

Urban Economic Development Level and Real Estate Market in Mainland China

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ABSTRACT

The real estate industry is the pillar industry in Chinese mainland at present. The impact of the real estate industry has been continuously discussed in the academic circles. This paper will choose one aspect of the level of urban development, that is, the level of economic development, as the influencing factor. The index consists of economic growth, economic structure and economic efficiency. This paper will explore the impact of the level of urban economic development on the supply, demand and price of the real estate market. The study found that the level of urban economic development has a positive impact on prices. The response of supply to economic changes lags behind. Due to the particularity of housing as a commodity and high savings, the change of urban economic development level has little impact on demand. The final study also puts forward some policy suggestions. Under the policy of "housing is for living, not for speculation", the government encourages the development of the real estate industry in the short term, because the real estate industry has a positive impact on economic development after the epidemic. Secondly, the government should also encourage accelerating the response speed on the supply side.

Keywords: *Real estate market, City economic development level, Post COVID-19 era, Development efficiency*

1. INTRODUCTION

Chinese mainland has implemented the housing reform since 1998, and the real estate economy has developed rapidly and has become a pillar industry of China's national economy, promoting the rapid development of China's economy. Objectively speaking, Behind the rapid development of real estate industry, there are many unstable factors restricting it, such as stock backlog, functional imbalance, regional structure imbalance and other market supply and demand contradictions. On the one hand, housing price has been fluctuating. From 2000 to 2016, the price of commercial housing in Chinese mainland increased by 254%, and Beijing, Shanghai as well as other places increased by more than 300% [1]. On the other hand, the continuous rise of house prices has affected residents' lives and even basic human rights such as the right of residence, which calls for the implementation of relevant policies. For example, since the 2020s, the Chinese government has encouraged the practice that houses are used for living, not for speculation.

The real estate market is the important object of this study. Past scholars have done a lot of research on its influencing factors. In the analysis of supply and demand, among the factors affecting housing demand, income elasticity is the largest, followed by price and interest rate elasticity. Among the factors affecting supply, price and interest rate elasticity are large [2]. As one of the important indicators of urban development, urbanization has an important impact on real estate. In his empirical study, Hao demonstrated that population mobility has a positive impact on house prices [3]. In Chinese mainland, the real estate market is not yet sound, the supply and demand sides and the government are the protagonists of the market. In their research in 2010, Yang and others believe that government policies will become an important guide affecting the real estate industry in the future. The structural contradiction between excessive optimistic supply expectations and insufficient optimistic consumption expectations is the internal reason for the structural imbalance of the real estate market, which leads to the fact that policy factors have and are determining the basic trend of China's real estate market [4].

The object of this study is the real estate market in Chinese mainland. We will analyze the market from three dimensions: supply, demand and price. The main influencing factors are the economic development level of the city and the living cost. This research will take Shanghai as an example.

The main purpose of this paper is to explore the impact of the level of urban development on the real estate market from the three aspects of supply, demand and price. This paper will combine the literature reading method and the analysis of past data. The market is dynamic. Over time, different policies and situations will have an impact on the market. In Chinese mainland, the beginning and normalization, economic recovery and possible property tax of COVID-19 will have an impact on the real estate market. At the same time, China has been in the process of urbanization. Therefore, it is necessary to study the real estate market affected by the level of urban development and living cost.

2. MEASUREMENT INDEX OF URBAN ECONOMIC DEVELOPMENT LEVEL AND REAL ESTATE MARKET

2.1. Efficiency index from 21st century urban development index

The level of urban development is a concept that needs to be measured by specific indicators. The 21st century urban development forum was launched by China macroeconomic society and 21st century economic report in March 2007. "21st century urban development index" is an urban research project that both sides try to develop together [5]. This selection activity is public welfare. The forum believes that the development level of a city needs to be measured by three index systems: efficiency, harmony and openness. This study will select some representative development indicators as a measure of the economic level of the city. The specific index system is as follows in Table 1 [6]. As we can see, efficiency and growth are measured by the same indicator. Therefore, the calculation will not be repeated in this study.

Table 1. Efficiency index from 21st century urban development index

Efficiency index	Growth	GDP growth rate of the city / average growth rate of national urban GDP
	Structure	Tertiary industry concentration = GDP of the city's tertiary industry / total GDP of the city
	Efficiency	GDP growth rate of the city / average growth rate of national urban GDP

According to the statistics of the National Bureau of statistics (<http://www.stats.gov.cn/>) and the Shanghai Bureau of statistics (<https://tjj.sh.gov.cn/>), the original

data required for the above indicators are obtained, as shown in Table 2 and Table 3.

Table 2. Chinese mainland and Shanghai's economic data

Year	National GDP growth rate	SH GDP growth rate	SH GDP (10^8)	SH GDP of tertiary industry/ SH GDP
2021	8.1%	8.1%	43214.85	73.3%
2020	2.3%	1.7%	38700.58	73.15%
2019	6.0%	6.0%	38155.32	72.7%
2018	6.7%	6.6%	32679.87	69.9%
2017	6.9%	6.9%	30133.86	69.0%

Table 3. The value of efficiency index in Shanghai

Growth	Structure	Efficiency	Efficiency index
1	0.733	1	2.733
0.739130435	0.7315	0.739130435	2.20976087
1	0.727	1	2.727
0.985074627	0.699	0.985074627	2.669149254
1	0.69	1	2.69

2.2. The demand, supply and the price

The goal of this study is to find the relationship between supply, demand, and price of the real estate

industry. The index of supply is real estate development investment. People's demand for housing is measured by the sales area of new houses in the city. The price is the average sales price of new houses. See Table 4 for specific parameters.

Table 4. Value of real estate market indicators

SUPPLY (RMB100mn)	DEMAND (10000 square meters)	PRICE (RMB / m ²)
5035.18	1880.45	40974
4698.75	1789.16	36741
4231.38	1696.34	32926
4033.18	1767.01	28981
3856.53	1691.6	24866

2.3. Line chart of urban economic development level and real estate market data

The obtained data of efficiency index, supply, demand and price from 2017 to 2021 are represented by a broken

line chart in Figure 1, so as to observe the changes between them.

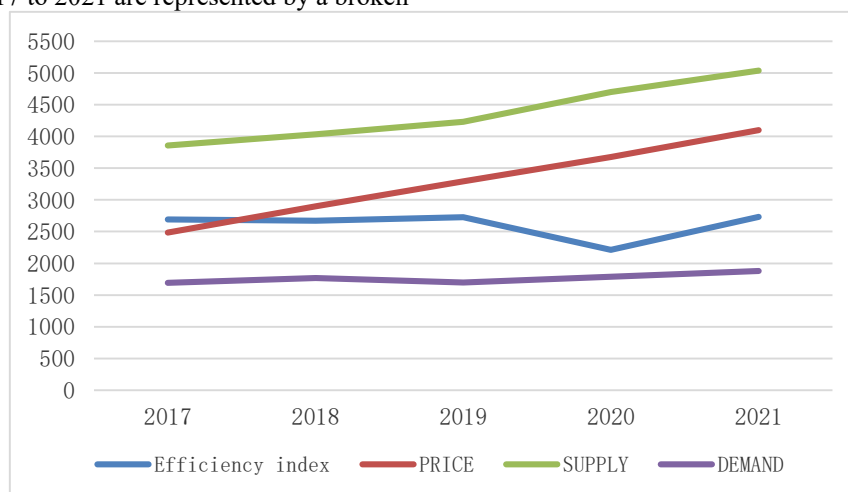


Figure 1. Five-year trend chart

From 2017 to 2021, the supply and price showed a continuously increasing trend, while efficiency index and demand were in a relatively stable position. In addition, the efficiency index experienced a fluctuation in 2019-2021.

3. DATA INTERPRETATION

3.1. The relation between urban economic development and demand in the real estate industry

Figure 1 shows the roughly parallel trend between the demand curve of the real estate market and the urban economic development curve, which can get the consistency between the efficiency of urban economic development and the demand of the real estate market.

The level of national economic development directly affects the development of all sectors of society. A high economic level will inevitably drive the development of the real estate industry itself and the demand for real estate in various industries. At the same time, it will enhance residents' expectations for the future, thus increasing the demand for real estate [7]. It should be pointed out that the urban economic development indicators used here include GDP. As the consumption factor contained in GDP itself also includes residents' consumption of real estate. Therefore, in fact, residents' consumption of housing also reflects the level of economic development of the city. It can be clearly seen from the figure that in 2020, the value of Shanghai's economic development indicators decreased, from about 2.7 to 2.6. This is noteworthy for China's rising economy and Shanghai which is China's most economically

developed city. In 2020, the global COVID-19 began a pandemic. Under the impact of the epidemic, residents' consumption expenditure decreased and their savings increased [8]. In the equilibrium state of investment and savings, the total investment increases.

Under the impact of government consumption, the expansion of government expenditure will lead to the increase of effective demand and domestic prices, and squeeze out private investment by increasing investment costs. Some studies have also confirmed that government productive expenditure has a "crowding out effect" on private capital in the short term. As the positive pulling effect of residents' consumption is greater than the crowding out effect of government consumption, the total investment shows a slight growth trend under the impact of demand. These analyses also explain the stability of residents' real estate consumption. Housing is a special kind of commodity. Consumer behavior can be regarded as household investment or durable goods consumption. Compared with other countries, China's residents save more and consume less in advance. For a middle class like a big city like Shanghai, COVID-19 can only affect their daily consumption, and has little impact on savings.

3.2. Housing prices in the post epidemic Era

There are many factors affecting housing prices, among which the influence of supply and demand and economic conditions are more obvious. From the data, it can be concluded that in the post epidemic era, there is a potential correlation between house prices and urban development level, but the causal relationship is not clear. The rise of house prices is affected by many aspects, such as economic development, industrial structure, factors of production, population flow, price expectation and so on [9].

Firstly, before COVID-19, the slope of economic growth was lower than that of housing prices. From 2008 to 2019, China has experienced 11 years of economic take-off. The rise of house prices began to hinder the economic development of developed cities such as Shanghai. Secondly, high house prices have a driving effect on the industrial structure. If the house price is too high, it will far exceed the industrial development and income level, which in turn will affect the optimization and upgrading of the city's industrial structure. Especially when manufacturing enterprises face the severe economic situation at home and abroad, the temptation of high return of real estate and the uncertainty of manufacturing development, social funds will be "driven" to real estate.

In the post epidemic era, China's economy began to recover. There is a positive relationship between the level of urban economic development and house prices. Generally speaking, the higher the level of regional economic development, the more reasonable the

industrial structure, the higher the employment rate, income level and investment level, the more fiscal revenue and the better the financial situation, the greater the demand of the real estate market and the higher the overall level of house prices. However, high house prices have a negative crowding out effect on economic growth, a driving effect on industrial structure adjustment, a screening effect on investment and a negative crowding out effect on Residents' consumption.

3.3. The supply of the real estate market

From the comparative relationship between supply and urban economic development level, it is obvious that the supply of real estate industry lags behind. The economic development level in 2019 is good, which leads to the accelerated supply growth of the real estate industry in 2020. The economic decline in 2020 will have an impact on the growth of real estate supply in 2021. Due to the characteristics of deep and long cycle of real estate, the response speed of production resource allocation to demand is slow. The supply efficiency of resource elements in China's real estate market is low. From 2012 to 2016, the average resource supply efficiency of the national real estate market was 0.676, 0.647, 0.574, 0.528 and 0.729 respectively [10], which shows that there is a serious oversupply in China's real estate market. In terms of manpower, land, capital and technology supply, the average redundancy is more than 10%. Due to the low utilization rate of resource factors and unreasonable scale control, the supply efficiency of resource factors on the supply side of China's real estate is low. This is an important factor affecting the healthy development of the real estate market. At the same time, there are some problems in China's real estate market management, such as unstable policies, lack of continuity, long-term neglect of regional differences, imbalance between market supply and demand and structure, unreasonable land policies and imperfect housing security system, which are the main reasons for the low supply efficiency of real estate market management elements.

4. POLICY SUGGESTIONS

In the current post epidemic era, comparatively speaking, the negative effect of excessively high house prices on the development of urban industrial structure is not obvious. In terms of policy suggestions, therefore, properly encouraging the development of the real estate industry is conducive to economic recovery. However, this does not mean that negative effects will not come. At present, China's economic policy is to make progress while maintaining stability, which also applies to the real estate industry. Compared with the middle class in big cities that can cope with the risk of the new crown, the housing of ordinary residents in some small cities and low-income people in big cities is still insufficient.

Therefore, the policy of "housing is for living, not for speculation" still applies. Last but not least, the government should encourage the real estate industry to respond more quickly to changes in demand and economic conditions.

5. CONCLUSION

In general, based on the data from 2017 to 2021, this paper compares the relationship between the city's economic development and the real estate market before and after the COVID-19, it can conclude that there is an interpretable relationship between the level of urban economic development and the real estate market, taking Shanghai as an example. The economic indicators are used in the indicators of urban development level in the 21st century as the measurement standard. In the measurement of the real estate market, we use real estate development investment to represent supply, the sales area of new houses to represent demand, and the average sales price of new houses to represent price. The results show that there is an obvious positive relationship between the level of urban economic development and housing prices. The weak relationship between urban economic development level and demand is due to the high savings of Chinese residents and the special nature of housing as a commodity.

AUTHORS' CONTRIBUTIONS

This paper is independently completed by Linpeng Zhang.

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