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Australian Migration and Dwelling Prices

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Abstract

Residential dwelling prices have been increasing over the last few decades in Australia. Empirical research has demonstrated that population and demographics are the main contributing factors for the upward trend of dwelling prices. In Australia, migration plays an important role in the nation's population growth and economic development. The Australian government currently receives overseas migrants from countries around the world every year on different schemes such as skilful migration, family reunion and so on. On average there are around 200,000 overseas migrants settling as permanent residents in Australia according to the migration data provided by the Australian Department of Immigration. This paper studies new immigrants contributing to the demand shock and the subsequent effects on the market for residential dwellings. Yearly time series data will be collected from the Australian Bureau of Statistics and the Australian Department of Immigration. Statistical models will be derived using the changes of dwelling prices as the dependent variables; and net migration, changes of household income and dwelling supplies as the independent variables. This research is considered important as it addresses fundamental economic issues relating to demand and supply. The research findings will also assist with the validation of the Australian migration policies.

Keywords: Migration, Dwelling prices, Australia

Introduction

Migrants are an important source of population growth in Australia. This is due to Australia's population is aging which is caused by a sustained low fertility and increasing life expectancy (ABS, 2013). According to the statistics, between June 1971 and June 2012, the proportion of Australia's population aged 15 years or younger decreased from 31 per cent to 18.8 per cent; or approximately reduced 1.65 times over the last 41 years. On the other hand, people over 65 years of age, increased from 8 per cent to 14.2 per cent (or approximately 1.78 times). Significantly, within the over 65 aged group, those aged 85 years and over increased from 0.5 per cent to 1.9 per cent (or approximately 3.8 times). The ageing of Australia's population is expected to continue. For instance the median age of Australia's population will increase from 37.4 in 2012 to between 38.7 - 40.7 years in 2026 and between 41.9 – 45.2 years in 2056. The projections suggest that Australia's population would eventually begin to decline. Therefore, the Australian government recognises migration cannot stop the ageing population; however, migration will assist in keeping up workforce growth and raise general skill levels and productivity (ABS, 2013). Though the relationship between immigration and demand for housing might not be as linear as it seems (Borjas, 2002), the immigration plays an increasingly important role in determining demographic and economic trends in Australia,

which is similar situation as suggested in the US (Borjas, 1985 & 2002). Figure 1 shows Australia's net migration relative to Australia's population from 1982 to 2012. Australia's population was over 23 million people at the end of 2012. This growth was driven by a strong net overseas migration policy which accounts for 60 percent of the total population according to the data presented by the ABS.

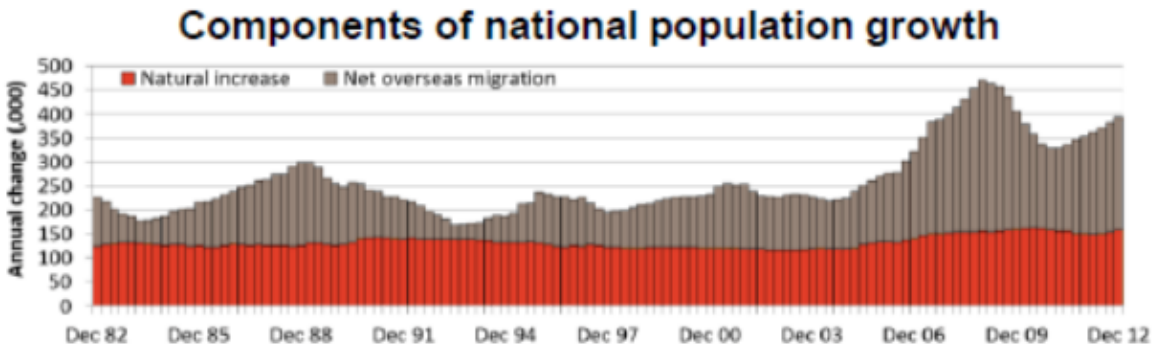

Figure 1: Australia's migration and Australia's population (Lawless, 2013)

There are three major migration programs in Australia; namely, Family Migration, Skilled Migration, and Humanitarian Migration. The government has gradually shifted the balance of these programs by increasing the Skilled migrants which includes employer sponsored migrants, skilled independent migrants and business migrants. In 2013-14, the skilled migrants consisted of 67.7 per cent of the migration program, whilst the Family Stream comprised 32 per cent in 2013-14 (Australian Government, 2013). Figure 2 depicts the percentage of migration program from major regions during the last decade.

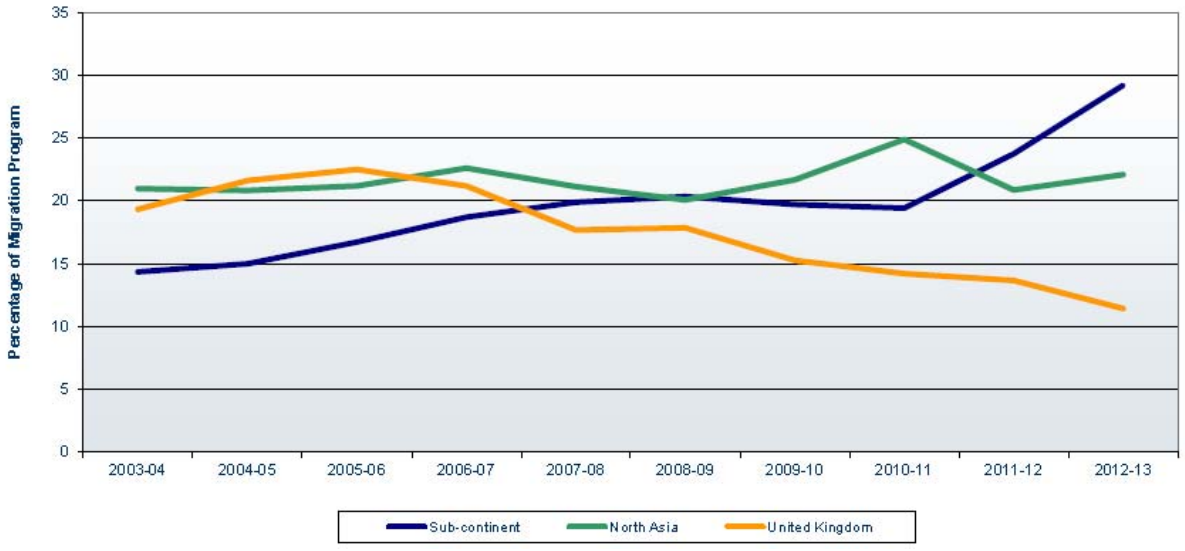

Figure 2: Proportion of migration program – major regions from 2003-04 to 2012-13 (Sub-continent includes India, Sri Lanka, Pakistan, Bangladesh and Nepal, whereas North Asia includes China, Republic of Korea, Vietnam, Japan, Hong Kong and Taiwan. Source: Australian Government, 2013)

The increasing migration has attracted a number of studies examining the social, economic and spatial implications for the host countries (Arvanitidis and Skouras, 2012). From theoretical analysis and empirical evidences, Munz, et al. (2006) concluded that immigration has great impacts on demographic changes, wage, employment and labour market efficiency, as well as finance and economic growth in European countries. The impact of migration on urban housing markets has also attracted the attention of many scholars (Arvanitidis and Skouras, 2012; Saiz, 2006; Carter, 2005; Myers and Liu, 2005; Ley and Tutchener, 2001; Bourne, 1998; Burnley and Murphy, 1994). Bourassa and Hendershott (1995) included immigrants as one of the independent variables in their models in estimating the Australian capital city house prices from 1979 to 1993. They found that a one per cent growth in population due to migration raised real estate prices by 4.5 per cent. Therefore, questions are raised, if the recent migrant population is contributing towards the house price appreciation in Australia.

Impact on the housing market, due to the arrival of immigrants is currently under researched (Carter, 2005). Therefore, this paper examines the effect of overseas migrants contributing to the demand shock of housing supply. The research focuses on the residential market for the period from 1990 to 2013 in Australia. In the next section of this paper, literature pertaining to migration and house prices is considered. This is followed by a discussion on the Australian and State migration profiles, together with the analysis of dwelling prices and the rental market. In addition, using secondary data from the Australian Bureau of Statistics, econometric models will be tested to determine the impact of migration on house prices in Australia. These results are discussed in relation to the validity of Australia's migration policies.

Literature

This section discusses the literature for immigration, housing demand and the associated price changes in the residential sector. Research suggests that the relationship between migration and house prices is positive at least in the short-term (Burnley and Murphy, 1994, Bourassa and Hendershott, 1995; Ley and Tutchener, 2001). This is because the new migrants imposing pressure on the demand for housing in the destined areas as well as housing prices.

Research into the relationship between migration and house prices began in the 1990s. Gabriel et al. (1992) employed several different specifications of housing costs, including nominal prices, user costs, and annual mortgage servicing costs. Their research analysed the migration flows between the nine broad Census Division using migration data tabulated by the Internal Revenue service. Their results suggested that high prices in the market place, influenced the decisions of migrants when selecting their final location for permanent residency. Potepan (1994) suggested that a higher level of current population growth tended to raise current housing prices through the expectation that higher future population levels will cause higher future housing, and that immigration influences housing price and vice versa. There was also a high level of correlation between immigration levels and house prices in Toronto and Vancouver over a long period of time (Barnley and Murphy, 1994; Ley, et al., 2001). However, Bitter (2008) argued that the results were relatively weak because of the small sample size and more importantly, the net immigration was not included in the statistical models; thus it was hard to explain whether the house prices had a significant effect upon net population movement.

Historically, immigration policies will result in different tenure choices, greater ethnic diversity, and changes to the economic and demographic housing demand. Borjas (2002) investigated the homeownership determinants in the US immigrant households during the period from 1980 to 2000. The three important findings from his study concluded that a) immigrants will have lower homeownership rates than natives; b) the homeownership gap was due to the location decisions of immigrant and native households, as well as the changing national ethnical mix of the immigrant population, and c) the growth of ethnic enclaves could be an important factor in increasing the demand for homeownership. Approximately half of immigrant households are renters and half are owners in the United States (Myers and Liu, 2005). With regards to the geographic settlement pattern of immigrants, Singer (2004) and Papademetriou and Ray (2004) found that immigrants tended to cluster in certain states and metropolitan areas.

Carter (2005) discussed the immigration policy, the changing characteristics of immigrants, changing numbers of new arrivals, labour force experience and the housing characteristics of immigrants in Canada. His research concluded that immigrant households are larger and more likely to live in multiple family households than their non-immigrant counterparts. Interestingly, the findings contained a common pattern on the immigration, housing demand and price changes. The four main findings were that a) the arrival of immigrants pushed up the dwelling and rent prices; b) the low-income households were pushed out from the housing market due to higher prices and unaffordable; c) Retired households sold their home and move out to other retirement locations or cheaper areas; and d) Immigrants, particularly the business immigrant can afford higher prices. The ethnic clusters were developed as ethnic group friends and family tend to live together in close proximity.

Burnley (2006) studied the residential housing structure of Sydney and analysed the migration process, mobility aspirations and period of residence effects, as well as investigating the type of dwellings selected by migrants. The research found that the housing market in Sydney is not segmented on ethnic lines. The findings also suggested that immigration impacted on the short term rental housing market. Ge, et al. (2012) assessed the impact of infrastructure investment such as trains on housing prices in north-west Sydney. Their spatial analysis revealed that immigrants are concentrated around the train line and facilities, due to the convenience associated with transport accessibility.

Migration Profile in Australia

According to the ABS (3412.0), at 30 June 2013, 27.7% of the estimated resident population (ERP) is born overseas (6.4 million people). This is an increase from 30 June 2012, when 27.3% of the ERP was born overseas (6.2 million people). The 2006 Census showed that about 4.4 million Australians were born overseas (22% of the population). In 2003, ten years earlier, 23.6% of the ERP were born overseas (4.7 million people) (Refer to Table 1 below).

Table 1: Overseas born migration

	Population	Migration
	Million	born overseas
30-Jun-13	6.4	27.7%
30-Jun-12	6.2	27.3%
30-Jun-06	4.4	22.0%
30-Jun-03	4.7	23.6%

(Source: ABS 3412)

Regardless of the many changes to Australia's immigration policy, people from the United Kingdom, India and China are still the main source of immigrants. Figure 3 below indicates the pattern of migrants arriving to Australia from 2007-08 to 2012-13. Prior to 2008-09, the majority of overseas migrants came from the United Kingdom. However, this reduced from around 30,000 to 20,000 migrants, a year after that period. New migrants from China have increased; in particular during the period from 2009-10 to 2010-11, where this peaked to 30,000 a year and then stabilised at between 25,000 to 30,000 people a year. The Indian migrants almost doubled from 20,000 in 2010-11 to 40,000 in 2012-13 people.

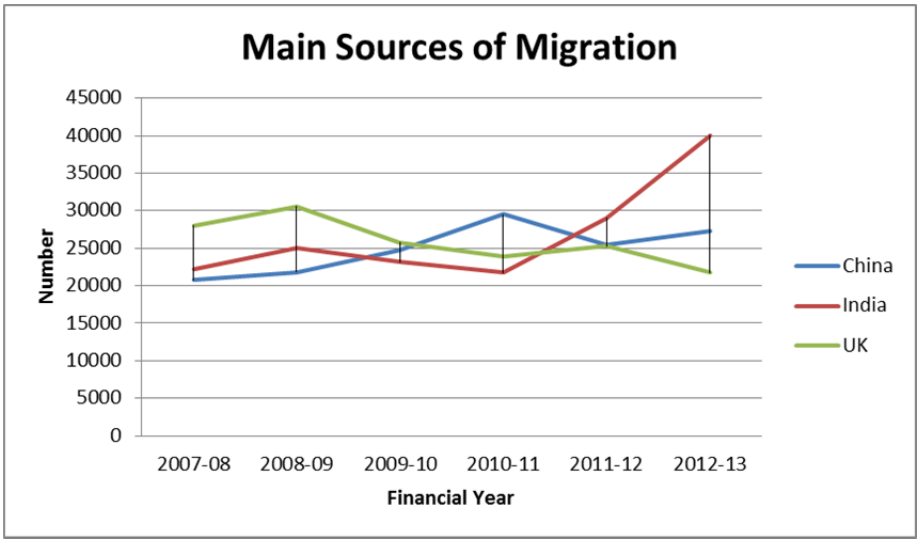

Figure 3: Main sources of migration in Australia (source: ABS 3412)

Figure 4 below, exhibits the net migrants settling in each of the states and territories from 2004-05 to 2009-10 in Australia. Obviously, New South Wales (NSW) and Victoria (VIC) are the places that attract most of the migrants (60.7 per cent), followed by Queensland (QLD) and Western Australia (WA). On average 26,712 (32.9 per cent) net migrants arrive in NSW and 22,437 (27.7 per cent) in VIC each year for the counted period. The situation has changed in recent couple years. VIC attracted an additional 99,548 new migrants for the 2012 calendar year, the highest level of population growth across the various jurisdictions. There were 92,453, 90,441 and 83,031 new migrant arrivals in QLD, NSW and WA respectively during 2012.

In general, the newly arrived immigrants improve the labour market shortage, but at the same time this will encourage additional pressure towards the housing markets. As highlighted by Lawless (2013) from RP Data that '*population growth equates to demand for more housing*'. Though there are debates on housing shortage in Australia, the newly arrived immigrant needs shelter on arrival into Australia. At least in the short term, demand for housing will increase housing prices.

As suggested by Carter (2005), the ethnic clusters were developed as ethnic group friends and family tend to live together in close proximity. However, issues such as financial capital resources would be an important aspect with this decision. Below in Figure 5 are some examples from a few Sydney suburbs, where the immigrants' ethnic heritage is identified. The data shows a concentration of Chinese residing in Eastwood (13%) and Burwood (21.5%), with Indians residing in Strathfield (7.5%) and Paramatta (16.5%).

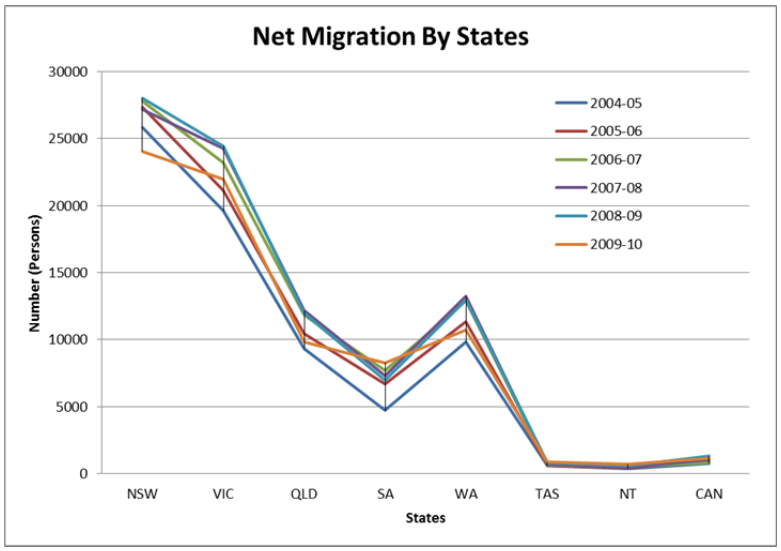

Figure 4: Net migration by States (Source: ABS 3412)

Country of Birth (Example in Sydney)												
	Eastwood		Epping		Chatswood		Strathfield		Burwood		Parramatta	
	Suburb	LGA	Suburb	LGA	Suburb	LGA	Suburb	LGA	Suburb	LGA	Suburb	LGA
Australia	47%	53.20%	56.40%		42.20%	57.70%	40.80%	44.80%	31.90%	44.20%	30.30%	54.10%
UK		3.30%		5%		5.40%						
China	13%	7.30%	7.20%	4.50%	8.80%	3.90%	8.10%	5.80%	21.50%	9.60%	11.10%	5.10%
Hong Kong	5.50%		5.30%		5.80%							
India							7.50%		3.80%	4.30%	16.50%	3.60%
Lebanon								6.30%				
Others	34.40%	36.20%	31.70%	28.90%	43.30%	33%	43.70%	43.10%	42.80%	41.80%	42.10%	37.30%

Figure 5: Examples of Country of Birth (Source: Domain)

Research Data and Methodology

To estimate the relationship between overseas migrants and dwelling prices in Australia, the analysis consists of using reduced form regression as follows:

$$MHP = a + bX + cY + dZ \qquad (1)$$

Where *MHP* indicates median dwelling prices, *X* consists of demand variables including overseas migrants, population, and household disposable income. *Y* consists of supply variables such as number of housing completion per year. *Z* indicates other variables such as interest rate and foreign direct investment in Australia. The estimating procedure included the following:

a. Identifying and collecting available data, as well as conducting data processing and analysis
b. Estimating the regression models applied the identified variables using SPSS
c. Examining the model validity and analysing the results

Data collection

This research uses mainly the public available data provided by the Australian Bureau of Statistics (ABS) and Reserve Bank of Australia (RBA) for the period from 1990 to 2013. The number of migrants each year was sourced from ABS Migration Australia (3412.0). In order to make the consistent time series data, the quarterly data was converted to yearly. For example, net overseas migration is available on quarterly time series provided by the ABS. To generate yearly data, the yearly net migration is derived by adding September previous year to the current June quarter. A similar method was used to derive the total dwelling completion and private dwelling completion which were collected from ABS.

Annual median House prices of capital cities of Australia were collected from the Real Estate Institute of Australia (REIA) and ABS. Cash rates and total disposable income (million $) were collected from the Reserve Bank of Australia.

Yearly changes of variables were derived using the follow formula:

$$Data\ Change\ yearly = \frac{(yearly\ data\ current\ year - yearly\ data\ previous\ year)}{yearly\ data\ previous\ year} \quad (2)$$

Table 2 includes the data symbol, source of the collected data and measurements used in the significant statistical models.

Table 2: Regression Variables

	Variable	Source	Measure	Estimated period
MHP	Annual median house price	ABS, REIA	Dollars	Mar 1990 - Mar 2013
CMHP	Yealy changes of median house price	ABS, REIA	Percent	Mar 1990 - Mar 2013
CM	Changes of immgrants	Derived from ABS	Percent	1990 - 2012
CML2	Changes of immgrants lag two years	Derived from ABS	Percent	1990-2012
TDI	Total disposable income	ABS	Million $	1990 Mar - 2013 Mar
FI_ALL_C	Direct Investment in Australia	RBA	Million $	2001 - 2012

The Estimated Results

Three models were derived from the SPSS from the collected data as shown in Table 3. The median house price and the changes of median house prices were the dependent variables. The statistic model suggests that immigration contributed to house price increases. The result of Model 1 shows that migration and the total disposal income are the main attributes of median house price changes. Also the direct investment in Australia was also positively correlated to the median house prices (Model 2). The changes of median house prices were affected by the changing migration number and the changing of migration with a two-year time lag (Model 3). This implies that a one per cent change of migration will lead to a 9.1 per cent changes in median house prices for the estimated period. Also, with a one per cent change of migrants who stay for two years, the median house price will increase by 18.3 per cent.

Discussion and Conclusion

This paper studies the effects of newly arrived immigrants on the demand for housing and thus the pressures on house prices in Australia. The research method adopted was through an analysis of the immigration pattern and house price determinants using statistic method. The main findings are as follows:

a) Migration contributes towards 60 per cent of Australia's population growth (Lawless, 2013);
b) Migrant (born overseas) representation of the Australian population is at 27.7 per cent (ABS, 3412);
c) The United Kingdom, China and India are the main sources of new immigrants and there was a gradual increase of Indians settling in Australia;

d) NSW is not the first destination of choice for new immigration. Instead, VIC becomes the first destination of choice of the immigrants followed by QLD, NSW and WA;
e) In regard to residential areas, the new immigrants tend to join the existing ethnic cluster;
f) Immigration was one of the main contributors for demand of housing and the increased of housing prices;
g) However, immigration was not the only contributor of housing prices, other elements such as household income plays an important role for an increase with housing demand;
h) Changes of immigration and migration with a two-year time lag were the main contributors of changing house prices.

Table 3: The estimated regression results

	Model 1	Model 2	Model 3
Dependent	MHP	MHP	CMHP
Independent variables			
Constant	-71488.1	35472.26	0.064
t-test	-8.153	1.737	6.495
Sig.	(.000)	(.116)	(.000)
M	0.848		
t-test	4.979		
Sig.	(.000)		
CM			0.091
t-test			2.331
Sig.			(.031)
CML2			0.183
t-test			2.276
Sig.			(.035)
TDI	1.815		
t-test	12.951		
Sig.	(.000)		
FI_All_C		0.213	
t-test		15.783	
Sig.		(.000)	
Sample	24	11	24
F-test	809.145	249.11	5.365
Sig.	0.000	0.000	0.014
R-square	0.988	0.965	0.361
Adj R-square	0.987	0.961	0.294
DW	1.436	1.813	2.02

The findings suggest a strong relationship between migration and house prices in the Australian property market. This implies that government migration policies have a direct effect on the national economic and social environments. An example could be found that there was a weakened labour market in 2008 in Australia. An adjustment of migration policy to attract new immigrants from overseas contributed to the population growth. When the

national unemployment rate rose to below the trend, migration quotas were reduced to the softening labour market. The changes of migration policies affect the number of net overseas immigration and thus the demand for housing, given the shortage of housing supply in the first place.

Many new overseas immigrants were settled in Sydney as it is a financial center and gateway city (Burnley, 2005). The recent record shows that the new migrants choose Melbourne and Brisbane as their first and second destinations. The higher the house price could be one of the attributes of such shift.

As suggested by Carter (2005), not all new immigrants are able to access housing markets and the immigrants are prominent amongst increasing homeless population given the higher and increasing housing prices around the country. Affordability programs could be considered to address the potential issues.

The ethnic groups could be a positive way to assist the new immigrants to settle in Australia. However, it can create racial tension and discrimination in the housing market. In addition, a recent debate on whether there is in fact a 'shortage of housing supply'. An area that is convenient to the CBD, amenities, schools, shopping centers and transport has been lacking. It is thus a challenge for the government to develop town plans accommodating the diversity and managing the true housing supply shortage.

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