,003	507,323
Queensland	699,408	362,445
Western Australia	310,152	218,508
South Australia	130,761	103,015
Australian Capital Territory	63,395	46,013
Tasmania	29,297	25,245
Northern Territory	14,851	13,716

Sources: ABS.Stat: Estimated Resident Population;

https://stat.data.abs.gov.au/Index.aspx?DataSetCode=ABS ANNUAL ERP ASGS2016; 8752.0 Building Activity, Table 38

Given the importance of neighbourhood opposition to new housing developments, local infrastructure is especially relevant. Local councils and resident groups routinely list overcrowded roads, parks and public transport as leading reasons for opposing development. (Troy and others, 2015; Ticher, 2018; Rose Bay Residents Association, 2018). In a Community Survey commissioned by the Productivity Commission (2011, Table 2.4), 84% of respondents gave "increased traffic congestion" as a reason for not wanting a population increase their community. This was by far the largest response — the next largest was "increased noise" with 58%.

Accordingly, directing federal funding to those localities where there is the greatest housing construction would reduce a major impediment. Making the conditionality of the 'quid pro quo' clear may allay resident opposition. In this regard, the federal government has committed \$2.5 billion to the Local Roads and Community Infrastructure Program, including an additional \$1 billion in the 2021-22 Budget. Financial Assistance Grants to local governments are \$2.7 billion in 2021-22.

It is sometimes suggested that developers, not government, should pay for the infrastructure that accompanies new housing. This is appropriate for assets that have a close nexus to the development, such as utility connections to the trunk line. However, most infrastructure costs are a function of national population, which developers do not influence. For example, a development in a new location may require a new school and hospital. However, this cost has an offsetting benefit: reduced demand in the areas from where the new residents come. It is inappropriate to charge developers the cost of schools and hospitals (as NSW, Victoria and Queensland do) without also recognising the benefit of reduced usage elsewhere. Paying for social community infrastructure is appropriately the responsibility of the central government. When that financing is not forthcoming, local residents understandably object to the over-crowding. For discussions of how infrastructure should be financed, see Commonwealth Productivity Commission (2011, Ch6.3), NSW Productivity Commission (2020) or NHFIC (2021).

7. Conclusion

Planning restrictions mean that Australians pay too much for their housing. Solving this problem essentially involves getting state and local governments to stop saying no and start saying yes. Making federal expenditure on infrastructure conditional on housing reform may help to deliver more affordable housing.

8. References

Note: where some references are paywalled, hypertext links are to a more accessible version.

Ahlfeldt GM and E Pietrostefani (2019), 'The Economic Effects of Density: A Synthesis', Journal of Urban Economics, 111, pp 93–107. https://voxeu.org/article/economic-effects-density-synthesis

Barker, Kate (2006) Review of Land Use Planning

https://www.gov.uk/government/publications/barker-review-of-land-use-planning-final-report-recommendations

Been, Vicky (2018) "City NIMBYs" Journal of Land Use & Environmental Law https://furmancenter.org/research/publication/city-nimbys

Biden, Joe (2020) "The Biden Plan for Investing in Our Communities Through Housing," https://joebiden.com/housing/

Carling, Robert (2015) "Right or Rort? Dissecting Australia's Tax Concessions", CIS Research Report 2, https://www.cis.org.au/publications/research-reports/right-or-rort-dissecting-australias-tax-concessions

Carling, Robert (2019) "Myth vs Reality: The Case Against Increasing Capital Gains Tax", CIS Policy Paper 18, https://www.cis.org.au/publications/policy-papers/myth-vs-reality-the-case-against-increasing-capital-gains-tax

CEDA (Committee for Economic Development of Australia) (2017), Housing Australia, August. https://www.ceda.com.au/Research-and-policy/All-CEDA-research/Research-catalogue/Housing-Australia

Commonwealth Grants Commission (2020) "2020 Review, Volume 2" https://www.cgc.gov.au/sites/default/files/r2020 report - volume 2 - part b ch19-33.pdf

Cho, Yunho Shuyun May Li, and Lawrence Uren (2021) "Investment housing tax concessions and welfare: Evidence from Australia" https://cama.crawford.anu.edu.au/publication/cama-working-paper-series/18248/investment-housing-tax-concessions-and-welfare-evidence

CIE (Centre for International Economics) (2010), 'The Benefits and Costs of Alternative Growth Paths for Sydney: Economic, Social and Environmental Impacts', Report prepared for NSW Department of Planning, December.

Council of Economic Advisers (2019) "The State of Homelessness in America" https://www.nhipdata.org/local/upload/file/The-State-of-Homelessness-in-America.pdf

Daley, J., Coates, B., and Wiltshire, T. (2018). Housing affordability: re-imagining the Australian dream, Grattan Institute. https://grattan.edu.au/report/housing-affordability-re-imagining-the-australian-dream/

Daley, J., Wood, D., and Parsonage, H. 2016, Hot property: negative gearing and capital gains tax reform, Grattan Institute https://grattan.edu.au/wp-content/uploads/2016/04/872-Hot-Property.pdf

Davis, River (2019) 'Tokyo's Flat Prices Stand Out Among Major Cities.' Wall Street Journal April 3, 2019 https://www.wsj.com/articles/what-housing-crisis-in-japan-home-prices-stay-flat-11554210002

Deloitte Access Economics (2019) "Analysis of changes to negative gearing and capital gains taxation" https://secure-web.cisco.com/10UgtYFd1lFj-n4FvPhrsqA4-pWnlG3ivkvR-xgBTDxC9W4C9xXUyfS12dXpl Wpl5zWvl9YFxqKYC79alF1L3z3Zv9HEfB0COvz7ma7OFWLjY QfOish2f xgbzS6_ekf4Y9E3w8MwciJZmgcfvZa-dMuynSCbO5S4Hk3gAg6dtlljyHG2lCnK3eGzkqtNkUyL56COiFa5-GOIsVx97k3cwAmEG8HiX8l3-1YkGdDf7s4E4nwhwp-hNJHm7n6A_dK-4Is0mKJLUiKZGEShdjbUgNmCt0mQXUFxUVd3ogmoihNlumkLMQgUs1EIE5Pnj_B/https%3A%2F%2Fc dn2.hubspot.net%2Fhubfs%2F2095495%2F_Communications%2FNGCGT%2FDAE%2520analysis.pdf

Demographia (2021) International Housing Affordability Survey. http://www.demographia.com/dhi.pdf

Department of Social Services (2021) "Housing" https://www.dss.gov.au/housing-support/programmes-services/housing

Duke, Jennifer (2016) "Negative gearing changes would push up rents 10%: BIS Shrapnel" https://www.domain.com.au/news/negative-gearing-changes-would-push-up-rents-10-per-cent-report-20160302-gn8ehp/

Durning, Alan (2017) "Yes, you can build your way to affordable housing; Lessons from unexpected places". https://www.sightline.org/2017/09/21/yes-you-can-build-your-way-to-affordable-housing/

Durning, Alan (2021) "Winning Abundant Housing" The Sightline Institute https://www.sightline.org/series/winning-abundant-housing/

Economist, The (2021) "How to turn NIMBYs into YIMBYs" 11 September, 2021; https://www.economist.com/finance-and-economics/2021/09/11/how-to-turn-nimbys-into-yimbys

Furman, Jason (2015) "Barriers to Shared Growth: The Case of Land Use Regulation and Economic Rents"

https://obamawhitehouse.archives.gov/sites/default/files/page/files/20151120 barriers shared gr owth land use regulation and economic rents.pdf

Ge, Kevin, Mariano Kulish and Luke Maguire (2021) "Sensitivity Analysis on Sydney's Urban Structure and House Prices for the 2021 Intergenerational Report" Treasury Technical Research Paper Series TTRP 21-04 https://www.treasury.nsw.gov.au/documents/sensitivity-analysis-sydneys-urban-structure-and-house-prices-2021-nsw-intergenerational

Glaeser, Edward and Joseph Gyourko (2003), 'The Impact of Building Restrictions on Housing Affordability', Economic Policy Review, 9(2), pp 21–39.

https://www.newyorkfed.org/research/epr/03v09n2/0306glae.pdf

Glaeser, Edward and Joseph Gyourko (2018) "The Economic Implications of Housing Supply" <u>Journal of Economic Perspectives</u> Vol. 32, No. 1, pp. 3-30

Glaeser, Edward, Joseph Gyourko and Raven Saks (2005), 'Why is Manhattan so Expensive? Regulation and the Rise in Housing Prices', The Journal of Law & Economics, 48(2), pp 331–369. https://repository.upenn.edu/cgi/viewcontent.cgi?article=1007&context=penniur_papers

Gray, Matthew (Nolan) (2020) "Liberalizing Land Use Regulations: The Case of Houston" https://www.mercatus.org/publications/urban-economics/liberalizing-land-use-regulations-case-houston

Gyourko, Joseph and Jacob Krimmel (2021) "The Impact of Local Residential Land Use Restrictions on Land Values Across and Within Single Family Housing Markets" Journal of Urban Economics http://www.nber.org/papers/w28993

Gyourko Joseph and Raven Molloy (2015), 'Regulation and Housing Supply', Handbook of Regional and Urban Economics, 5, pp 1289–1337. http://www.nber.org/papers/w20536

Hamilton, Emily (2021) "Land Use Regulation and Housing Affordability" Chapter 9 in *Regulation and Economic Opportunity: Blueprints for Reform* edited by Adam Hoffer and Todd Nesbit https://www.thecgo.org/wp-

content/uploads/2021/04/Regulation_and_Economic_Opportunity_Blueprints_for_Reform.pdf

Harding, Robin (2016) "Why Tokyo is the land of rising home construction but not prices" Financial Times, August 3, 2016, https://www.ft.com/content/023562e2-54a6-11e6-befd-2fc0c26b3c60

Henry, Ken (2009) "Australia's future tax system" https://treasury.gov.au/review/the-australias-future-tax-system-review/final-report

Hilber, Christian and Wouter Vermeulen (2016), 'The Impact of Supply Constraints on House Prices in England', The Economic Journal, 126(591), pp 358–405.

https://onlinelibrary.wiley.com/doi/epdf/10.1111/ecoj.12213

Housing Supply and Affordability Reform Working Party (2012), 'Housing Supply and Affordability Reform', Report to the Council of Australian Governments, September.

https://web.archive.org/web/20160412181511/http:/www.coag.gov.au/node/451

Jenner, Keaton and Peter Tulip (2020) "The Apartment Shortage" https://www.rba.gov.au/publications/rdp/2020/2020-04.html

Kendall, Ross and Peter Tulip (2018) "The Effect of Zoning on Housing Prices" https://www.rba.gov.au/publications/rdp/2018/2018-03.html

Kirchner, Stephen (2014) Eight Housing Affordability Myths, CIS Issue Analysis 146, https://www.cis.org.au/publications/issue-analysis/eight-housing-affordability-myths/

Kulish M, A Richards and C Gillitzer (2011), 'Urban Structure and Housing Prices: Some Evidence from Australian Cities', RBA Research Discussion Paper No 2011-03. https://www.rba.gov.au/publications/rdp/2011/2011-03/

Lejcak, Jason, Alicia N Rambaldi, Madeleine Tan (2020) "Melbourne housing market dynamics: impact of land supply on detached residential prices" Victoria's Economic Bulletin https://www.dtf.vic.gov.au/sites/default/files/document/Victorian%20Economic%20Bulletin%20-%20Volume%204.pdf

Limb, Mark and Cameron Murray (2021) "We zoned for density and got higher house prices: Supply and price effects of upzoning over 20 years" https://osf.io/zkt7v/

Moran A (2006) The Tragedy of Planning Institute of Public Affairs

Murray, Cameron (2020) "The Australian Housing Supply Myth." https://osf.io/r925z/

National Housing Supply Council (2013) "Housing Supply and Affordability Issues 2012-13" https://treasury.gov.au/publication/housing-supply-and-affordability-issues-2012-13

NHFIC (2021) "Developer contributions - How should we pay for new local infrastructure?" https://www.nhfic.gov.au/research/research/researchreport/developer-contributions-how-should-we-pay-for-new-local-infrastructure/

NSW Productivity Commission (2020) "Review of Infrastructure Contributions" https://www.productivity.nsw.gov.au/infrastructure-contributions-review

NSW Productivity Commission (2021) "Rebooting the economy" https://www.productivity.nsw.gov.au/white-paper

OECD (Organisation for Economic Co-operation and Development) (2010), OECD Economic Surveys: Australia 2010, OECD Publishing, Paris.

OECD (2021) "Brick by Brick" https://www.oecd-ilibrary.org/sites/b453b043-en/1/3/1/index.html?itemId=/content/publication/b453b043-en&csp=6c2144a214b333aaac200b082e70ed53&itemIGO=oecd&itemContentType=book#section-d1e417

Pawson, Hal, Vivienne Milligan and Judith Yates (2019) "Housing Policy in Australia: A Case for System Reform"

Phibbs, Peter and Nicole Gurran (2021) "The role and significance of planning in the determination of house prices in Australia: Recent policy debates" EPA: Economy and Space 2021 53(3) 457-479. https://doi.org/10.1177/0308518X21988942

Productivity Commission (2005) "Review of National Competition Policy Arrangements" https://www.pc.gov.au/inquiries/completed/national-competition-policy/report

Productivity Commission (2011) "Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments"

https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report

Productivity Commission (2017) "Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services" https://www.pc.gov.au/inquiries/completed/human-services/reforms/report

Reference Group on Welfare Reform, (2015) "A new system for better employment and social outcomes: final report", DSS, Canberra, https://www.dss.gov.au/review-of-australias-welfare-system/a-new-system-for-better-employment-and-social-outcomes-full-version-of-the-final-report

RBA (Reserve Bank of Australia) (2014), 'Submission to the Inquiry into Affordable Housing', https://www.rba.gov.au/publications/submissions/housing-and-housing-finance/inquiry-affordable-housing/

Rose Bay Residents Association, (2018) "Woollahra is Full" Paper for Woollahra Council, April 2018.

Saunders, Trent and Peter Tulip (2019) "A Model of the Australian Housing Market" RBA Research Discussion Paper 2019-01 https://www.rba.gov.au/publications/rdp/2019/2019-01.html

Senate Economics References Committee (2015), "Out of Reach? The Australian Housing Affordability Challenge", Senate Economics References Committee, Canberra.

https://www.aph.gov.au/parliamentary business/committees/senate/economics/affordable housing 2013/report

Stevens G (2017), 'Housing Affordability: Report to the Premier', 22 May. Department of Premier and Cabinet

Thompson, Angus (2021) "'It's just a car park': Housing supply set back by congested corridor" https://www.smh.com.au/national/nsw/it-s-just-a-car-park-housing-supply-set-back-by-congested-corridor-20210708-p58846.html

Ticher, Mike (2018) "The crane mutiny: how Sydney's apartment boom spun out of control" The Guardian 4 January, 2018; https://www.theguardian.com/australia-news/2018/jan/04/the-crane-mutiny-how-sydneys-apartment-boom-spun-out-of-control

Travers Morgan and Applied Economics (1991), Housing Costs Study No. 2: Evaluation of Fringe Development and Urban Consolidation, Prepared under the Australian Building Research Grants Scheme.

Troy, Laurence, Bill Randolph, Laura Crommelin, Hazel Easthope & Simon Pinnegar "Renewing the Compact City" City Futures Research Centre. https://cityfutures.be.unsw.edu.au/research/projects/renewing-the-compact-city/

Trubka R, P Newman and D Bilsborough (2008), 'Assessing the Costs of Alternative Development Paths in Australian Cities', Curtin University Sustainability Policy Institute, Report commissioned by Parsons Brinkerhoff Australia.

Tulip, Peter (2020) "Planning restrictions harm housing affordability" https://www.cis.org.au/publications/policy-papers/planning-restrictions-harm-housing-affordability/

Tulip, Peter (forthcoming) "Misunderstandings about Planning Restrictions"

Tulip, Peter and Zachary Lanigan (2021) "Does high-rise development damage neighbourhood character?" https://www.cis.org.au/publications/policy-papers/does-high-rise-development-damage-neighbourhood-character/

Tunny, Gene (2018) "Untangling the Debate Over Negative Gearing" Policy Vol. 34 No. 1, Autumn 2018 https://www.cis.org.au/app/uploads/2018/03/34-1-tunny-gene.pdf

UDIA NSW (2021) "Building Blocks 2021 Greater Western Sydney" https://63lh534dvlp1yhlsm1o3ds2k-wpengine.netdna-ssl.com/wp-content/uploads/Building-Blocks-2021-Greater-Western-Sydney.pdf

UK Ministry of Housing Communities and Local Government (2021) "The Future of the New Homes Bonus: consultation" https://www.gov.uk/government/consultations/the-future-of-the-new-homes-bonus-consultation

Whitehouse, The (2016) Housing Development Toolkit http://homeforallsmc.com/wp-content/uploads/2017/05/Housing Development Toolkit-f.2.pdf