The impact of housing affordability on internal migration over the life-course

Charles Siriban[1], Aude Bernard[2], Jing Wu[3], and Tom Wilson[4]

Housing costs are a well-established constraint to internal migration. Rising costs typically reduce inflows while increasing outflows, particularly in large cities. Yet, there is limited evidence on how housing affordability – or the lack of – influences internal migration over the life course. Given the housing affordability crisis experienced in many OECD countries, we investigate how the relationship between housing affordability and internal migration varies by age group. We use Australia as a case study, a country with a high level of internal migration where the rise in housing prices has progressively outstripped real wages growth. We leverage the recent release of origin-destination migration matrices at the labour market level to estimate a Poisson pseudo-maximum likelihood regression with origin-destination pair and year fixed effects on annual bilateral migration flows from 2011 to 2022. Preliminary results suggest that housing prices act more as push than a pull factor, particularly among young adults. Our results provide an additional explanation to the age patterns of internal migration. These findings have implications for internal migration trends and for setting migration assumptions for population projections and nowcasting.

[1] Queensland Centre for Population Research, School of the Environment, The University of Queensland
[2] Queensland Centre for Population Research, School of the Environment, The University of Queensland
[3] Queensland Centre for Population Research, School of the Environment, The University of Queensland
[4] Independent Researcher, Melbourne, VIC, Australia

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Extended abstract

As more countries transition to below-replacement fertility, migration is set to play a growing role in shaping national and sub-national population dynamics (Rees, Bell et al. 2017). By altering the size and composition of local populations and bringing knowledge and skills to where they are needed, internal migration plays an essential role in the functioning of labour markets (Molloy, Smith, and Wozniak 2014). For individuals and families, migration is a response to aspirations for better occupational mobility (Panichella and Cantalini 2022; Impicciatore and Panichella 2019; Van Ham et al. 2012; Mulder and Van Ham 2005), changes in housing needs and preferences following key life-course transitions (Mulder and Hooimeijer 1999), or the search for a better lifestyle (Argent et al. 2010).

Given its social and economic significance, understanding the facilitators and barriers to migration is essential. One important factor is housing affordability, particularly in countries where long-distance commuting is not common practice, including Australia (Cavalleri, Luu et al. 2021). Yet, it is unclear whether the impact of housing affordability on internal migration varies over the life-course. This is despite migration being strongly age-graded, as migration peaks at young adult ages, a period that coincides with key critical life-course transitions, and in some cases increasing again with retirement (Rogers and Castro, 1981; Bernard, Bell, and Charles-Edwards, 2014). This knowledge gap mainly stems from the lack of time-series of sub-national migration matrices disaggregated by age group.

We address this gap by examining how the link between housing affordability and internal migration varies among age groups in Australia, a highly mobile country (Bell et al. 2015) where housing prices have more than doubled in the last two decades (Cavalleri, Luu, and Causa 2021). We leverage the recent availability of origin-destination migration matrices between labour markets (n=89) from Australia's new administrative dataset, the Person Level Integrated Data Asset (PLIDA). OD matrices are disaggregated by key age groups: 0 to 14 years, 15 to 24 years, 25 to 44 years, 45 to 64 years, and 65 years and above. Our analytical sample consists of 430,760 observations: 7,832 pairs of origin-destination labour markets observed for five age groups across 11 years from 2011 to 2022.

To establish the relationship between housing affordability and migration flows, we estimate a gravity model (Wajdi, Adioetomo et al. 2017, Stawarz, Sander et al. 2021) using a Poisson Pseudo Maximum Likelihood (PPML) estimator, which unlike the Ordinary Least Squares (OLS) approach, does not require converting the migration flows variable into its logarithmic form. Thus, PPML does not suffer from

estimation bias when the outcome and explanatory variables are linked by a constant-elasticity model (Wajdi, Adioetomo et al. 2017, Santos Silva and Tenreyro 2022). In addition, the PPML is suitable for over-dispersed count data such as migration flows because many bilateral flows take small values (Santos Silva and Tenreyro 2011, Santos Silva and Tenreyro 2022). Following Stawarz, Sander, and Sulak (2020), we estimate the relationship between housing costs and migration flows within labour market-pairs by controlling for labour market-pair fixed effects in order to mitigate endogeneity concerns associated with time-invariant determinants of internal migration.

All variables are controlled for at origin and destination and sourced from the Australian Bureau of Statistics (ABS) and the SGS Economics and Planning. The main variable of interest is the Affordability Index based on the average proportion of income spent on rent by income quintile and housing type, with lower values indicating lower rental affordability (SGS Economics & Planning 2023a). We also control for a range of well-established economic and demographic determinants of internal migration, including real Gross Value Added (GVA) per capita, unemployment rate, population size, and per capita immigration. We also include a year fixed effect and lag all explanatory variables by one year to mitigate concerns of reverse causality.

Our parameters of interest are the coefficients of Affordability Index at origin and destination. We then interact both the origin and destination Affordability Indices with age group indicators to determine if some age groups are more sensitive to changes in housing costs. Lastly, we distinguish between metropolitan and non-metropolitan destinations to further investigate if the impact of housing costs on migration flows depends on the direction of migration across the urban hierarchy.

Our findings are expected to have direct implications for migration forecasting and population projections, which are extensively used by policymakers at the sub-national level for planning various infrastructure projects that cater to the needs and preferences of different age groups (O'Brien, 2014; Simons et al 2014). Despite being the main driver of population change (Rees, Bell et al. 2017), internal migration remains the main source of error in population projections (Wilson and Bell 2004). This is because it is notoriously difficult to forecast migration despite renewed methodological effort (Raymer, Bai et al. 2020, Vanella, Hellwagner et al. 2023). To the extent that changes in housing affordability is linked to changes in inter-labour market movements, housing affordability measures may be meaningful leading indicators, particularly given that housing data are published more frequently and with fewer lags than the official migration data. This, in turn, will provide policymakers with more real-

time information useful for sub-national planning of age group-specific facilities and infrastructures. Furthermore, we expect up-to-date and country-specific knowledge on the determinants of internal migration flows, such as what will be explored in this paper, to scientifically inform population projections and provide a more robust substantive justification for setting internal migration assumptions.

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