Housing conditions and life satisfaction in urban China

Fang Zhang[a], Chuanyong Zhang[b,c,*], John Hudson[d]

[a] *Department of Finance, School of Economics, Faculty of Economics and Management, East China Normal University, China*
[b] *School of International and Public Affairs & China Institute for Urban Governance, Shanghai Jiao Tong University, China*
[c] *The Center for Modern Chinese City Studies & Institute of Urban Development, East China Normal University, China*
[d] *Department of Economics, University of Bath, UK*

ABSTRACT

Housing is closely related to people's daily life. In the past three decades, China's real estate market has experienced significant rapid development. People pay more attention, not only to the market value of housing itself, but also to the subjective or non-market value of life satisfaction brought about by owning a house. This paper aims to investigate how housing conditions affect individual life satisfaction in urban China, focusing on both housing satisfaction and overall happiness, using the Chinese General Social Survey dataset. We divide the full sample into age groups and income groups to analyze the homogeneity of the results across society. Through the ordered probit model, the empirical results suggest all the house-related characteristics utilized in the analysis have significantly positive effects on people's housing satisfaction, however, only homeownership and house size play important roles in determining overall happiness. Further, using housing satisfaction as an explanatory variables, housing satisfaction and homeownership are both significant factors determining overall happiness. Finally, we estimate the perceived value of homeownership at approximately 4.5 times individual income.

1. Introduction

Over the last three decades, the Chinese economy and housing market have seen rapid and sustained development. After the housing reform in 1998, the Chinese housing market has changed from a government-funded and government-run welfare housing system to a market-oriented commercial housing system. Housing has been considered one of the basic requirements for daily living and the single biggest cost factor for most individuals and households. Official statistics in China show a doubling of housing prices between 2007 and 2014 (Chivakul, Lam, Liu, Maliszewski, & Schipke, 2015), but a real annual price growth of 13.1% in the top Chinese cities between 2003 and 2013 (Fang, Gu, Xiong, and Zhou (2015). Soaring house prices and growing housing inequality have attracted the attention of many Chinese people, not only to the market value of housing itself but also to the non-market value of life satisfaction brought by owning a house (Piekałkiewicz, 2017). As Florida, Mellander, and Rentfrow (2013) claimed, people might expect to be happier in places where housing is more available, less expensive, and more affordable. One of the key objectives of housing policies is to improve individual life satisfaction (Clapham,

2010). For these policies to be successful, a good understanding of the determinants of overall life satisfaction is required, and in particular of how housing impacts upon overall satisfaction.

This study contributes to this goal by examining how housing conditions affect people's housing satisfaction and their overall satisfaction in urban China. The existing literature on overall satisfaction in China is relatively limited and mainly focuses on the determinants of general satisfaction, rather than the impact of specific housing conditions. Contemporary China is an interesting case study for this topic, since it has experienced rapid and sustained economic growth for the last three decades, as has the Chinese housing market. Housing is an item on which Chinese people spend a great deal of thought, effort, and financial resources, owing to the long tradition of preferring to live and work in peace and contentment ("*An Ju Le Ye*" in Chinese).

We use the 2006 Chinese General Social Survey (CGSS)[1] data with the ordered probit model to estimate the impact of housing characteristics on individual overall satisfaction. Our findings reveal that housing characteristics affect different groups of people differently. Generally speaking, housing-related conditions impact upon individual housing satisfaction more directly and significantly than upon overall

happiness. Though housing satisfaction plays an important role in determining general happiness, individual socioeconomic features are still more significant. Finally, our money equivalent analysis findings support the view that the poorer the people in a household, the easier it is to increase their happiness.

Our study differs from the existing literature in several ways. Firstly, unlike previous researchers, we examine the impact of housing conditions, not only on overall satisfaction, but also on housing satisfaction. Secondly, existing research tends to focus on the role of housing facilities in determining residential satisfaction at the level of a specific city or region. Our study extends this to a nationwide investigation across urban China. Thirdly, we examine the effects of housing conditions on different groups of people, defined by age and income, enabling our study to provide more specific conclusions for policymakers. This has been done in the literature to some extent, but not at the same level of detail as our analysis. Finally, and for the first time in the literature as far as we are aware, we use a monetary equivalent analysis to estimate the monetary value of an incremental one square meter of house size.

Throughout the paper, we use the term satisfaction to cover concepts in the literature that are referred to as wellbeing and happiness. We also refer to houses as a generic housing concept, even though many people live in apartments.

2. Literature review

Empirical studies on the determinants of satisfaction have increased worldwide in recent years. A number of studies focus on the correlation between individuals' overall happiness or quality of life and housing satisfaction and conditions. Other studies have examined the impact of homeownership on overall happiness and particularly housing satisfaction. Generally, most studies conclude that housing types and characteristics significantly impact upon residential satisfaction, but may question their impact on overall satisfaction. More generally, Dolan, Peasgood, and White's (2008) review of the determinants of overall satisfaction suggests several major factors commonly studied by previous researchers[2] and reveal a U-shaped relationship with age and satisfaction,[3] that married people are more satisfied. Satisfaction also increases with education and income, either relative or absolute (Cullis, Hudson, & Jones, 2011; Orviska, Caplanova, & Hudson, 2014).

Some studies focus on the housing-related factors of overall satisfaction, grounded on the premise that housing satisfaction and conditions are important factors in an individuals' overall happiness or quality of life. For example, Kahlmeier, Schindler, Grize, and Braun-Fahrländer (2001) with respect to the northwestern region of Switzerland, show that an improvement in perceived housing environmental quality, broadly defined to include, e.g., relationships with neighbors, significantly contributes to an increase in overall happiness. Oswald, Wahl, Mollenkopf, and Schilling (2003) conclude that housing conditions play an important role in life satisfaction for elderly people in two rural regions of Germany. Elsinga and Hoekstra (2005) and Diaz-Serrano (2009) examine the effects of homeownership on overall happiness as well as more specifically on housing satisfaction. Nakazato, Schimmack, and Oishi (2011) find little influence of changes in housing on overall satisfaction, but do find a substantial impact on housing satisfaction. They also find housing satisfaction to be more stable than overall satisfaction. More recently, Azimi and Esmaeilzadeh (2017) find that housing types and characteristics significantly impact upon residential satisfaction in Tabriz in Iran.

Most studies have focused on developed countries, with only a

limited literature on housing satisfaction and overall satisfaction in China. However that is beginning to change. Ji, Xu, and Rich (2002) use the 1993 China Housing Survey in Shanghai and Tianjin to explore the determinants of family overall happiness among married people in urban China. They find that family relationships, as reflected by frequent contact with parents and satisfaction with relationships with relatives, are significant determinants of family overall happiness, indicating the importance of Chinese filial norms that favor the family over individualism. The 2002 Chinese Household Income Project data has also been used to comprehensively investigate the determinants of satisfaction for rural-urban migrants, the rural population, and urban citizens in China (Knight & Gunatilaka, 2010, 2011; Knight, Song, & Gunatilaka, 2009). In general, age has a U-shaped relationship with happiness, females are happier than males, married people are happier than the divorced and widowed population, good health and income positively affect overall happiness, and unemployment lowers people's life satisfaction. In many respects these conclusions are consistent with those of studies in developed countries. Smyth, Nielsen, and Zhai (2010) and Nielsen, Smyth, and Zhai (2010) use the Personal Wellbeing Index to analyze the happiness of the urban population and off-farm migrants, respectively, in China and arrive at similar conclusions with respect to the impacts of gender, age, and income, as do Wang and VanderWeele (2011), although they do not find education to be significant. Chyi and Mao (2012) focus on the elderly Chinese and find that good health and living with grandchildren have a positive impact on wellbeing, although living with their children has a negative impact.

More recently, several scholars have started to pay attention to the relationship between housing-related features and life satisfaction in China. Hu (2013) finds that homeownership, particularly for women, strongly and positively affects both housing satisfaction and overall happiness in urban China. Cheng, King, Smyth, and Wang (2016) and Huang, Du, and Yu (2015) find similar results, again emphasizing the greater impact on women. Huang et al. (2015) suggests that the impact of home ownership may be due to homeowners' higher sense of belonging from greater participation in social affairs and greater access to education at a nearby school for their children. Besides homeownership, Ren and Folmer (2017) find that housing quality, community type, and a "*Hukou*"[4] also positively impact on residential satisfaction. The existing literature has also examined the impact of housing facilities on housing satisfaction, but only at the city level. For instance, Tao, Wong, and Hui (2014) and Lin and Li (2017) investigate the significant role of housing conditions in residential satisfaction for migrants in Shenzhen and Wenzhou, respectively. Whilst for Beijing, Wang and Wang (2016) conclude that home and neighborhood activities significantly affect residential satisfaction.

Some studies focus on the housing-related factors related to overall satisfaction but they tend to lack a theoretical basis. Thus, to fill this gap in the literature, in the next section we specify a theoretical model that includes the market and non-market values of homeownership.

3. Model

We present a random utility model used based on the work of Han (2010). There are two commodities: housing and non-housing goods. x denotes a vector of quantities of non-housing goods, j represents housing alternatives, and, where B represents the housing alternatives open to individual i. $U_i^*(x,j)$ denotes the utility for i, who faces a budget constraint in the form $px + w_j \leq y_i$. p is the vector of prices for non-housing goods, w_j is the price for housing j, and y_i is i's income. The decision making process takes place in two stages. In the first stage, utility is maximized with respect to non-housing goods consumption,

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[2] These categories include seven broad headings: (1) income; (2) personal characteristics; (3) socially developed characteristics; (4) how we spend our time; (5) attitudes and beliefs towards self/others/life; (6) relationships; and (7) the wider economic, social, and political environment.

[3] Diaz-Serrano (2009) finds an inverted-U shaped impact of age on housing satisfaction.

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[4] In China's special Household Registration System, migrants without the official transformation of household registration (*Hukou*) are defined as a "floating" population and usually excluded from the urban population in the official statistical survey and census in China.