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THE GROWING INTERGENERATIONAL HOUSING WEALTH DIVIDE: DRIVERS AND INTERACTIONS IN AUSTRALIA

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Abstract: This paper unpacks the drivers of growing intergenerational housing wealth inequality. We also account for the multidimensional nature of housing wealth divides by examining the interaction between age and other divides. We find that the Australian intergenerational housing wealth gap widened from 161% in 1997-98 to 234% in 2017-18, favouring the older cohort. This was driven by lower rates of homeownership and lower property value growth among younger cohorts, with the relative lack of homeownership access the more significant driver. However, higher rates of couple formation and tertiary education amongst the young mitigated a further widening of the gap. The intergenerational housing wealth gap is exacerbated within specific population subgroups. The growing housing wealth gap between the income-poor young and income-rich old has been particularly alarming, climbing from 532% to 1230% over two decades. We discuss implications for policies seeking to alleviate intergenerational tensions in housing markets.

Keywords: housing, wealth, inequality, intergenerational, homeownership

Introduction

Amid a context of financial liberalisation and rising homeownership rates, the literature on housing wealth largely saw real estate as widespread and redistributive in nature (Arundel 2017; Causa, Woloszko, and Leite 2019; Smith et al. 2022). However, in recent decades, major urban areas have exhibited growing inequality of wealth based predominately on housing assets. In most Western countries, wealth portfolios are dominated by housing wealth (Piketty and Zucman 2014; Saez and Zucman 2016; Pfeffer and Waitkus 2021). Indeed, Fernandez and Aalbers (2017, p152) notes that "the present-day value of real estate in relation to the overall stock of capital and of income is truly without historical precedent".

At the same time, homeownership rates have trended down (Lennartz, Arundel, and Ronald 2016; Smith et al. 2022). Smith et al. (2022) observed an overall decline in owner-occupation rates from 69% to 64% in Australia and 67% to 59% in the United States (US) from 2001 to 2017. In the

United Kingdom (UK), the share of homeowning population fell from a peak of three-quarters in 2007 to two-thirds by 2017. An unprecedented appreciation in real house prices since the 1980s has seen the wealth of those who own residential property diverge dramatically from the wealth of those who do not (Maclennan and Miao 2017; Christophers 2021; Adkins, Cooper, and Konings 2022). This has led to a renewed focus in the literature on the importance of housing wealth to inequality, and the drivers behind the growing housing wealth divide.

In his examination of the special position of housing wealth in inequality, Arundel (2017) categorises the contemporary drivers of recent wealth inequality into three categories – labour market drivers, housing market drivers, and state drivers, which are supported by other studies. First, labour market transformations have increased polarization and employment insecurity, undermining the widespread economic capacity needed for homeownership and equity accumulation (Lersch and Dewilde 2015; Arundel and Doling 2017). Second, within the housing market, rising house prices, volatility, and financialization have both exposed homeowners to increased risk as well as divided homeownership access and concentrated wealth (Kennett, Forrest, and Marsh 2013; Fernandez, Hofman, and Aalbers 2016; Aalbers 2017). Lastly, in a similar vein to the arguments of Christophers (2021), state policy approaches have tended to reduce support for economically vulnerable populations while favouring the interests of property owners at the expense of renters' interests. Taken together, these drivers result in widening housing wealth inequality through a processes of declining homeownership access, rising values for property owners and a concentration of stock amongst landlords and rentiers.

Evidence for the importance of homeownership access and the distribution of property values to wealth inequality can be observed in the literature that compares wealth inequality across countries. Ownership rates are found to be a key determinant of variations between countries. Among a selection of Central and Eastern European countries, Brzezinski and Sałach (2021) find that differences in homeownership rates accounted for up to 42% of differences in cross-national wealth inequality. Using data on 15 European and Anglo countries, Pfeffer and Waitkus (2021) find

a negative association between homeownership rates and wealth inequality. Additionally, this study highlights the importance of rising residential property values. The authors also affirm that cross-national differences in wealth inequality largely reflect the distribution of residential property values, beyond just ownership rates. Similarly, Fuller, Johnston, and Regan's (2020) analysis of Western Europe finds financial returns to capital, mostly from housing assets, to be essential to the dynamics of wealth accumulation and inequality within countries, beyond differences in ownership rates.

While housing wealth inequality is in a general sense a divide between the affluent and less affluent, the literature has also identified divides in wealth between key socio-demographic groups within societies. One notable and growing divide has been the housing wealth chasm between the old and the young. Successive waves of house price appreciation since the 1970s have strengthened the role of the family home as the cornerstone of the owner-occupier's wellbeing in old age. Soaring house prices have pushed the prospect of ownership out of the reach of growing numbers of younger renters. Growing masses dubbed 'generation rent' are now confronting a future with little prospect of owning a home (McKee 2012; Byrne 2020). The housing wealth chasm separating older and younger generations is escalating into a generational challenge that has frayed the social fabric of many countries (Rayner 2016; Wildman et al. 2022) as governments struggle to meet the needs of co-existing generations in an era of fiscal austerity.

The greater housing adversity faced by younger cohorts is supported by literature on generational divergences in homeownership rates and access (McKee 2012; Clark 2019; Flynn 2020; Arundel and Ronald 2021). In the Smith et al. (2022) analysis of homeownership rates in the UK, Australia and USA, rates of decline were highest amongst the youngest 25-34 aged cohort. Arundel (2017) notes that younger cohorts are facing the most consequences from changing socio-economic contexts; older generations have particularly benefitted from the drivers of housing wealth inequality, such as labour market conditions and greater housing affordability in earlier periods. Using data on the wealth of British households over a six-year period centred on the GFC,

Arundel (2017) provides empirical evidence that decreasing equity is especially pronounced amongst younger cohorts.

Against this backdrop, this paper presents an empirical investigation into the drivers of intergenerational housing wealth inequality in Australia over the period 1997-98 and 2017-18. Australia represents an appropriate case study of wide international relevance. Like the USA and UK, Australia represents a liberal welfare regime and typical market-based 'homeownership society', where high ownership rates backed by mortgage debt are a key feature (Arundel and Ronald 2021; Ong ViforJ et al. 2021; Ong, Wood, and Cigdem 2022) and state pension replacement rates are low by international standards (Haffner, Ong, and Wood 2015; OECD 2021). In these countries, wealth stored in the home plays a critical role for supporting financial wellbeing in old age and housing asset-based welfare systems are increasingly replacing traditional public welfare systems (Doling and Horsewood 2011; Delfani, De Deken, and Dewilde 2014). Furthermore, Wind, Lersch, and Dewilde (2017) show that the expansion of homeownership through market mechanisms is linked to a more unequal distribution of housing wealth across occupational classes than state or family-driven homeownership expansion. Thus, unpacking the ways in which intergenerational housing wealth inequality has evolved in Australia might shed light on inequality dynamics in other market-based homeownership societies. The paper makes two other distinct contributions to the literature.

First, while existing statistical measures leave little doubt that the young are lagging behind the old in terms of their housing wealth holdings, aggregate inequality measures do not deliver a meaningful understanding of the relative importance of potential drivers of housing wealth inequality. We apply a decomposition technique to unpack the key drivers of intergenerational housing wealth inequality, focusing on drivers that have been highlighted in the housing literature, including declining homeownership access among some cohorts, rising values for property owners, and factors that influence the household economic capacity needed for wealth accumulation.

Second, housing wealth divides do not exist by age alone. Arundel and Hochstenbach (2020) revealed patterns of increasing spatial polarization in house values in the Netherlands, with capital gains increasingly concentrating in certain major cities. Wind and Hedman's (2018) analysis of Swedish housing pathways showed that upswings in levels of socio-spatial inequality is reflected in an uneven distribution of house price capital gains. Wang et al. (2020) found housing wealth inequalities to be greater in rural areas of China. A large US literature on racial and ethnic inequality emphasises the disparity in housing wealth between white Americans versus black and Hispanic Americans (Flippen 2001; Martinez 2021; Kuhn, Schularick, and Steins 2020). Austen et al. (2015) found a widening wealth gap between single male and female households, which was associated with the rising value of the primary homes of single men over the study period. Dewilde and Flynn (2021) show that housing wealth is more concentrated among higher-income households within younger cohorts, suggesting an interaction between intergenerational inequality and one's position in the income distribution. Yet, little work has been done on the interaction between the intergenerational divide in housing wealth and other forms of housing wealth divides. This is a gap we seek to address by examining interactions between the intergenerational housing wealth divide and divides across income, geography, gender, and ethnicity.

Data and sample

The empirical investigation draws on data from the Australian Bureau of Statistics (ABS) Surveys of Income and Housing (SIH), which provide long-run repeated cross-section data on housing wealth and debt. The data also include questions on socio-demographic characteristics, income, labour market history and location. Of particular relevance are variables that allow us to calculate the equity of an individual's or couple's primary home, which is the net of primary home assets and primary home debts.ⁱ The value of home assets is the estimated sale price of the respondent's dwelling and land, as reported by the respondent. The value of self-reported home debts is the value of all mortgage debt, excluding mortgages not for the purpose of purchasing or improving the person's primary home.ⁱⁱ Importantly, the survey provides housing tenure data on an income unit basis, in addition to a household basis. Income units are more suited to the analysis of income and wealth, as unlike household measures, a distinction is made between members of households that systematically pool their incomes and wealth and those that are separate. In the context of housing tenure, this means if a respondent is a non-dependent young adult living together with the respondent's parents in a dwelling that is owned by the parents, this young adult is classified as living rent-free or paying board, even though the dwelling is owned. In household data, the young adult would be classified as an owner (being in an owner-occupied household), which would erroneously assign ownership status to the young adult.

Our interest in intergenerational housing wealth gaps drives the choice of survey year and sample selection. The ABS defines each generation as a 20-year age group comprising people who have lived through similar world events and life experiences. Baby boomers in Australia were born between 1946 and 1966 during the economic boom after World War II. They have witnessed high rates of marriage, fertility and immigration, as well as rising female participation in tertiary education and the labour market. Generation X's and Y's comprise people born between 1966 and 1986. They have experienced increased rates of marital dissolution among their parents and are even more highly educated than the Boomers (ABS 2015).

Initially, we draw on the SIH from 2017-18. In this survey, we are able to identify respondents aged 50-59 years as Baby Boomers (born 1958-1967) and those aged 30-39 years as Gen X's (born 1978-1987). For income units composed of couples, we use the age of the older partner to represent the age range of the income unit. Because we are interested in the change in the intergenerational housing wealth gap over time, we then select a SIH that is 20 years earlier than 2017-18, which is the 1997-1998 SIH, to achieve a long-run comparison. The comparison period begins around the start of the housing market boom of the late 1990s, which has been sustained throughout the early decades of the current millennium in Australia. The 1997-98 and 2017-18 SIHs

are directly comparable, and further details on their comparability are set out in section S2 of the supplemental online material.

The survey sample is nationally representative, and the presence of population weight variables allow the survey estimates to be scaled up to a population basis. All calculations in this study therefore include these population weightings. All dollar values are inflated to real 2021 values using the Consumer Price Index of the observed income unit's nearest capital city. To control for outliers, we winsorize the assets and then debts of the bottom and top 1% of owning persons by replacing the bottom and top 1% of values with those of the 1st and 99th percentile values, respectively.

The growing intergenerational housing wealth gap

The intergenerational housing wealth gap (IHWG), as measured at mean values, is the difference in the mean primary home net worth (PHW) of Boomers and Gen X's, expressed as follows:

$$IHWG^t = (H_o^t - H_v^t) / H_v^t \tag{1}$$

where *IHWG* is the intergenerational housing wealth gap at time t, H_o is the mean PHW of the older group of 50-59-year-olds and H_y is the mean PHW of the younger group of 30-39-year-olds. PHW is in turn calculated as the primary home asset value less primary home debt. As shown in the equation, the gap is expressed as a percentage of the mean PHW of the 30-39-year-olds. The use of a percentage gap measure facilitates comparison of the wealth gaps across different groups and time periods.

Table 1 reveals a substantial IHWG that has grown over time. In 2017-18 the average PHW of all 50-59-year-olds was AU\$327,000 greater than all 30-39-year-olds, representing a wealth gap of 234%. This disparity in PHW increased between 1997-98 and 2017-18, with the intergenerational difference more than doubling from \$158,000 in 1997-98 to \$327,000 in 2017-18. In percentage terms, the IHWG widened from 161% in 1997-98 to 234% in 2017-18. The IHWG can also be expressed as a ratio of the PHW of the older cohort to the PHW of the younger cohort;

the IHWG grew from 2.61 times the PHW of the younger to cohort in 1997-98 to 3.33 times in 2017-18.

However, this gap includes both homeowning and non-owning Australians, and will reflect changes in both the homeownership rates of each age group, as well as the differential growth rates in the values of primary home equity of owners within each age group over time.

As shown in Table 1, the homeownership rates of both age groups fell between 1997-98 and 2017-18. However, the decline in homeownership rate is much steeper among the younger group than the older group. The former's homeownership rate fell from 52.2% to 40.5% between 1997-98 and 2017-18, representing an annual rate of decline of 1.3%. The latter's decline in homeownership rate from 80.1% to 69.1% is equivalent to a rate of decline of 0.7%. Expressed as a ratio, the homeownership gap grew from 1.53 to 1.71.

Furthermore, the home values of 50-59-year-old owners have increased at a slightly faster rate than the home values of 30-39-year-old owners, opening up the gap in home asset values from 16% to 22%. Older owners have lower home debt values than younger owners, hence the negative intergenerational gap estimates for home debt. However, as shown in the table, this gap has narrowed, suggesting that the older group's home debt has also increased at a faster rate than the young age group's home debt. Overall, however, the IHWG among owners has still widened, from 70% in 1997-98 to 96% in 2017-18.

The combination of the two trends – widening gaps in access to homeownership and widening gaps in PHW amongst owners – has led to a rise in overall intergenerational housing wealth inequality for the whole population.

[Table 1 here]

A concern that could be levied against our measurement of the IHWG is that our two periods of comparison may be observed at conflicting stages of the property market cycle. One may expect that housing wealth inequality will be different during housing price booms and busts – during periods of rapid price growth housing wealth accumulates to existing owners, who are likely to be amongst older cohorts. However, this logic is complicated by differential price growth between lower-priced and higher-priced neighbourhoods. Australian (Phelps et al. 2021) and USbased (Guerrieri, Hartley, and Hurst 2013) literature have found lower-priced neighbourhoods, where younger cohorts are likely to reside, increase in price faster than higher-priced neighbourhoods during dwelling price booms.

Our analysis years of 1997-98 and 2017-18 are mid-points within decades that have experienced similarly strong house price growth. (Lawless 2022) find that during the decades spanning 1992-2002 and 2012-2022, home values rose by 77% and 72% respectively. Figure 1 shows the IHWG in real absolute terms for 1997-98 and 2017-18, as well as various additional releases of the SIH for which it is possible to calculate IHWGs. The figure illustrates that despite a small decline in the IHWG immediately bookending the disruption of the GFC, the IHWG has consistently trended upwards over time. Though we acknowledge property cycles may cause an over- or under-estimation of the IHWG between comparison periods, it is clear that the gap has grown substantially over the study timeframe.

[Figure 1 here]

Decomposing the intergenerational housing wealth gap

It is obvious that changes in the IHWG could have a number of sources including differential changes in the rate of homeownership access across age groups, differential growth rates in the value of the primary home asset and differential growth rates in the value of the primary home debt. However, this intergenerational gap could also be driven by differential changes in socio-demographic characteristics across age groups over time. Certain socio-demographic characteristics e.g. educational qualifications and labour force status can directly affect a prospective homebuyer's

purchasing capacity. If these characteristics have evolved differently between older and younger groups, they will contribute to overall changes in the IHWG over time.

We uncover the extent to which intergenerational housing wealth inequality has widened between 1997-98 and 2017-18 as a result of each of the above drivers through a series of decomposition exercises adapted from Austen et al.'s (2015) decomposition of the gender wealth gap.

The role of differential growth rates in homeownership access and value of the primary home asset and debt

We can express the actual IHWG between 50-59 and 30-39-year-olds in 2017 as:

$$IHWG^{17} = s_{o,h}^{17} H_{o,h}^{17} - s_{y,h}^{17} H_{y,h}^{17}$$
(2)

Where $s_{o,h}^{17}$ is the share of homeowners in the older group, $s_{y,h}^{17}$ is the share of homeowners in the younger group, $H_{o,h}^{17}$ is the mean PHW of homeowners in the older group, and $H_{y,h}^{17}$ is the mean PHW of homeowners in the younger group.

Following this, we estimate a 'synthetic' intergenerational housing wealth gap $IHWG^{17*}$ via a counterfactual: that rates of homeownership within each age cohort remained unchanged at 1997-98 levels. In 1997-98, the homeownership rates of the 30-39-year-olds and 50-59-year-olds were 52.2% and 80.1% respectively. So, we pose the question "what would the IHWG in 2017-18 have been if these homeownership rates remained constant over time?" The counterfactual exercise is expressed as:

$$IHWG^{17*} = s_{o,h}^{97} H_{o,h}^{17} - s_{y,h}^{97} H_{y,h}^{17}$$
(3)

where $s_{o,h}^{97}$ is the homeownership rate of the older group in 1997-98 and $s_{y,h}^{97}$ is the homeownership rate of the younger group in 1997-98.

A similar approach yields synthetic estimates of the 2017-18 wealth gap that remove the influence of differential growth rates in primary home assets or debts between 50-59-year-olds and 30-39-year-olds as given by:

$$IHWG^{17*} = s_{o,h}^{17}H_{o,h}^{17*} - s_{y,ho}^{17}H_{y,h}^{17}$$
(4)

where $H_{o,h}^{17*}$ is derived by replacing $H_{o,h}^{17}$ by the value of the primary home asset (or debt) of 50-59year-olds that would have occurred if the growth of these values between 1997-98 and 2017-18 were the same as the rate of growth for the 30-39-year-olds.

Table 2 sheds light on some important features of the change in the IHWG. Most importantly, the table shows that the increase in the IHWG from 161% to 234% was driven by both the relatively smaller decline homeownership growth rate of the older group compared to the younger group, as well as the relatively high rate of growth in average primary home asset values of the older group compared to the younger group. However, the impact of the former appears to be greater.

Table 2 shows that, if homeownership rates for older and younger owners had remained constant at 1997-98 levels, the wealth gap in 2017-18 would have reached 200% (in comparison with its actual level of 234%). Thus, under the synthetic scenario, the IHWG would have been 34 percentage points lower than the actual gap.

Between 1997-98 and 2017-18, the average value of primary home assets of owners aged 50-59 years climbed by 140%, compared to a lower 129% for owners aged 30-39 years. So, if primary home assets had grown in value at the same rate among older owners as it did among younger owners, the IHWG in 2017-18 would have reached 215%, 18 percentage points lower than the actual gap of 234%.

However, it is clear that holding homeownership rates constant leads to a lower synthetic IHWG than holding primary home asset values constant. Thus, the widening gap in ownership rates have played a greater role in widening the intergenerational housing wealth gap than the different rate of growth of home asset values.

[Table 2 here]

The role of differential change in socio-demographic characteristics

The second part of our decomposition analysis examines whether observed changes in the IHWG are affected by changes in the distribution of socio-demographic characteristics across the older and younger groups. This step in our analysis is important because, if changes in the distribution of socio-demographic characteristics had a large impact on the wealth gap during the study period, the importance of differential rates of growth in access to and the value of the primary home held by older and younger groups will fall.

Table 3 shows that the socio-demographic profile of older and younger groups have evolved differently between 1997-98 and 2017-18, based on some key characteristics – relationship type, migrant status, employment status and educational qualification. Each of these characteristics are likely to influence home purchase prospects through their influence on the opportunity to accumulate wealth. Specifically, being in a couple relationship favours wealth accumulation over being single due to the economies of specialization that comes along with being in a couple relationship (Lersch 2017). Studies have also shown that females' wealth accumulation opportunities can be more restricted than men's (Austen, Jefferson, and Ong 2014). This could be attributable to multiple factors such as career breaks during child-bearing years, greater informal care responsibilities than men, and structural inequities that impose 'ceilings' on women's career advancement. Natives tend to have an economic advantage over migrants as the latter may face higher credit barriers, lack of collateral and lower wages (Sinning 2010). Employment and higher educational qualifications are linked to greater investing capacity and therefore more wealth accumulation (Heo, Grable, and O'Neill 2017; Gornick and Sierminska 2021).

These key characteristics have evolved somewhat differently among older and younger groups (see Table 3). Two changes favour older groups' housing wealth accumulation opportunities more than younger groups. First, employment rates have risen among both younger and older groups, but slightly more so among older groups (a 6-percentage point increase compared to 4 percentage points among age groups). Second, the share of fully migrant income units has increased markedly among the young by 13 percentage points, but fallen slightly among the older group by less than 1 percentage points.

On the other hand, two other changes are likely to have favoured younger groups' wealth accumulation opportunities relative to older groups. The share of couples among 30-39-year-olds has increased by around 4 percentage points between 1997-98 and 2017-18, but fallen by 8 percentage points among 50-59-year-olds. Both younger and older groups have become more highly educated, but the share of the tertiary qualified has risen much more among younger groups (29 percentage points) than older ones (17 percentage points).

[Table 3 here]

Given these contrasting effects, we explore the impact on the IHWG of changes in relationship shares by asking "what would the IHWG in 2017-18 have been if the population shares of each relationship group had remained unchanged since 1997?". Similarly, the impact on the IHWG of changes in the distribution of migrant status is estimated by asking the question "what would the IHWG in 2017-18 have been if the population shares of the Australian-born and migrants had remained unchanged since 1997?" The same questions can be posed separately with respect to employment status and educational qualification.

When testing the first hypothesis with respect to the influence of relationship status, we begin by measuring the actual IHWG between 50-59 and 30-39-year-olds in 2017 as:

$$IHWG^{17} = \left(s_{o,c}^{17}H_{o,c}^{17} + s_{o,sm}^{17}H_{o,sm}^{17} + s_{o,sf}^{17}H_{o,sf}^{17}\right) - \left(s_{y,c}^{17}H_{y,c}^{17} + s_{y,sm}^{17}H_{y,sm}^{17} + s_{y,sf}^{17}H_{y,sf}^{17}\right)$$
(5)

where *c*, *sm* and *sf* refer to couples, single males, and single females respectively. For example, $s_{y,c}^{17}$ is the share of the younger group who are in a couple relationship in 2017-18 and $H_{y,c}^{17}$ is the mean PHW of the younger group in couple relationships.

A synthetic IHWG for 2017-18, which removes the influence of changes in relationship status since 1997, is achieved by replacing the values for each of the *s* terms in the above equation with 1997-98 values:

$$IHWG^{17*} = \left(s_{o,c}^{97}H_{o,c}^{17} + s_{o,sm}^{97}H_{o,sm}^{17} + s_{o,sf}^{97}H_{o,sf}^{17}\right) - \left(s_{y,c}^{97}H_{y,c}^{17} + s_{y,sm}^{97}H_{y,sm}^{17} + s_{y,sf}^{97}H_{y,sf}^{17}\right)(6)$$

A similar approach is used to examine the effects of changes in the representation of migrant status, employment status and educational qualification in older and younger groups. The results of these exercises are summarized in Table 4.

The decomposition can be interpreted as follows. If a particular characteristic that favours achieving homeownership has actually grown slower (faster) among younger people than older people, then holding the shares of the characteristics constant at 1997-98 shares would result in the synthetic IHWG being smaller (larger) than the actual IHWG. Recall from Table 3 that the change in distribution of migrant status and employment status is likely to have favoured older persons' accumulation of housing wealth, while the change in distribution of relationship status and education is likely to have favoured younger persons' accumulation of housing wealth.

Table 4 displays the key results. First, as expected, the synthetic IHWG is smaller than the actual gap when the distribution of migrant and employment status are held constant at 1997-98 shares. As demonstrated previously, the changes in the population shares by migrant and employment status are likely to have favoured older people's housing wealth accumulation more than younger people, so it is not surprising that the synthetic gap is smaller than the actual gap under a scenario where these population shares are not permitted to change. It is equally unsurprising, therefore, that the synthetic gap is larger than the actual gap if relationship status and education are held constant at 1997-98 shares. The evolution in the distribution of these

characteristics over time have favoured younger people's housing wealth accumulation so the gap would be larger if the distribution of these characteristics were not permitted to change.

Second, when characteristics that favour older people's housing wealth accumulation – migrant and employment status – are held constant at 1997-98 shares, the actual IHWG only exceeds the synthetic gap by around 2 percentage points. Hence, changes in the shares of migrants and employment types had a negligible impact on the overall IHWG between 1997-98 and 2007-008. On the other hand, when characteristics that favour younger people's housing wealth accumulation – relationship status and education – are held constant at 1997-98 shares, the synthetic gap exceeds the actual gap by a substantial 33 and 51 percentage points respectively. This implies that the higher growth in the shares of couples and tertiary qualified among young people relative to older people have substantially improved the former's housing wealth accumulation capacity relative to the latter, holding other factors constant over time.

[Table 4 here]

We apply a standard regression approach as a robustness check for our decomposition analysis on the importance of differential change in socio-demographic characteristics. These are reported in section S3 of the supplemental online material. The patterns derived from the regression approach align with the patterns from the decomposition technique reported here.

The interactions between intergenerational and other housing wealth gaps

The literature highlights the fact that wealth inequality exists not just across the age divide, but also across other spectrums, in particular income, geography, gender, and ethnicity divides. Thus, it is entirely possible that while a housing wealth gap exists between the young and old, this may interact with housing wealth inequality across the income distribution, by geographical areas, gender, or ethnicity.

In this section, we analyse how the IHWG might interact with housing wealth gaps across other divides. Our investigation of the interaction between age and gender is restricted to a sample of single income units because the data does not permit us to confidently determine the intraincome unit division of PHW between a male and female partner. We use Australian-born versus migrant status as rough proxies for ethnicity due to the absence of specific information on ethnicity in the SIH.

As shown in Table 5, it is not just the IHWG that has increased over time. We rank income units in each year from the lowest to the highest real equivalized total income, and define those in the lowest income tertile as income-poor while those in the highest income tertile are defined as income-rich. The housing wealth gap between the income-poor and income-rich has doubled from 94% to 191%, showing that the average PHW of the income-poor has lagged further and further behind that of the income-rich. Similarly, the housing wealth gap between city and regional areas has doubled from 46% to 93%, indicating that average housing wealth in regional areas has lagged further behind average housing wealth in cities. This echoes the growing spatial polarization of housing wealth documented in recent international literature (Arundel and Hochstenbach 2020; Wind and Hedman 2018). On calculating this regional to city housing wealth gap for homeowners only, we find a strikingly similar gap and growth from 43.9% to 98.7%. This suggest it is the concentration of capital gains in capital cities, and not relative levels of homeownership, that have contributed to the growing spatial polarisation of housing wealth in Australia.

As documented in Table 3, single women have higher PHW than single men. Thus, as shown in Table 5, the housing wealth gap between single men and single women was 72% in 1997-98, favouring single women. However, this gap has reduced over time down to 40% in 2017-18. Finally, back in 1997-98, migrants have slightly higher PHW than the Australian-born, resulting in a housing wealth gap of 4% favouring migrants. However, by 2017-18, the Australian-born have overtaken migrants in housing wealth accumulating, resulting in a housing wealth gap of 11% favouring the Australian-born.

Nonetheless, looking at the difference between housing wealth gaps in 1997-98 and 2017-18 across the various divides, it would appear that age is still the greatest housing wealth divide. The

intergenerational housing wealth gap is by far much higher than the housing wealth gap across any other divides in both 1997-98 and 2017-18.

However, other even greater divides emerge when we combine or interact age with other characteristics. The greatest housing wealth divides emerge between people who are both young and income-poor and people who are both older and income-rich. In 1997-98, the housing wealth gap between these two groups was a massive 532% favouring older income-rich income units, and by 2017-18 this had more than doubled to an even more alarming 1230%. The housing wealth gaps between young people in regional areas and older people in cities are also large and have more than doubled from 263% in 1997-98 to 626% in 2017-18. The narrowing of the gender housing wealth gap between single men and women has been more than offset by the widening housing wealth gap by age between 1997-98 and 2017-18, so that the housing wealth gap between younger men and older women has widened from 277% to 458%. Similarly, while the housing wealth gap favoured migrants in 1997-98, when intersected with age the housing wealth gap favours older Australianborn income units in both 1997-98 and 2017-18.

[Table 5 here]

Discussion and Conclusion

In this paper, we document the growing intergenerational housing wealth gap (IHWG) in Australia. The housing wealth gap between those aged 30-39 and 50-59 years old has widened from 161% in 1997-98 to 234% in 2017-18. We report three sets of key findings.

The increase in the growth in IHWG from 161% to 234% was driven by both the relatively smaller decline in homeownership growth rate of the older group compared to the younger group, as well as the relatively high rate of growth in primary home asset values of the older group relative to the younger group. However, the widening gap in ownership rates have played a greater role in widening the IHWG than the different rate of growth of home asset values.

Nonetheless, the shares of couples and the tertiary qualified have risen more among the young relative to the old over time, enhancing young people's housing wealth accumulation prospects. Indeed, if the population shares of relationship status and education were held constant at 1997-98 levels, the IHWG would exceed the actual gap by 33 and 51 percentage points respectively.

In addition to age, housing wealth gaps exist across a number of divides, including income, geography, gender, and ethnicity. Nevertheless, the housing wealth gap by age is by far greater than the housing wealth gap by other identified divides. The housing wealth gap is also exacerbated when divides across age and income intersect. In 1997-98, the housing wealth gap between people who were both young and income-poor and people who were both older and income-rich was 532% favouring the older income-rich. By 2017-18, this gap had spiked to 1230%.

The findings lend themselves to some important policy implications. First, younger people have clearly lagged further behind older people in terms of rates of entry into homeownership. Some of this may reflect changing investment preferences favouring non-housing assets rather than an affordability issue. However, we find that young non-owners consistently have lower non-property wealth than owners. For those aged 30-39 in 2017-18, the median non-property wealth of homeowning households was 201.4% higher than renting households. Additionally, this is 52.9 percentage points higher than the equivalent calculation in 2005-06.ⁱⁱⁱ These calculations suggest that different investment preferences by non-owners is unlikely to be the key driver of the observed decline in homeownership rates among young people. Furthermore, Stebbing and Spies-Butcher (2016) show that it is the poorest and sole parent households that exhibit the largest declines, suggesting that the fall in ownership rates reflect inability to access ownership rather than a decision reflecting delayed family formation.

Given these trends, policies that assist transitions into first homeownership will remain important, though consideration needs to be given to the upward pressure that generous home purchase assistance grants put on housing prices. The inflationary effect of such grants, especially where they are not tightly means-tested, can further exacerbate a secondary source of the widening IHWG – the faster growth rate of prices of primary homes held by older homeowners relative to younger homeowners. The growing size of a generation of young renters with difficulty accessing homeownership point to an urgent need to address affordability and tenure security concerns in the private rental sector in countries such as Australia and the US, where the private rental market is as lightly regulated and lease lengths are typically short (Easthope 2014; Bate 2021). On the other hand, such issues are less concerning in countries that have more tightly regulated private rental markets, such as Germany, and the Netherlands (Hulse and Milligan 2014).

Second, the differential growth rate in primary home asset values between the old and the young is also important, though less so than the issue of differential access to homeownership. The fact that baby boomers enjoy higher growth in their primary home values provide some policy support for encouraging the use of equity release to unlock housing wealth for consumption among the asset-rich older home-owning population, hence relieving younger taxpayers of the growing fiscal costs of population ageing. Nonetheless, older homeowners encourage multiple barriers to unlocking housing wealth including financial risk for those willing to engage in *in situ* equity borrowing and a lack of suitable accommodation within one's local community for those looking to downsize (Jefferson et al. 2017).

Third, non-housing policies have important influences on the IHWG. Housing wealth accumulation is supported by the economies the greater investing capacity of the tertiary qualified. Policies that enhance access to tertiary qualification are therefore also important.

Finally, intergenerational housing wealth inequality is exacerbated by income inequality. The 2017-18 housing wealth gap between the income-poor young and the income-rich old is more than 1000%. This indicates a need to increase the housing security of income-poor young people given their precarious positions on the housing wealth spectrum.

There are nonetheless some important caveats that deserve attention in future research. The datasets underpinning this study are cross-sectional in nature. While they are useful for providing

'snapshots' of the same age group in different years, they do not tell us whether young renters are

merely delaying entries into homeownership. Few studies have examined whether younger cohorts

eventually catch up to older cohorts' ownership rates. Those that exist tend to agree that the decline

in ownership rates among the young reflects a systemic long-run erosion of access to

homeownership rather than a demographic trend towards delayed transitions into adulthood, and

that this erosion is not fully offset by a catch-up effect (Stebbing and Spies-Butcher 2016; Smith et

al. 2022). Nonetheless, further research is necessary to investigate the catch-up effect and how it

varies across socio-demographic groups and countries.

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Tables

Table 1. Homeownership, primary home wealth (PHW) and the intergenerational housing wealth gap (IHWG), by age cohort, 1997-98 and 2017-18

	1997-98		2017-18		
	Aged 30-39	Aged 50-59	Aged 30-39	Aged 50-59	
Housing wealth (all)					
Mean PHW	AU\$97,799	AU\$255,323	AU\$140,080	AU\$467,182	
IHWG (%)	161.1%		233.	233.5%	
IHWG (ratio)	2.61x		3.33x		
Housing wealth (homeowners only)					
Mean primary home assets	AU\$302,015	AU\$350,484	AU\$693,422	AU\$842,197	
Intergenerational gap in home assets	16.0%		21.5%		
Mean primary home debt	AU\$114,639	AU\$31,777	AU\$347,454	AU\$165,716	
Intergenerational gap in home debt	-72.3%		-52.3%		
Mean PHW	AU\$187,376	AU\$318,707	AU\$345,968	AU\$676,481	
IHWG (%)	70.1%		95.5%		
IHWG (ratio)	1.70x		1.95x		
Homeownership status					
Homeownership rate	52.2%	80.1%	40.5%	69.1%	
Homeownership gap (ratio) ^a	1.53x		1.71x		
Population IUs (N)	1,749,155	1,230,865	2,094,899	1,910,916	
Sample IUs (N)	1,705	1,249	2,594	2,876	

Source: Authors' calculations from the 1997-98 and 2017-18 ABS Surveys of Income and Housing

Note: a. The homeownership gap is calculated as the ratio of the homeownership rate of the 50-59 years age group to

the homeownership rate of the 30-39 years age group in the same year.

Table 2. Intergenerational housing wealth gap (IHWG) in 2017-18 under alternative scenarios relating to ownership rates and changes in the growth of home asset and debt values

Counterfactual	IHWG in 2017-18	Actual IHWG –
	(actual = 233.5%)	synthetic IHWG
Rates of homeownership within each age cohort remained	200.0%	33.5% pts
unchanged at 1997-98 levels		
Mean home assets grew at the same rate among older and	215.1%	18.4% pts
younger owners		
Mean home debt grew at the same rate among older and	267.8%	-34.3% pts
younger owners		

Source: Authors' calculations from the 1997-98 and 2017-18 ABS Surveys of Income and Housing

	Aged 30-39			Aged 50-59				
Characteristic	1997-98	2017-18	% point	Mean PHW	1997-98	2017-18	% point	Mean PHW
	population	population	change in	2017-18	population	population	change in	2017-18
	share (%)	share (%)	share	(AU\$,000)	share (%)	share (%)	share	(AU\$,000)
Relationship type								
Couple	55.9%	59.5%	3.6%	\$193.7	67.9%	60.0%	-7.9%	\$613.7
Single male	22.9%	21.7%	-1.2%	\$45.5	13.9%	16.2%	2.3%	\$238.3
Single female	21.1%	18.8%	-2.3%	\$79.4	18.2%	23.8%	5.6%	\$254.0
Migrant status ^a								
Australian-born	68.2%	55.8%	-12.4%	\$129.3	58.6%	60.3%	1.7%	\$439.6
Mixed	11.0%	10.4%	-0.6%	\$253.0	12.9%	11.9%	-1.0%	\$686.7
Migrant	20.8%	33.8%	13.0%	\$123.0	28.5%	27.8%	-0.7%	\$432.6
Employment status								
At least one employed	83.9%	88.0%	4.1%	\$153.4	75.8%	81.7%	5.9%	\$522.1
No employed persons	16.1%	12.0%	-4.1%	\$42.5	24.2%	18.3%	-5.9%	\$221.3
Highest educational								
qualification								
University degree	21.3%	50.4%	29.1%	\$190.8	16.6%	33.1%	16.5%	\$706.7
Other post-school qualification	40.4%	35.1%	-5.3%	\$106.8	40.5%	42.1%	1.6%	\$414.0
High school or less	38.3%	14.5%	-23.8%	\$43.9	42.9%	24.8%	-18.1%	\$237.0

Table 3. Changes in the socio-demographic profile of older and younger age groups between 1997-98 and 2017-18

Source: Authors' calculations from the 1997-98 and 2017-18 ABS Surveys of Income and Housing

Note: a. In an Australian-born income unit, all the adult members of the income unit are born in Australia. In a migrant income unit, all the adult members of the income unit are born in a country other than Australia. A mixed income unit is an income unit in which there is a mix of Australian-born and overseas-born adult members. By definition, a mixed income unit can only be drawn from a sample of couples, while Australian-born and migrant income units can be drawn from couple or single income units. This also explains the noticeably higher mean PHW of mixed income units compared to the other two income unit types.

Table 4. Intergenerational housing wealth gap (IHWG) in 2017-18 under alternative scenarios assuming specific characteristics of the young and old remain unchanged at 1997-98 levels

Counterfactual	IHWG in 2017-18	Actual IHWG –
	(actual = 233.5%)	synthetic IHWG
Population shares of single male, single female and couple income	266.3%	-32.8% pts
units within each age cohort remained unchanged at 1997-98 levels		
Population shares of Australian born, migrant and mixed income	231.6%	1.9% pts
units within each age cohort remained unchanged at 1997-98 levels		
Population shares of income units with one or more employed	231.5%	2.0% pts
persons and those with no employed persons within each age cohort		
remained unchanged at 1997-98 levels		
Population shares of income units with tertiary educational	284.3%	-50.8% pts
attainment within each age cohort remained unchanged at 1997-98		
levels		

Source: Authors' calculations from the 1997-98 and 2017-18 ABS Surveys of Income and Housing

	1997-98		2017-18	
	HWG	Favours	HWG	Favours
IHWG	161.1%	Older	233.5%	Older
Other HWGs				
HWG between income-poor and income-rich ^a	94.1%	Income-rich	191.3%	Income-rich
HWG between regional areas and city areas ^b	45.7%	City	92.9%	City
HWG between single men and single women ^c	72.2%	Single women	40.1%	Single women
HWG between migrants and Australian-born ^d	-3.8%	Migrant	10.9%	Australian-born
Interactions between IHWG and other HWGs				
HWG between income-poor younger people and	531.9%	Older income-	1230.3%	Older income-
income-rich older people		rich		rich
HWG between younger people in regional areas	263.0%	Older city	626.1%	Older city
and older people in city areas				
HWG between younger men and older women	376.7%	Older women	458.2%	Older women
HWG between younger migrants and older	231.1%	Older	257.4%	Older
Australian-born		Australian-born		Australian-born

Table 5. Interactions between the intergenerational housing wealth gap (IHWG) and other housing wealth gaps (HWGs) in 1997-98 and 2017-18

Source: Authors' calculations from the 1997-98 and 2017-18 ABS Surveys of Income and Housing Notes:

a. (PHW of highest income tertile – PHW of lowest income tertile) / PHW of lowest income tertile. All income units in the SIH, for the relevant year, are ranked from lowest real equivalized total income to highest and allocated an equivalized income category based on tertiles.

b. (PHW in city areas – PHW in regional areas) / PHW in regional areas. The two territories in Australia are grouped into the balance of state category to maximize consistency between 1997-98 and 2017-18.

c. (PHW of single women - PHW of single men) / PHW of single men.

d. (PHW of Australian-born - PHW of migrants) / PHW of migrants.

- ⁱ The SIH do not contain information to calculate property wealth for rental investment properties and second homes, and so our analysis is restricted to the principal place of residence.
- ⁱⁱ Self-reported values are widely used in the analyses of housing wealth distributions in the international literature Nonetheless, self-reported values may deviate from actual values, distorting the true housing wealth gap estimate. A review of the literature suggests that mis-estimation by homeowners is on average smaller in Australia than various other countries. Moreover, older owners are generally less optimistic about their house values than younger owners, suggesting that the intergenerational housing wealth gaps in this paper are more likely to be under-estimated than over-estimated. We discuss this literature in section S1 of the supplemental online material.
- ⁱⁱⁱ Authors own population weighted of calculations of household wealth using the 2005-06 and 2017-18 releases of the SIH. The former is the earliest release for which it is possible to calculate non-property wealth. The age of the household reference person is used to allocate a household into the young cohort (aged 30-39). Unlike measures of primary home wealth used elsewhere in the paper, other types of wealth could not be computed at an income unit level. However, in 2017-18, the vast majority (92%) of households in the young cohort consisted of a single income unit. Therefore, we exclude the small number of young households with multiple income units.

Supplemental online materials:

 $\underline{https://www.tandfonline.com/action/downloadSupplement?doi=10.1080\%2F14036096.2022.2161622\&fiintering the standard st$

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