



# Population migration, urbanization and housing prices: Evidence from the cities in China



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## ABSTRACT

Changes in housing demand because of population migration may have a great influence on urban housing prices. The objective of this paper is to investigate how the two aspects of population migration, including inter-regional migration and rural-urban migration, affect housing prices at city level in China. By using the data of the population sampling survey in 2005 and the sixth population census in 2010, a series of empirical studies have been conducted. The results of pooled cross-section data show that an increase in inter-regional migrants by 1% will lead to a rise in housing prices by 0.701% when controlling the other relevant factors. Likewise, an increase in the level of urbanization by 1% will drive up housing prices by 0.343%. Furthermore, the study figures out that the better educated migrants are more likely to affect local housing prices, and the cities with more migrants with higher educational level are expected to experience higher housing prices, which sheds some light on the mechanism of the relationship between migration and housing price. The findings are helpful to China's government in population-related policy making and planning.

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## 1. Introduction

Housing prices in China have been increasing rapidly since the overall market-oriented housing system established in 1998. This has provoked widespread discussions among academics and stakeholders in society. The mainstream explanations, such as economic development (Chow and Niu (2010); Wang & Zhang, 2014), the governmental intervention in land supply (Hui & Wang, 2014; Yan, Ge, & Wu, 2014) and irrational investment (Shiller, 2015; Liu, Chang, Su, & Jiang, 2016), do contribute to an understanding of the changes in China's housing market at national level. However, the disparities in rising paces between cities at city level are overlooked in most studies. Some cities, especially the so-called first tier cities, including Beijing, Shanghai, Guangzhou and Shenzhen, are badly experienced high housing price hikes over time, which reminds us of rethinking the factors behind the price divergences between cities. Evidences from the US and European counties have shown that, the demographic impact of migrants would boost the demand for housing (Gonzalez & Ortega, 2013;

Saiz, 2007). Though China has few foreign migrants, whereas at city level, migrants from other areas are massive, which would definitely generate a higher urban housing demand and in turn invigorate the urban housing market. Thus, we propose a demographic factor, population migration at city level, to shed some lights on the disparities of urban housing price in China.

Regional housing prices cannot be separately discussed without local variables, and migrating from one area to another is one of the most important local changes (Frame, 2008). As the most populous country, China has formed an extremely large amount of floating population since its reform and opening up. It is a common phenomenon that population flows from small towns to large and medium-sized cities, from less developed areas to developed areas, especially in the past two decades. Most of the floating population moved to the areas with a higher level of economic development, in particular the Pearl River Delta, the Yangtze River Delta and the Beijing-Tianjin-Hebei Region. In the first-tier cities, the proportions of non-local residents were all more than 40% in 2010. And in Shenzhen, the proportion of non-local residents even exceeded 80%.<sup>1</sup> Fig. 1 shows the relationship between the percentage of non-

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<sup>1</sup> Data source: the sixth population census in 2010.

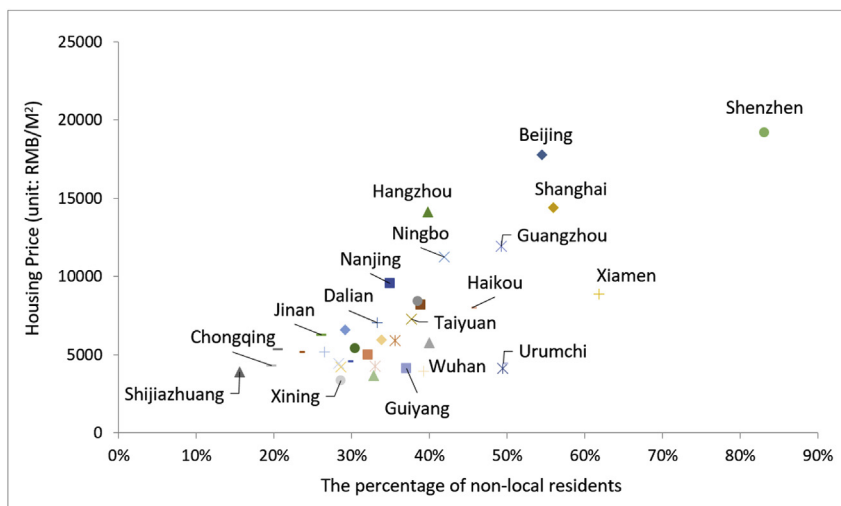


Fig. 1. Population migration and housing price in China in 2010.

local residents and housing price in 35 large and medium-sized cities in 2010. At that time, the largest percent of non-local residents (83%) and the highest average housing price (19,170 Yuan/m<sup>2</sup>  $\approx$  2850USD/m<sup>2</sup>) both emerged in Shenzhen. Besides Shenzhen, many other cities demonstrate a coherence between the percentage of non-local residents and housing prices as well. An interesting phenomenon is that the percentage of non-local residents was relatively large in Xiamen, while its housing price in 2010 was only 8883 Yuan/m<sup>2</sup>.<sup>2</sup> However, the housing price in Xiamen had increased to 15,378 Yuan/m<sup>2</sup> in 2014.<sup>2</sup> These evidences suggest that there is a close correlation between the percentage of non-local residents and urban housing prices at city level.

Different from other countries, population migration in China concerns largely the mobility of population from rural to urban areas because of China's unique household registration system (*Hukou system*) and the government-oriented urbanization in China. By *Hukou system*, Chinese people are categorized into 2 groups: i) agricultural households who are lived in rural areas and ii) non-agricultural households who are lived in urban areas. Since reform and opening up, to stimulate urban economic development, China's government has kept encouraging rural residents leaving their lands and hometowns to find jobs in cities, which is also known as the rapid process of urbanization in China. As a result, a great deal of rural residents move into urban areas, especially in recent years. Between 2000 and 2015, the level of urbanization in China has risen from 36.2% to 56.1%, and the newly increased number of urban population over that period was more than 290 million. However, not all the rural residents lived in urban areas have urban *hukou*, the proportion of urban *hukou* residents was only 39.9% in 2015. Since most rural-urban migrants without urban *hukou* would finally return to rural areas, not all the migrants have substantial impacts on urban housing prices (Tao et al., 2015). Besides, urbanization in China is not simply spontaneous actions of rural residents, it has been a governmental behavior since the beginning (He, Chen, Mao, & Zhou, 2016; Wang, Hui, Choguill, & Jia, 2015). The Chinese government keeps planning the pace of urbanization and the "National New-type Urbanization Plan" has even set out a series of targets for urbanization by 2020. The government-oriented urbanization in China forms an expectation

that urbanization in the future will maintain at a high level and many more rural residents will move to urban areas, thereby triggering even larger housing demands. Chinese researchers pointed out that if local urban residents were optimistic about the future urbanization, they would be more likely to make a decision of early home purchase or housing investment (Lu, Ou, & Chen, 2014; Luo, 2011). In other words, the expectation during urbanization will also lead to a housing market boom. Thus, it is necessary to further investigate the government-oriented urbanization in China when analyzing the relationship between migration and housing prices.

Population migration at city level in China is not only related to the non-local residents, but also involved with the newly increased urban residents. In our study, the former is regarded as the process of inter-regional population migration, and the latter is the process of urbanization. These are the two main aspects of population migration in China that we focus on. It is a general belief that the massive inter-regional population migration and the rapid process of urbanization in China are the fundamentals of urban housing markets, and the potential demands and derived expectations make the relatively high housing price reasonable (Lu et al., 2014). Paradoxically, few studies provide empirical evidences due to ambiguities of population migration and/or a lack of data. Thus, population migration and urbanization in China become merely "conceptual" or "descriptive" impact factors, without much support of empirical findings. Furthermore, not all the migrants would generate effective housing demands. Some migrants cannot afford the high housing prices, and their aim of migration is not settling down, but making a live (Dong & Zhou, 2014). Hence, many important questions have yet to be addressed. Could the demographic impact caused by population migration partly explain the booming housing prices at city level? To what extent and with what mechanism? This study attempts to shed some lights on these issues and fills the gap by means of analysis of statistical data and census data. The rest of paper is organized as follows. Section 2 gives a brief review of previous relevant studies. Section 3 outlines the framework of the study. Section 4 presents the empirical study and its main findings. Section 5 is the discussion and conclusion.

## 2. Literature review

Researchers in the developed countries have conducted a lot of studies to analyze the effects of migration on housing markets

<sup>2</sup> Data source: <http://www.stats.gov.cn/tjsj/ndsj/2015/indexch.htm> Accessed by Jan 18, 2017.

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