Part II Topic report

The relationship between house price and urban competitiveness

Chapter 3 Research Background and Literature Review

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3.1 Research Background

3.1.1 Urban competitiveness is the foundation of the sustainable prosperity of cities

As the world ushers in the urban age, cities are playing an important role in human life and economic development. With the improvement of means of transportation and the development of the Internet and other information technologies, the space-time distance between people has been narrowing, and cities have become increasingly interrelated and significantly interactive, which intensifies intercity competition for factors and industries. For a city, the cultivation of its economic competitiveness is the key for it to stand out in competition and achieve sustainable economic growth. Looking into urban development in the future, according to the *New Urban Agenda* approved by Habitat III in 2016, by 2050, the world's urban population is expected to nearly double, and urbanization will be one of the most transformative trends in the 21st century. With the sharp increase in urban population, cities have also faced increasingly severe challenges in sustainable development in aspects of housing, infrastructure and public services. Therefore, it is necessary to continuously improve the sustainable competitiveness of global cities in new situations.

3.1.2 Housing price impacts households, cities and the world

Because the housing sector is an important sector in the urban economy, housing and its prices have an important influence on households, cities and the world. First, housing, as a kind of durable consumer good, is a necessity for residents and often requires a large proportion of common residents' wealth. Furthermore, because housing consumption is a very important consumption decision for households, the level of housing price has a direct influence on their welfare level. Second, unlike common consumer goods, housing also has the attribute of investment goods. Because of this, housing price is always highly fluid and unpredictable. Moreover, because housing belongs to non-trading goods, the fluidity of housing price increases the uncertainty and risks of local economic development, and thus impacts the development of cities. Third, because the housing sector is always closely linked with the financial sector, which expands the risks of the housing market through said sector's leverage effect, thereby significantly influencing the national and even the global macro-economy.

3.1.3 Influence of housing price on urban competitiveness

In the current context, housing price of cities in many developed and developing countries have risen and boomed, which increases residents' housing burden, affects enterprises' profit margin, and even threatens social stability, with a negative impact on the improvement in urban competitiveness. In reality, the housing price has a significant impact on urban competitiveness. In theory, housing price has two impacts on urban competitiveness. First, housing price impacts the living cost of urban residents. That is to say, the level of housing price has a direct influence on the level of residents' benefits from city life, and further impacts enterprises' production costs and the volume of human capital they can obtain through the labour market. Second, housing price impacts enterprises' investment decisions in cities. A high rate of return on investment in real estate produced by high housing price always tempts enterprises to invest more in real estate, which reduces their investment in R&D and technological innovation and is unfavourable to sustainable growth of the urban economy. An excessive proportion of investment in real estate would also cause deformed development of the urban economy, which is unfavourable for its transformation and upgrading. Therefore, in theory, and in reality, housing price has a major influence on urban competitiveness.

3.1.4 The complicated relationship between housing price and urban competitiveness

The complicated relationship between housing price and urban competitiveness mainly lies in the following aspects. For one thing, when the housing price is within a reasonable range, housing prices promote urban economic development, scientific and technological innovation and industrial upgrading, thus improving urban competitiveness. Furthermore, when the housing price is excessively high or low, it is unfavourable for improving urban competitiveness. Specifically, excessively low housing price is unfavourable for squeezing out low-end industries in cities, and results in scientific and technological innovation in cities lacking external pressure; whereas excessively high housing price squeezes high-end, middle-end and low-end industries and factors out of cities, and even causes industry hollowing and housing price bubbles in cities. In reality, these are similar situations. Some cities' competitiveness and housing price experience common benign growth, while other cities' excessively high or low housing price hinders the improvement of urban competitiveness. For example, in the late 1980s, Silicon Valley, Manhattan, Munich and other regions witnessed a rising economy and a booming real estate industry; in the 1990s, Tokyo, Osaka and other cities in Japan underwent the bursting of housing price bubbles, which had a significant negative impact on urban development; in the 21st century, Madrid suffered from a sharp increase in housing price and overstock of buildings left unfinished and was even on the verge of bankruptcy; in the US subprime mortgage crisis, real estate recession caused severe economic fluctuation and Warsaw, Budapest and other eastern European cities were affected by both the low housing price and the stagnation of the urban economy. Therefore, the housing price, as an important force for change in cities and the world, has a complex impact on urban competitiveness. If said complexity is ignored, in reality, it would be hard to comprehensively examine the housing price's power and explain the complicated expression of competitiveness of different cities. Nevertheless, existing relevant studies are either superficial or misleading, and could not explain the complicated reality. Currently, it is necessary to conduct theoretical, empirical and policy analysis of the complicated influence of housing price on urban competitiveness. For this reason, we will first review the relevant literature.

3.2 Composition and Expression of the Housing Price's Influence on Urban Competitiveness

The influence of housing price on urban competitiveness is reflected in both the internal composition and external expression of competitiveness. Therefore, relevant studies for connotation, composition and expression of urban competitiveness are summarized.

3.2.1 Basic connotation of urban competitiveness

Urban competitiveness has abundant meanings. Its basic connotation reflects a city's capacities for creating value and improving welfare. The existing studies have explored it from different angles. Peter Karl Kresl (1999) defined urban competitiveness as a city's capacities for creating wealth and increasing revenue. Similarly, Lever (1999) considered that urban competitiveness referred to a city's capacities for producing products and services required by regional, national and global markets. Douglas Webster (2000) thought that urban competitiveness referred to a city's capacities for producing and selling better commodities and services than other cities; therefore, the improvement in urban residents' living standard is the main purpose for enhancing urban competitiveness. Furthermore, Ni Pengfei (2002) summarized the connotation of urban competitiveness as a city's capacities for attracting, competing for, possessing, controlling and converting resources, scrambling, occupying and controlling markets, creating value, and thus providing welfare to its residents compared with other cities in the process of competition and development.

In addition, Porter (1990b), European Commission (1999), Iain Begg (1999), Douglas Webster (2000), OECD (2005), Lever and Turok (1999), Budd and Hirmis (2004), Hao

Shouyi (1999), et al. also conducted studies on the connotation of urban competitiveness. Because they share the basic viewpoint that urban competitiveness is a city's capacities for creating value and improving welfare, we will not repeat it here.

3.2.2 Internal composition of urban competitiveness

According to the existing studies, urban competitiveness consists of urban factor endowment, industrial development conditions and urban value. Specifically, Hao Shouyi (1999) pointed out from the perspective of factor endowment that a city's economic competitiveness mainly reflects the capacities of its various factors to increase the urban economic benefit, therefore, the internal composition of urban economic competitiveness was embodied in technology, capital, infrastructure, organizational structure and other factors. Martin and Simmie (2008) emphasized the influence of industrial structure and output capacity on urban competitiveness and considered that such factors as quality, efficiency and potential of industrial development in cities would impact and decide a city's competitiveness level. Porter (1990b) put forward the theory of competitive advantage based on the value chain and emphasized the role of value creation in promoting competitiveness. Ni Pengfei (2015) systematically defined the relationship between factors, industry and urban value, and considered that factors decided industry and industry decided urban value. The internal logic is that an enterprise's business choice depends on the environmental conditions of its location, and decides the level of its added value. In a city, local environment and available external environment decide the scale, structure and efficiency of its industrial system (including industry and industrial links); the conditions of the industrial system decide the creation of urban value.

3.2.1 The external expression of urban competitiveness

The external expression of urban competitiveness can be summarized in three aspects, namely the market scale, long-term economic prosperity and economic efficiency. Firstly, in terms of market scale, Deas and Giordano (2001) emphasized that urban competitiveness depended on market scale and growth, and was intensively reflected in enterprises with greater market share. Second, judging from long-term economic prosperity, Michael Kitson (2005) and Begg (1999) believed that urban competitiveness was reflected not only in short-term competition for resources and market share but also long-term economic prosperity. Third, from the perspective of economic efficiency, Peter Karl Kresl (1995) considered a city's labour productivity as an important expression of urban competitiveness. Hao Shouyi (1999) had similar viewpoints. OECD (2005) considered that urban competitiveness was reflected in a city's capacities for producing high revenue and high employment and maintaining competitive advantages in local and international markets.

3.3 Influence of Real Estate Industry on Urban Competitiveness

The housing price is an important element, among the various elements of the real estate industry. In addition to the housing price, the existing literature has studied the influence of the real estate industry on urban competitiveness from perspectives of physical assets, real estate market and real estate development. First, housing, as an important physical asset, has an influence on urban competitiveness. Housing, as a physical asset, has characteristics such as high durability, spatial flexibility, low supply elasticity, a strong value preservation function and appreciation potential. Iain Begg (1999) regarded housing as a type of "hard" asset of a city, with an important role in urban competitiveness. Kuang Weida (2005) had similar viewpoints. Second, regarding the role of the real estate market in building urban competitiveness, D'Arcy and Keogh (2000) considered that transactions in the real estate market included a series of formal and informal complex transaction systems, through which the real estate market played an important role in urban economic activities, and had a direct impact on urban competitiveness. Third, in terms of real estate development, Healey (1992) and Turok (1996) pointed out that urban development needed to balance the relationship between real estate development and other forms of development, in a bid to ensure a positive effect on urban competitiveness. Turok (1996) especially emphasized that, due to incomplete information and other reasons, price signalling in the real estate market is misleading for real estate development.

3.4 Influence of the housing price on key factors of urban competitiveness

Currently, there is little literature on the influence of the housing price on urban competitiveness. Although Iain Begg (1999) and McGilp (2000) stressed the influence of the housing price on urban competitiveness, they failed to demonstrate adequately the relationship and interaction between housing price and urban competitiveness. If we open the black box formed by the competitiveness of cities, the impact of housing prices on the key elements of urban competitiveness is rich in content. This part reviews relevant studies from the perspective of the influence of the housing price on key factors of urban competitiveness, specifically including urban output (economic growth), industrial structure and productivity. A detailed account is given below.

3.4.1 Influence of housing price on urban output (economic growth)

Housing price could impact urban output by affecting investments of households and enterprises in cities. According to traditional viewpoints, the housing price has an influence on investments of households and enterprises through credit contraction and expansion. With the rise in the housing price, real estate value, as the main source of collateral in the economy, also increases. This means that households and enterprises own increased net assets, and can obtain more loans by taking advantage of real estate mortgages, which results in an increase in investment (Chaney, 2010). On the contrary, when the housing price falls, households and enterprises own decreased net assets and obtain less credit, and banks tend to tighten credit, which results in a scale-down in investment (Bernanke and Lown, 1991).

However, traditional studies only focus on the partial balance of real estate mortgage credit, but barely explain the changes in the total investment of households and enterprises along with the fluctuation of housing price. Laura (2016) pointed out that the rise in housing price encouraged enterprises to invest heavily in the real estate sector, which resulted in the imbalance of the investment structure and an unfavorable impact on urban economic growth. Laura (2016) emphasized that in addition to the credit channel, the rise in housing price could encourage enterprises to invest more in real estate, and force those without land property to reduce investment. Nevertheless, further studies will be conducted of the effect of the rational increment of housing price on investment.

3.4.2 Influence of housing price on urban industrial structure

Whether housing price promotes the upgrading of urban industrial structure or not has always been the focus of existing studies, with greatly different research findings; the affirmative viewpoint considers that the rise of housing price promotes the upgrading of industrial structure through population and industrial transfer. According to the findings of Blackaby and Manning (1992) in the U.K., the rise in the housing price would promote the agglomeration of high-end industries and the revenue increase in the region through the correlation effect between demands and costs. Gao Bo (2012) drew a similar conclusion in his studies on China, finding that the difference in housing price between cities could lead to labour mobility and industrial transfer, and the rise in housing price promoted cities to move further along the industrial value chain.

However, on the opposite end, some scholars consider that a high housing price does not necessarily lead to population and industrial transfer. According to the findings of Saiz (2007) on U.S. metropolitan areas, housing costs do not have a significant influence on immigrants, because immigrants attach more importance to the amenities and social network of the receiving area. Meanwhile, a high housing price does not always squeeze out low-end industry. Jeanty (2010) pointed out that the rise in housing price would play a role in boosting the local economy, which will attract immigrants and businesses. Moreover, even if a high housing price leads to urban industrial relocation, it might also cause urban industrial hollowing-out. According to the findings of Brakman (2004) on Germany, the difference in housing price between East Germany and West Germany caused a large number of manufacturing enterprises to move from West Germany to East Germany. This indicates that the influence of housing price on urban industrial structure cannot be generalized.

3.4.3 Influence of housing price on urban productivity

First of all, the influence of housing price on urban labour productivity is specifically reflected in the wage gap. According to the findings of Gianmarco and Ottaviano (2006) on American cities, housing price and average wage are positively correlated in labour forces with different skills. In contrast, Suedekum (2006) built a core-periphery model which included the housing sector, and found that if other factors do not change, the higher the housing price, the lower the actual wage in the core area.

Secondly, the housing price can affect the total factor productivity of cities. On the basis of the findings of Moro and Nuño (2011), a high housing price leads to an obvious deviation between housing price and total factor productivity in the U.S. and Germany. According to the findings of Chen Binkai and Ouyan Difei (2015) on China, a high housing price leads to resource mismatch, reduces resource allocation efficiency, and thus decreases the total factor productivity. In addition, a high housing price would impact the total factor productivity by reducing enterprises' investment in R&D and innovation. According to the findings of Wang Wenchun and Rong Zhao (2014) on China, the faster the housing price rises, the more reluctant and lower the level of the investment of enterprises in innovation and R&D.

3.4.4 Influence of housing price on urban competitiveness: linear or multi-faceted

Regarding key factors of urban competitiveness, the influence of housing price on urban competitiveness is complicated and multi-faceted, not simply linear. The existing studies mostly emphasize only one aspect of the influence of housing price on urban competitiveness. Empirical evidence shows that the housing price has played multiple roles in the development

history of such international cities as London, Hong Kong, Tokyo and Geneva (United Bank of Switzerland, 2016). Just as Ni Pengfei (2017) pointed out, an excessively low or high housing price is not favourable for the improvement of urban competitiveness; only by remaining within a certain range does the housing price contribute to the improvement of urban competitiveness. However, because there is only a small amount of literature on the multi-faceted influence of housing price on urban competitiveness and a few studies on the rational range of housing price, this report tries to make up for that.

3.5 The Transmission Mechanism for the Housing Price to Influence Urban Competitiveness

Although existing research involves the influence of housing price on key elements of urban competitiveness, there is still a lack of studies on the theoretical transmission mechanism between housing price and urban competitiveness. Nevertheless, from the perspective of theoretical development of urban and regional economics, the following model provides conditions for our further study of the transmission mechanism for the influence of housing price on urban competitiveness.

First, under a complete competition framework, the Rosen-Roback (1979, 1982) model introduced the housing sector under a general spatial equilibrium framework. This model analyses residents' choice between revenue, urban amenity and housing cost in different cities. Currently, the difference in housing price could be regarded as the compensation for liveability of different cities. Furthermore, the urban system model of Henderson (1987) also considered housing as non-tradable goods.

Secondly, the literature of new economic geography studies the influence of housing price on city competitiveness from the perspective of monopolistic competition and increasing returns to scale. Specifically, Helpman (1998) introduced the housing factor in the model of Krugman (1991), and discussed the relationship between labour mobility, housing price, and product diversification. Different from the thinking of Helpman (1998), Tabuchi (1998) introduced the housing sector by combining the single central city model structure of Alonso (1964) and the model of Krugman (1991). Tabuchi and Thiesse (2002) also conducted similar studies. It is important to note that all of the above studies adopt the assumption of homogenous economic subjects; that is to say, the heterogeneity of enterprises and labour forces is not taken into account.

Thirdly, under the framework of labour heterogeneity, Graser (2001) considered the rent factor in its urban system model, and pointed out that labourers with high production efficiency were concentrated in high-wage cities, whereas those with low production efficiency were concentrated in low-wage cities. Davis (2014) also considered the housing factor in his study, and found that large cities had a higher proportion of high-skilled talents and comparative advantages in technology-intensive industries.

So far we have reviewed existing studies. The above models could be taken as the foundation for our further studies.

3.6. Relevant Policies for Housing Price and Urban Competitiveness

Regarding relevant policies for housing price and urban competitiveness, the government mainly regulates housing supply and demand with land, taxation and fiscal policies, and financial controls of the housing price and this impacts urban competitiveness. This paper analyses as follows:

In terms of land policy, the findings of Quigley (2005) on California, in the U.S., show that restriction of land approval, reduction of housing supply and other regulatory actions may lead to the rise in real estate prices, which increases residents' living cost and enterprises' production cost, and is unfavourable for economic growth and industrial upgrading. Mariano Kulish (2011) emphasized the importance of rational use of land zoning policies. With limited land resources, it is necessary to meet people's demands for land and guide the rationalization of land demand.

With respect to fiscal and taxation policies, David (2011) conducted a study on the real estate market in New York, finding that due to the dual attributes of housing as residence and investment, when housing serves as a kind of investment good, investors' expectation of return plays a key role in decision making for housing purchase. Therefore, the real estate tax has the effect of regulating the demand for housing. Kamila Sommer and Paul Sullivan (2014) studied the influence of various tax reform schemes on the real estate market, finding that the real estate tax could raise the rent and reduce the housing supply equilibrium in the short term, and decrease the price equilibrium of housing assets.

Regarding fiscal policy, specifically the timing of fiscal policy intervention, Owen Lamont and Jeremy C. Stein (1999) found that after the introduction of fiscal policies, the real estate price becomes more sensitive to the changes in per capita income; therefore, the timing and intensity of fiscal policy is vital. John Taylor (2010) proposed that because monetary policy had great influence on the real estate cycle, multiple monetary policy instruments should be combined and adapted to adjust the housing supply-demand relationship.

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