

Examining filtering as a reliable source of housing in Australia for low-income households



Based on AHURI Final Report No. 387: Filtering as a source of low-income housing in Australia: conceptualisation and testing

What this research is about

This research provides insight into the housing market concept of filtering, and its contribution to the supply of affordable housing for low-income households in Australia. It examines conceptualisations of filtering as a source of housing for low-income households, tests for the presence of filtering dynamics in Australian housing markets and considers policy options for enhancing (if so desired) filtering as a policy tool.

The context of this research

Filtering is a market-based process whereby the supply of new, higher quality dwellings for higher- and middle-income households may also lead to additional supply of dwellings for lower-income households. In theory, as properties age and their perceived quality drops, they over time move down through successively lower housing market segments, stratified by price, becoming a supply of 'naturally occurring affordable housing'. By implication, new housing supply can, in principle, target housing at any part of the income distribution and still result in additional housing for groups lower down the income distribution.

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The key findings

Filtering assumptions

Filtering as a source of affordable low-income housing rests on multiple enabling assumptions. First, that housing assets become increasingly obsolete as they age. Obsolescence can be due to physical depreciation (absolute obsolescence), or economic obsolescence (relative obsolescence driven by technology, design or architectural changes) and locational obsolescence. Second, that new properties must provide a superior level of housing services (quality). Third, that demand for new properties is income elastic. Fourth, and crucially, that the rate of net new dwelling construction exceeds the rate of household formation (new demand).

A critical assumption is that a chain of substitution exists that, in theory, encompasses the entire housing market of a city. However, housing is an immobile, durable and heterogeneous commodity. The issue of where a property is located may matter as much as (or more than) the condition a property is in. In housing market literature, the location of properties and the characteristics of properties has given rise to sub-market analysis. In practice, the housing markets of our cities consist of a system of interconnected housing sub-markets, defined by both geographic and dwelling characteristics.

Price and occupancy impacts on filtering

The literature review finds:

1. For new construction to generate an appreciable price and affordability impact, new supply needs to exceed demand. For instance, the replacement of one obsolescent property for a new property does not generate an increase in supply.
2. Sub-market specific new supply is more likely to generate a filtering effect when substitutability between different sub-markets (quality and location) is greater. With respect to both dwelling type and location, the filtering potential of new supply is critically conditioned by the substitutability. The greater the dissimilarity between sub-markets, the less the effects of new supply in one sub-market are likely to be felt in other sub-markets. Housing supply at the higher end of the price spectrum is thus less likely to generate meaningful affordability impacts at the lower end.
3. Even where filtering does work, it may not result in an increase in the supply for housing that is affordable for low-income households. Conversion and removal of obsolete housing may result in the overall stock of low-cost housing remaining unchanged. The process may nevertheless yield welfare enhancing outcomes if low-income households obtain access to superior quality housing as a result.
4. Unless new construction leads to a persistent oversupply of dwellings in low-income housing sub-markets, the cost of housing (affordability) may not improve.
5. The drivers of obsolescence do not necessarily work in the same direction. For instance, specific locations may become more desirable at the same time as the properties in those locations style-wise become less desirable. Consequently, the relationship between the age of dwellings (a frequently used proxy for quality and obsolescence in the literature) and filtering dynamics is complex.
6. Filtering dynamics can be traced in neighbourhood dynamics.
7. Turnover of residents is higher in rental properties than in owner-occupied properties. The speed with which filtering dynamics are felt across interconnected sub-markets are thus likely very different.
8. While new construction in many cases will generate within and across sub-market effects (such as through migration ripple effects), the affordability impact in lower income housing markets may be negligible (or even worsen).

Melbourne filtering

In the Melbourne analysis, typically the share of newer properties—those constructed in the last 30 years—rises with distance from the CBD. Older properties are located closer to the CBD, and then beyond some 40 kilometres from the CBD.

Over the past 20 years or so (1996–2016), there has been a degree of stability in relative income levels across metropolitan Melbourne. Twenty years, however, is a relatively short period of time for the housing market. Over a longer period (since the 1970s), the social geography of Melbourne has changed more substantially. Overall, the relationship between change in neighbourhood relative income levels and the age profile of the housing stock at first declines and then rises again. In other words, areas with the newest and oldest housing tend to improve their income level relative to other areas (a u-shaped relationship). This is consistent with filtering.

However, when examining the role of dwelling age on the change in relative income at the neighbourhood level, the analysis suggests that the impact of dwelling age is not independent of the socio-economic characteristics of occupants. That is, in neighbourhoods with higher levels of education or owner-occupiers, a concentration of older dwellings (pre-WWII) did not typically result in the neighbourhood filtering down market. A potential explanation for this persistence in the occupancy characteristics of higher (and lower) income areas are social interactions between residents in these areas. Social interactions refers to the relationships and behaviours between people. These can condition the demand for specific locations when behaviour and interaction give rise to externalities, such as social capital (positive) or costs.

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The Melbourne evidence suggests that areas with older housing stock start off with higher relative income and increase their relative income more than areas with newer housing stock. Rather than filtering down over the period 2006–16, areas with greater proportion of older housing stock are filtering up.

This conclusion should be viewed in light of wider spatial labour and economic realignments in Melbourne over the past 30 years, as also reflected in the negative relationship between age and relative income change across the post-war housing stock. In the post-war period, Australia experienced a significant increase in migration, and post-1970s the origins of migrants became much more diverse. New housing construction in this period radiated out from Melbourne, filling out a band located 20 to 60 kilometres from the CBD with lower density housing. There was also housing that was well located in relation to manufacturing and industrial employment.

With economic restructuring, and the emphasis on growth in the knowledge and service economy, the relative attractiveness of these areas as residential locations has declined relative to older inner city locations, reversing the doughnut characteristics of Melbourne. This reversal of residential attractiveness is, in practice, consistent with filtering type dynamics (such as locational obsolescence and housing demand). Notably, however, a key determinant of this process is change to the economic geography—the spatial re-alignment of job and labour markets during the 1990s. This suggests that, rather than the physical processes associated with filtering being the key determinants of relative income status and affordability of local property markets, processes of physical depreciation and filtering are (co-) determined by socio-economic, labour market and institutional changes.

The effect of dwelling age on property prices is thus highly contingent on locational as well as institutional context. For instance, properties within heritage zoning overlays typically trade at an additional 7.7 per cent premium. Dwelling prices decline with distance from the CBD. Consequently, properties of the same age and physical quality trade at very different prices in inner and outer locations.

The evidence is that lower-income households, over time, are not likely to occupy the properties formerly inhabited by higher-income households. Moreover, there is some evidence that housing age-related and socio-economic determinants of change are co-dependent, thus again weakening the evidence for filtering as a source of low-income housing. Notably, the results do not imply that new housing construction is not also desirable (and so a source of neighbourhood change), but rather that the dynamic process upon which filtering rests is spatially and socially complex and so becomes 'interrupted' as a source of low-income housing.

In addition, the affordable housing gains from property-age related filtering (in areas with housing built 1966–95) potentially is lost through demolition, redevelopment and neighbourhood change dynamics. In this interpretation filtering becomes a mechanism for socio-spatial sorting ('polarisation'), rather than a supply of affordable housing for low-income households.

Sydney filtering: price characteristics in private rental housing

Analysis of Sydney markets shows that private rental properties move down market over time when measured by rent received for a specific property relative to market medians. However, rent increases remain above increases in income, largely offsetting the effect of the affordability of individual properties due to price depreciation. As such, very little low-cost, or 'naturally affordable' private rental housing is generated through the process.

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There is a high degree of variability, and evident complexity, in rent depreciation. When observing rents over time for private rental market houses and flats, the evidence is indicative of somewhat different age and price dynamics. Rental houses exhibit a u-shaped relationship (i.e. rents start high and fall over time before they start to rise again). Flats, on the other hand, exhibit a largely steady degree of price depreciation over time. Notwithstanding this price depreciation, actual rent increases for one-bedroom flats are still greater than the corresponding rise in the affordable rent. For instance, in 1997 the actual rent for a one-bedroom was approximately 1.65 times the affordable rent. By 2019, the one-bedroom rent, adjusted for a 13 per cent depreciation, had increased to 1.86 times the affordable rent. In other words, affordability for low-income households continued to worsen, even though the nominal rents of older properties did not increase at the same rate as the median rent.

An explanation for these differences might relate to both market segment and locations. Houses that have been rented for over 20 years are necessarily in neighbourhoods that are established, with stable communities, mature trees and more, all of which are valued by prospective tenants. Flats that have been rented for more than 20 years, on the other hand, pre-date the apartment design requirements that have been in place in Sydney since the early 2000s. This suggests that older stock will have lower levels of amenity, but not likely to have a significantly different geography to more recent additions to the rental market (as apartments are largely constrained to inner cities across all periods).

There is a potential 'survivor bias' present in this data. Houses, in particular, that were rented more than 20 years ago, and which would have seen more significant depreciation in their rent, are more likely to leave the rental market. This might take the form of a sale to an owner-occupiers (followed by refurbishment) or sale to redevelopment if the property value is increasingly comprised of the underlying land value (e.g. conversion or removal). For flats, the latter is less likely, perhaps explaining why depreciation in rents is 'tolerated' by landlords. As noted, though, while these effects can be seen as 'skewing' this metric of depreciation, it presents a real-market picture of filtering, which is more complex than is captured in the stylised concept.

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There are two important considerations with respect to price depreciation as a supply of low-income housing. First, those in the highest rental segment have not, overall, filtered at all. This reflects the fact that some dwellings in the highest range have positive filtering metrics; against the general trend, they have filtered up market from lower price segments to reach their current segment. Second, the volumes at the lowest rental segments (below 40% median) are vanishingly small. In other words, dwellings may well filter down the market over time, but there is a high level of attrition, with most dwellings' trajectories down the rental market disrupted (by being demolished or refurbished) before they reach an affordable price for those on low incomes.

What this research means for policy makers

The current housing market dynamics in Melbourne and Sydney (and other Australian cities) are incompatible with filtering as a reliable source of additional affordable housing for low-income households. For housing market filtering to play a significant role in the provision of affordable housing for low-income households, new supply is needed, in volume and in submarkets that better align with demand signals.

Policy options to better enable filtering to generate a supply of affordable housing for low-income households are may thus be impractical and politically controversial. Dedicated social and affordable housing products will therefore likely remain necessary to ensure a supply of housing for low-income households, particularly in Melbourne and Sydney. Such social and affordable housing supply can also serve to provide housing options to low-income households in areas close to labour markets or other amenities.

Governments could instigate policy options for more specific use of price signals in strategic planning and zoning designations to enhance the role of filtering. By guiding where and what type of housing is provided, such signals can improve both the supply and responsiveness of the housing market, thereby reducing (other things similar) the rate of house and rental price appreciation in general. Government-led land assembly can counter current private land-banking practices and protracted land assembly process to enable a more predictable supply of developable land across sub-markets.

Methodology

This research reviewed the literature and theoretical underpinnings of filtering, and analysed filtering dynamics in the Melbourne and Sydney housing markets.

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